

Organizational Characteristics and Communication Effectiveness of Solar Companies in Kenya

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Abstract: The solar energy sector has been performing poorly in recent years. This poor performance has been attributed to factors such as making poor decisions, implementing inadequate strategies, and ineffective communication. Managers can perform their duties and responsibilities through effective communication. The purpose of this study was to examine the relationship between communication practices and the effectiveness of communication in solar companies in Kenya. A descriptive research design was adopted for this study through which information from demographic groups was gathered. A sample of 293 respondents drawn from a target population of 1224 was surveyed using a structured questionnaire to collect data. Data analysis was done using SPSS on both descriptive analysis and inferential analysis. The study revealed a $\beta = -2.179$, Wald = 31.683, df=1, which is associated with a p-value of 0.001 and Exp (B) = 0.133 for the Communication channel. It is concluded that communication channels significantly influence the odds of communication effectiveness in solar companies in Kenya. It is recommended that the solar companies use reliable and high-speed communication channels to enhance communication effectiveness among solar companies.

Keywords: Communication, Communication Channels, Communication Effectiveness

I. INTRODUCTION

Information flows in an organization's hierarchy through communication. This makes communication a very crucial component that promotes the success of an organization in the modern-day world (Neves & Eisenberger, 2012). Through communication, activities are coordinated with ease, and decisions made tend to be the best decisions. Therefore, the extent to which an organization implements communication dictates the level of efficiency of operation of the particular organization. According to Meehan (2013), organizations can make decisions on time and also set success strategies through effective communication in the organization. These success strategies are used to achieve the organization's long-term goals.

Communication is a very important component of managerial skills in an organization. According to Hearn and Ninan (2013), communication is used for managerial functions for example leading and delegating duties. Therefore, the effectiveness of communication in any organization impacts the failure or success of human efforts in the organization.

The level of effectiveness of a manager of an organization is determined by factors such as the manager's ability to read, write, speak, and listen (Meehan, 2013). As such, a manager of any organization is expected to uphold these components to promote effective communication in the organization. Furthermore, effective communication impacts the manager's ability to perform his/her job and also impacts the managerial effectiveness of an organization (Lim & Greenwood, 2017). According to Meehan (2013), communication provides a platform where employees are updated on the organization's new policies and also provides a platform where the employee's attitudes are listened to. Besides, effective communication helps in successfully managing any organization (Arnout & Esposito, 2018). Several factors affect communication in any organization. This study sought to establish how communication channels affect communication in an organization.

In recent years, the African continent has witnessed the rapid growth of Kenya's renewable energy sector and has since become the most vibrant among most of the other nations in Africa. The investment in the renewable energy sector, including investment in technologies such as wind, geothermal, small-scale, and biofuels, has also rapidly grown within the years. Furthermore, Kenya is ranked top in producing geothermal power in Africa at 200 MW. This ranking is based on the increased solar system installed per capita in the country. In 2011, the connectivity level to the national grid was at 28%. Kenya is also ranked first in exploiting geothermal power and also leads in producing ge-energy. Kenya uses the steam produced by the hot rocks underneath the rift valley to harness the power. Kenya also harnesses both sun and wind. Projects such as the Lake Turkana project are focused on harnessing power from such sources. This project is seen to be impudent due to both its scale and location. Statistics indicate that Kenya can on its produce 10GW of geothermal energy. Kenyans preference for solar power can also be attributed to its availability. According to Kiplagat et al. (2014), several solar power distributors have been seen in the country including M-Kopa that eases its payment scheme with options such as pay-as-you-go and microfinance.

Poor choice of communication channels, rigid and bureaucratic cultures have resulted in failed communication in many small and medium enterprises in developing countries which in effect has resulted in low employee morale, lack of employee engagement, and low organization performance (Gochhayat, 2017). Kiplagat, et al. (2014) noted that solar companies in Kenya have continued to play a critical role in the provision of cheap and alternative sources of energy which is also environmentally friendly by reducing pollution. Abdullah and Jeanty (2013) noted that it is unfortunate that many new solar companies do not make it to their fifth anniversary, a situation which has been linked to poor coordination of activities, challenges in organization change, poor feedback among stakeholder, and a broken-down public relation infrastructure which have, in turn, resulted in the poor growth of these companies.

