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STAKEHOLDER MANAGEMENT AND IMPLEMENTATION OF INDUSTRIAL ENERGY EFFICIENCY PROJECTS IN MANUFACTURING FIRMS IN NAIROBI CITY COUNTY, KENYA

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ABSTRACT

Stakeholders largely accounts for the success of projects, especially industrial energy efficiency complex projects. The purpose of stakeholder management is to achieve project success through the persistent development of their interrelationships. Energy efficiency projects delays are a common problem with an immeasurable cost to manufacturing firms. The industrial energy efficiency projects in Kenyan manufacturing firms are characterized by late time delivery, over budget constraints and abridged functionality as well as quality. The purpose of the study was to examine the effect stakeholder management on implementation of industrial energy efficiency projects in manufacturing firms in Nairobi City County, Kenya. The study was guided by the following specific objectives; Establish stakeholder identification on implementation of industrial energy efficiency projects in manufacturing firms in Nairobi City County, Kenya; Examine the stakeholder communication on implementation of industrial energy efficiency projects in manufacturing firms in Nairobi City County, Kenya; Assess the stakeholder involvement on implementation of industrial energy efficiency projects in manufacturing firms in Nairobi City County, Kenya; Investigate the stakeholder control on implementation of industrial energy efficiency projects in manufacturing firms in Nairobi City County, Kenya. The study is anchored to the stakeholder theory, Institutional Theory, Resource Based Theory and Theory of Constraints. The study adopted a descriptive research design. The study's target population was 458 industrial energy efficiency projects in the manufacturing firms operating within Nairobi County, Kenya. The sample size was 214 respondents established from Slovin sample size determination formula. A pilot study was undertaken to check the validity and reliability of the data collection instrument. A questionnaire was used to collect primary data and consisted of both structured and open-ended questions to give qualitative and quantitative data. Qualitative data was analyzed by the use of content analysis. Quantitative data was analyzed using descriptive and inferential statistics in which frequencies and percentages were used. SPSS was used to analyze the data and to determine whether the independent variables were related to the dependent variable. Data was presented in tables and graphs. The study adopted a regression analysis at 0.05 level of significance to determine strength and direction of the relationship of the variables under study. Results revealed that all the stakeholder management dimensions had a positive and significant relationship with implementation of industrial energy efficiency projects in manufacturing firms in Nairobi City County, Kenya. However, the magnitude of the influence

was different for the specific stakeholder management dimensions. The stakeholder communication had the largest effect followed by stakeholder involvement then stakeholder needs identification and finally the stakeholder control. Consequently, this study provides project managers involved in the implementation of industrial energy efficiency projects in manufacturing firms with insights of how to improve implementation of projects through stakeholder management. The key recommendations are that implementation of industrial energy efficiency projects in manufacturing firms should embrace stakeholder management practices such as stakeholder needs identification, communication, involvement and control in order to realize project implementation success.

Keywords: Stakeholder Management, Stakeholder Identification, Stakeholder Involvement, Stakeholder Control, Manufacturing firms, Energy efficiency projects

INTRODUCTION

Access to energy is the life-blood of all economies. As economies industrialize, grow, and become dependent on more sophisticated infrastructure and technological systems, energy becomes ever more important to individuals, enterprises, and nations. Yet the world faces several energy-related problems and constraints that potentially threaten continued industrialization and economic growth. The demand for energy is increasing at an alarming rate because of increased industrialization globally (IEA 2020). This has led to some energy related challenges witnessed such as increase in energy prices, rapid depletion of energy resources, climate change due to emissions of $CO^2$and other pollutants to the environments, among others. In order to respond to the increasing concerns related to these challenges, several industries around the globe have already adopted energy efficient and management initiatives in order to reduce their energy intensities. By adopting these initiatives, these industries have contributed to enhancing environmental protection as well as increased their economic competitiveness. The campaign for the industries to implement energy saving projects is seen as a promising instrument which will help in the socio-economic development of the country by improving energy security; deal with climate change menace, improving economic competitiveness, reducing the country's import bill, improving the balance of trade, creation of more job among other benefits (KAM, 2014).