Available scholarly studies including Gochhayat (2017), on the influence of organizational culture on organizational effectiveness in Sweden, point out that, well-inculcated organizational culture has a positive effect on communication effectiveness; On the other hand local studies by Odero (2016) on Communication as a factor affecting effective strategy implementation in the banking industry in Kakamega County, noted that effective communication resulted in effective strategy implementation in the banking sector. However, it is evident that there are limited studies carried out on organization characteristics and communication effectiveness, the available ones are in sectors outside the solar energy industry whereas others focus on communication effectiveness and its impact on organization strategies. Therefore, it is important to establish how organizational characteristics affect communication performance in solar companies founded in Kenya.

The purpose of this study was to establish the influence of organizational characteristics on the effectiveness of communication of Solar Companies in Kenya. Specifically, the research question was: *What is the effect of communication practices on the effectiveness of communication in the solar companies in Kenya?*

II. THEORY AND HYPOTHESIS

Amimo *et al.* (2019) conducted a study to determine factors that influence effective internal communication. The study focused on hotels in Nairobi County in Kenya. The study adopted a descriptive research design where the sample used for the study comprised of a total of 200 hotels that have licenses given by the Nairobi city council. Questionnaires were used as a method of primary data collection after which inferential and descriptive statistics were used for data analysis. The study concluded that using a two-way channel of communication promoted the effectiveness of communication between the managers and employees of an organization. Besides, non-verbal communication is crucial in communication between individuals of varying cultures since when verbal messages are unclear and ambiguous, nonverbal

cues facilitate communication across cultures in such instances.

Odero (2016) conducted a research study to determine how communication influences the effective implementation of strategies in an organization. The study focused on organizations in the banking sector in Kakamega County in Kenya. A descriptive research design was adopted for this study where a sample of 25 employees was used. This sample was drawn from a population of a total of 85 employees. To choose the sample, the study adopted both stratified and random methods of sampling. Questionnaires were used as his main methods of data collection for this study after which the data collected was analyzed using inferential and descriptive statistics. Furthermore, the study revealed that by using a two-way channel of communication, the efficiency and effectiveness of communication in an organization was greatly promoted. The study also indicated that communication positively influences the implementation of strategies in an organization.

Peng and Litteljohn (2012) sought to establish what impact formal channels of communication pose to communication effectiveness. The study focused on manufacturing companies i.e. Techno companies that are located in Japan. The study concluded that formal channels of communication are used in the whole organization where the channels facilitate communication on matters concerning the organization's current state and plans, concerns raised by employees, and issues regarding the environment of the organization. Communication can be said to be cultural since it depends on the way individuals learn how to speak and use nonverbal cues. In most cases, factors such as the person's personality, context, and mood dictate the choice that people choose to communicate. Since communication involves interaction, one should maintain the relationship that exists with the other people surrounding them. The challenge faced in this case lies in miscommunication particularly where the people communicating have major variations in their culture. There are very many demerits that surround miscommunication. One of them is that it may cause conflicts. Cross-cultural communication is characterized by examples of ideas, attitudes, and behaviors. It involves four variables. Time represents one of the four variables where this variable differentiates cultures and how different cultures prefer doing things. e.g. time in the West is seen as quantitative where it is sequential, logical, and moves with increasing certainty to a future that is not possible to touch and a past that is not part of the present. Consequently, we hypothesized that:

H₀ Communication channels have no significant influence on the effectiveness of communication of solar companies in Kenya

III. DATA AND METHODS

A descriptive research design was used since this type of research design can show how the situation takes place naturally. The target population was middle, and low-level

manages in the organizations carrying out manufacturing and distribution of solar equipment's. The choice of these categories of respondents is because they were directly or indirectly involved with communication channels and were decision-makers in Solar Companies in Kenya. According to Deloitte Survey Report (2019) solar companies are good sources of jobs employing on average 102 at both middle and operation management, implying that there are about (102*12=1224) employees at both middle and low/operation management working in the departments of finance, marketing and sales, technical department and human resource department.

This study used the Cochran formula to determine appropriate sample size for the study for a finite population of 1224 respondents. The formula adopted was:

$$n = \frac{n_0}{1 + (n_0 - 1) / N} \dots\dots\dots 1$$

(Ahmad & Halim, 2017)

Where n is the sample to be arrived at, n₀ is the Cochran sample size recommendation of 385 respondents, N is the population size which was 1224. Upon substitution in the formula provided the following results:

$$n = 385 / \{1 + [(385-1) / 1224]\} = 385/1.314=292.99, \text{ which}$$

was rounded off to 293 respondents

The sample of 293 was proportionately distributed across the strata.

Data collection instrument

To collect primary data from the field, Data was collected using structured questionnaires Descriptive and inferential statistics were used to analyze the data collected in this study. Besides, the Statistical Package for Social Sciences (SPSS) was used for data analysis. Frequency and percentages are examples used in descriptive statistics. To determine the nature of the relationship that exists between variable indicators, a binary logistic model was used with odds of communication being 0= not effective and 1=effective. The empirical model was of the following form:

$$\text{Logit} (\pi_k) = \eta + \gamma k, \dots\dots\dots 2$$

Where: Logit (π_k) is the odd of communication being effective or the probability of the communication being effective denoted (π), if communication effectiveness probability is p, then the probability of communication not being effective is 1-p, therefore Logit (π_k) =logp/log(1-p), which is the ratio of the logarithm of effectiveness communication probability versus the logarithm of not effective communication which depends on communication channel (k). On the other hand, the chances of communication not being effective was Logit (1-π)_k.

Further, η is a constant, k= 0, 1 is communication channels. The indicators coefficients (γ is the coefficient for communication channel) which is determined by the extent of

the restrictions involved in the estimation. Therefore, the reference category used in this case was the one-way communication channel. Bar graphs, pie charts, and tables were used as the main methods of data presentation after which the results were interpreted narratively.

IV. RESULTS AND DISCUSSION

Response Rate

The study targeted at collecting data from 293 respondents however managed to collect data from 245 respondents which represented an 83.6% response rate.

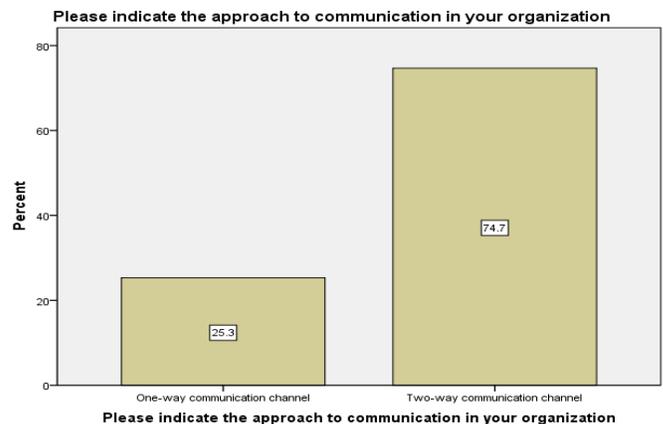
Demographic Information

The majority of the respondents were male (69.8%), majority of the business had been in operation for a period of between 11 and 14 years (56.3%) majority of the respondents again had worked for a period between six and ten years (53.5%). The majority of respondents were therefore aware of what happens in the organization and forms a good source of the required data.

Approach to Communication

Figure 1 below indicates from a majority of the respondents that 74.7% of the organization communicates through a two-way communication channel whereas only 25.3% of the respondents used a one-way communication channel. This implies that employees normally exchange knowledge often and gives feedback. A study by Peng and Litteljohn (2012) on the impact formal channels of communication pose to communication effectiveness among manufacturing companies in Japan noted that formal channels of communication are used in the whole organization where the channels facilitate communication on matters concerning the organization's current state and plans, concerns raised by employees and issues regarding the environment of the organization. In most cases, factors such as the person's personality, context, and mood dictate the choice that people choose to communicate. Since communication involves interaction, one should maintain the relationship that exists with the other people surrounding them

Figure 1: Approach to Communication Channels



Practices of Communication Channels

This section of the study sought to establish the extent to which the respondent agreed on statements on organization channels. In carrying out this task a Likert scale was used with 1 strongly disagree (SD) to 5 strongly agree (SA). The results are shown in Table1.