In Kenya, there exists a number of organizations and institutions such as KAM and EPRA which have been trying to address the issue of energy saving and management in industries. The EPRA has shown its commitment to address the high energy costs incurred by the industries through the energy saving strategies which are demonstrated in the document known as The Energy Management Regulations 2012. One of the measures outlined in the Energy Management Regulations 2012 requires that every company should carry out an energy audit once in every three years and they should be able to implement at least 50% of the recommendations outlined in the audit report. Unfortunately, like any other industries in the developing world, Kenyan industries are still lagging in the implementation and adoption of energy efficiency and management initiatives hence missing out the benefits of implementing these initiatives. This is because these industries face a number of stakeholder management challenges related with the implementation of these initiatives which mainly could be emanating from a combination of stakeholders and project management issues (IEA, 2019)

Therefore, this study examines the relationship between stakeholder management and implementation of energy saving projects in the industrial firms. It builds on both the resource-based view and complexity theory to understand what features of the stakeholder management enable them to improve implementation of energy saving projects in the local setting. Globally, energy efficiency has been recognized as an especially important energy policy and it has been a

growing policy priority in many countries worldwide. It has been identified as most cost-effective means which can be employed in addressing the issues related to energy such as energy security, high energy cost and climate change. Energy efficiency has also been seen as a way which can help to increase competitiveness and promote the welfare of the consumers (ITA, 2014).Global primary energy use in 1973 was 4,672 million tons of oil equivalent (mtoe). By 2019 this had increased to 19,361 mtoe. The same data set from the International Energy Agency (IEA) shows that, while Europe's total final energy consumption has declined in recent years, in all other regions it has increased with the most significant growth being in Asia and the non-OECD Americas (IEA, 2019).

The UK industrial firms substantiation of management decisions with regard to the implementation of energy efficiency projects, based upon the stakeholder management, has a particular topicality in the conditions of survival of the economic entity in circumstances of nationwide energy dependence of industrial enterprises on traditional exhaustible energy sources (Tetiana, Karpenko, Olesia, Yu, & Svetlana, 2018). The efficiency of policies in steering the implementation of energy efficiency (EE) projects in India has multiple implications including economic opportunity such as reduction of greenhouse gas emissions, security of supply, technological development opportunity for industry (Di Foggia, 2016).

Based on results of EU-funded road mapping project and the needs of industrial companies for integrating energy efficiency performance in production management, the stakeholders cannot be underestimated. The concepts and tools for measurement control and improvement of energy efficiency in production management somehow focused on the stakeholder management. The tools and standardization are important enablers for energy efficient manufacturing projects. The industrial needs are based on what the key stakeholders require during and after implementation of the projects (Nel, Vosloo, & Mathews, 2018)

In Netherlands, the impact of industrial EE projects have previously been understated by the omission of non-energy benefits (NEBs). As a result, several fruitful projects have not been implemented which could have dire consequences for energy intensive industries, such as the mining industry. Typically, project feasibility is determined through financial evaluation techniques such as payback period, internal rate of return and return on investment. These techniques are limited to the monetization of benefits, NEBs therefore, must be quantified, monetized and included in these techniques. However, not all NEBs have direct costs, there are NEBs which affects productivity, but the relationship cannot be empirically calculated (Heeres, Vermeulen, & De Walle, 2014).

The Nigeria mainly undertaken for economic reasons of cost-efficiency, that few firms in the agro-industries have adopted sophisticated measures of energy saving, that many encountered stakeholder management problems, that there is a great reliance on foreign suppliers of EE technologies (Ndichu, Blohmke, Kemp, Adeoti, & Obayelu, 2015). The organizational and economic drivers are, from the firms' perspective, the most prominent stimulus for energy efficiency and that they consider policy instruments and market drivers to be less important but stakeholder management was a key for the implementation of energy efficiency projects in the manufacturing firms (Solnørdal & Foss, 2018)To mitigate the negative impacts of power outages, firms have employed different strategies in Zimbabwe, such as more flexible production and improved storage capacity. One obvious strategy is to invest in backup means of producing electricity, such as diesel generators. Backup diesel generators are costly, and it has been estimated that in Zimbabwe, self-generated electricity costs three to ten times as much as the

electricity purchased from the grid (Carlsson, Demeke, Martinsson, & Tesemma, 2020).

Additionally, it may be costly to acquire information about energy efficient solutions for stakeholders in the South Africa manufacturing firms. The energy efficiency projects aim at reducing the costs by providing profits to small and medium-sized firms. Aliyu, Modu and Tan (2018) find that implementation decisions in the energy efficiency projects depend more on initial cost than on annual savings, and Solnørdal and Thyholdt (2019) find that the sequence in which recommendations are presented to stakeholders also matters. However, a comprehensive explanation of adoption rates remains elusive, and the stakeholders' involvement on performance of energy efficiency projects has not yet been explored (UZ, 2018).

Kenya is considered the most industrially developed country in East Africa with agricultural and manufacturing being the leading forms of industry. According to Deloitte (2020), the agricultural industry is by far the most prominent, important, and dominant industry, contributing about 25% (approximately 15.85 Billion USD) of the country's GDP, 20% of employment, 75% of the labor force and over 50% of revenue from exports in 2015. This is mainly due to the excellent climatic conditions of the country, thus making it ideal place for growing crops, and with tea, coffee and mangoes being the major exports (Deloitte, 2016).