Table 1: Practices in Organization Channels

Statements	SD		D		N		A		SA	
	F	%	F	%	F	%	F	%	F	%
Information flows from top management to the subordinates	5	2	22	9	21	8.6	136	55.5	61	24.9
We give feedback at the workplace	7	2.9	20	8.2	24	9.8	129	52.7	65	26.5
We use social media at work to communicate	10	4.1	25	10.2	23	9.4	107	43.7	80	32.7

Source: Research data (2020)

The majority of respondents agreed that: information flows from top management to the subordinates, the employees give feedback at work and the employees also use social media to communicate at work. Cigranget al. (2014) concurred that an organization that implemented frequent communication, made it easier for the employees of the organization to raise concerns as well as communicate with the management of the organization. It is with no doubt that frequent communication high understanding and reduced internal wrangles between the management and the employees. Time and cost are saved in the activities of an organization by ensuring that the employees are well informed of their responsibilities and duties towards achieving the objectives of the organization.

Communication Effectiveness

This section of the study sought to determine the extent to which the respondents agreed with statements on communication effectiveness practices. Table 2 shows the results.

Table 2: Practices in Organization Channels

Statement s	SD		D		N		A		SA	
	F	%	F	%	F	%	F	%	F	%
Our customer service has improved	8	3.3	18	7.3	10	4.0	120	50.6	76	31.5
We give feedback to our customers	11	4.5	22	9.8	24	11.4	100	40.8	87	35.5
our Customer are loyalty	11	4.5	18	7.3	29	11.8	84	34.3	103	42.5

We have innovated new products	11	4.5	24	9.8	15	6.1	94	38.4	101	41.2
We have come up with new market innovation	9	7.8	14	5.7	17	6.9	115	46.9	80	32.7

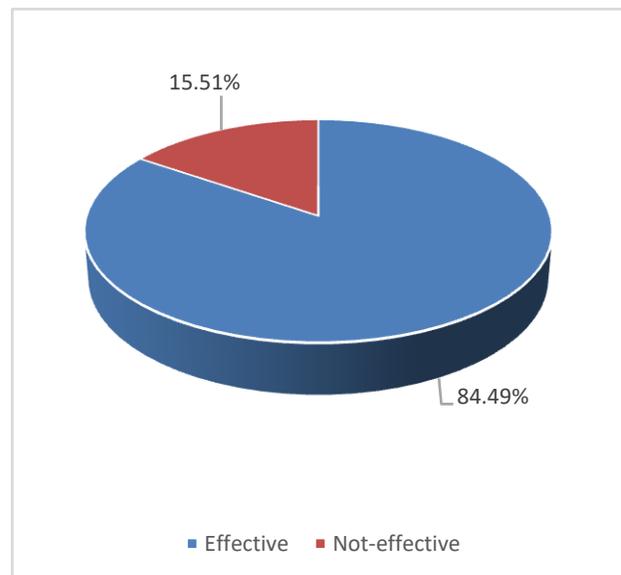
Source: research data (2020)

The majority of respondents agreed that: the customer service had improved, the organizations gave feedback to the customers, that the organizations have loyal customers, organizations have come up with new products and entered new markets. Meehan (2013), concurred that efficient management of the organization as well as self-discipline of employees is promoted through effective communication. It also allows employees to raise their concerns by using the open communication approach. Teamwork in the organization promotes the morale and the spirit of the employees. Through effective communication, ideas and information is shared thus better decisions are made where these decisions promote the growth of the organization.

State of Communication Effectiveness in Solar Companies

This section sought to establish the overall state of communication in solar companies. The results are as shown in Figure 2

Figure 2: State of communication Effectiveness



The study revealed from the majority of the respondents that communication in their companies is effective as shown by 84.49%, only 15.51% of the respondents felt that communication in the organization was not effective.

Hypothesis Testing

The hypothesis was tested using the results of binary logistic regression analysis which was conducted to establish the

strength of the relationship and direction of the relationship between communication channel and communication effectiveness.

Chi-square Tests: Chi-square was performed to determine whether there any relationship between the independent variables and the dependent variables. Table 3 below shows the results from omnibus tests.

Table 3: Omnibus Tests of Model Coefficients

	Chi-square	df	Sig.
Step	33.990	1	.000
Block	33.990	1	.000
Model	33.990	1	.000

Model Summary: The regression analysis conducted was to determine how the predictors explain the variation on the dependent variable or the percentage of the dependent variable that can be explained by the independent variables. Table 4 shows the result.

Table 4: Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	177.425 ^a	.130	.224

a. Estimation terminated at iteration number 5 because parameter estimates changed by less than 0.001

The table above shows the Cox & Snell R Square and Nagelkerke R Square that help in calculating or explaining the variation. They are also referred to as *pseudo R²* values. As shown in the table above the explained variation ranges from 13% and 24.4% depending on your reference readings that are; Cox & Snell *R²* or Nagelkerke *R²* values. In this study we used Nagelkerke *R²* to explain variation on the dependent variable as explained by the independent variable in the model, therefore 24.4% of communication effectiveness is explained by the model.

Table 5: Classification Table

Observed		Predicted		
		State of communication in your organization		Percentage Correct
		Not effective	Effective	
Step 1	State of communication in your organization	0	38	0.000
		0	207	100.0
Overall Percentage				84.5

a. Predicted probability is .500

Binary logistic regression is used in predicting events occurring or not happening. In this, our study the binary logistic regression is used to predict having effective or not effective communication in solar companies. The value given

by classification is 84.5 % in the table above shows that the model is good in the classification of the outcome.

Logistic Regression Coefficients and Exponential coefficients: In establishing the strength of the relationship between independent and dependent variables binary logistic regression analysis was conducted under the Entry method. Table 6 below shows the results.

Table 6: Regression Coefficients and Logistic Odds

	B	S.E	Wald	df	Sig	Exp(B)	95% C.I.for EXP(B)	
							Lower	Upper
Communication channel								
One-way communication Channel	-	-	-	-	-	1.000		
Two-way communication channel	2.179	.387	31.683	1	.000	.113	.053	.242
Constant	2.571	.288	79.817	1	.000	13.077		

a. Variable(s) entered on step 1: Communication Channel

Communication Channel and the Effectiveness of Communication

The study revealed a Wald =31.683, df=1, which is associated with a *p-value* of 0.001 and Exp (B) = 0.133 for the Communication channel. The results revealed that two-way communication channels significantly influenced the chances of having effective communication because the *p-value* of 0.001 is less than 0.05 which was the chosen level of significance. Besides, having a Two-way communication channel significantly “increased” the odds for communication effectiveness by a factor of 0.113 because the exp (B) associated with the communication channel is 0.133. Exp (B) = 0.113 suggest that the two-way communication that was being practiced at the solar firms actually negatively impacted the effectiveness of communication and thus reduced the chances or probability of effective communication by (1 - .113 = .887) which is an 88.7% significant reduction in the odds for effective communication. According to formal communication theory pioneered by Selznick (1948), who had divergent views noted that a communication system can be either top-down, bottom-up, or lateral communication system. Organizations are supposed to go for communication systems that increase trust between managers and subordinates, the communication system should also encourage innovativeness, enhances teamwork between staff, and also boosts feedback at the workplace. Communication channels should not be about giving orders but should be a way that gives guidance and support to other employees. Therefore, two-way communication channel is perceived as yielding more benefits of creating room for innovativeness, teamwork increases trust across all hierarchies at the workplace and also ensures the giving of feedback.

V. CONCLUSIONS

- The study concluded that communication channels significantly influences communication effectiveness among solar companies in Kenya.
- The study concluded also that concluded that having a two-way communication channel over a one-way communication channel significantly reduces the chances of having effective communication among solar companies in Kenya.

VI. RECOMMENDATION

Consequently, it is recommended that the solar companies need to enhance a more formal top-down communication system to give more instructions to employees that will increase chances for effective communication.

It is recommended that the solar companies use reliable and high-speed communication channels to enhance communication effectiveness among solar companies.

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