According to the World Bank Group (2016), the manufacturing industry accounts for about 11.8% (7.48 Billion USD) of the GDP. The manufacturing presence is in textiles, food and grain milling, cement production, milk processing and oil refining with a large portion coming from informal sector locally referred to as "Jua Kali" (Deloitte, 2016). Over the years, there has been a slow but gradual rise in energy demand in the manufacturing companies in Kenya; in October 2014, two major manufacturing companies namely Eveready East Africa and Mondelez (Formally Cadbury) relocated their production facility to Arab Republic of Egypt in an effort to lower production costs (electricity) and increase profits (World Bank Group, 2016).

STATEMENT OF THE PROBLEM

Stakeholders largely accounts for the success of projects, especially complex projects (Alsulaimi & Abdullah, March, 2020). The strong cooperation of stakeholders is necessary for project success. The purpose of stakeholder management is to achieve project success through the persistent development of their interrelationships (Gyamfi, *et al*, 2018). Energy efficiency projects delays are a common problem with an immeasurable cost to manufacturing firms (Ying *et al*, 2019). According to a report issued at Boston, Massachusetts in the United States of America (CHAOS summary 2019report) energy projects in Kenya have been failing to meet the owner's satisfaction. According to the report, 32% of industrial energy efficiency projects were successful because they were able to be delivered on time, within budget and with expected performance of degree of quality, 44% of projects were delivered late, over budget and with less features and functions and a result were challenged and 24% of projects were also cancelled before they were delivered because they failed.

In addition, managing the modern energy efficiency projects in Kenyan manufacturing firms are characterized by late time delivery, over budget constraints and abridged functionality as well as quality (Williams, 2018). The Energy Petroleum and Regulatory Authority (EPRA) report (2018) indicated that 75% of industrial energy efficiency projects cost targets were not being met(Jackson,2018). Previous study carried out by Olawale and sun, (2019) shows that 65% of energy efficiency projects especially in the manufacturing firms finished between2012 and 2018 exceeded the unique project plans as well as cost while 35% were finished within the budget and

on time. Dueto poor implementation of energy efficiency projects has led to a high cost of energy and production for the manufactured goods resulting to inability for Kenya to compete with the other countries in the economic market favorably (KAM, 2017). The question now remains, is the stakeholder management a contributing factor on poor implementation of industrial energy efficiency projects in the manufacturing firms in Kenya? If it has been effected, how has it enhanced implementation of industrial energy efficiency projects in the manufacturing firms in Nairobi County, Kenya?

Further, studies by (Okonjo-Iweala & Osafo-Kwaanko, 2017, Shimengah, 2018; Bache, Bartle & Flinders, 2016) indicate a minimal research, if any, has been done on the implementation of industrial energy efficiency projects in the African context. There is a dearth of information on stakeholder management and implementation of industrial energy efficiency projects in the manufacturing firms and has created a knowledge gap from the Kenyan and African context. It is on this premise that the current study seeks to fill the gap by examining the effect of stakeholder management on implementation of industrial energy efficiency projects in the manufacturing firms in Nairobi County, Kenya.

RESEARCH OBJECTIVES

1. Establish the effect of stakeholder needs identification on implementation of industrial energy efficiency projects in manufacturing firms in Nairobi City County, Kenya.

2. Examine the effect of stakeholder communication on implementation of industrial energy efficiency projects in manufacturing firms in Nairobi City County, Kenya.

3. Assess the effect of stakeholder involvement on implementation of industrial energy efficiency projects in manufacturing firms in Nairobi City County, Kenya.

4. Investigate the effect of stakeholder control on implementation of industrial energy efficiency projects in manufacturing firms in Nairobi City County, Kenya

LITERATURE REVIEW

Theoretical Review

Stakeholders Theory was originally detailed by R. Edward Freeman in the book Strategic Management. Freeman, Wicks and Parmar, (2004) The Firm is a system of stakeholders operating within the larger systems of the host society that provides the necessary legal and market infrastructure for the Firm's activities. The purpose of the Firm is to create wealth or value for its stakeholders by converting their stakes into goods and services". This view is supported by (Aliyu, Modu, & Tan, 2018). This theory states that managers should make decisions that take account of the interest of all the stakeholders in the Firm

Freeman (1984) defines stakeholders as an organization or individual whose activities are either affected by the firm or affects the way the firm operates like: employees, investors, and customers. This theory describes how genuine issues of relevant stakeholders are included in operations decisions to achieve their goals and strategic direction of the firm (Alsulaimi & Abdullah, 2020). According to Angelopoulos, Cowx and Buijse (2017) developing and implementing proactive strategic environmental commitment means understanding stakeholder's needs based on historical environmental performance, organizational structure, and the competitive position of the company. Stakeholders scrutinize the short and long-term risks and

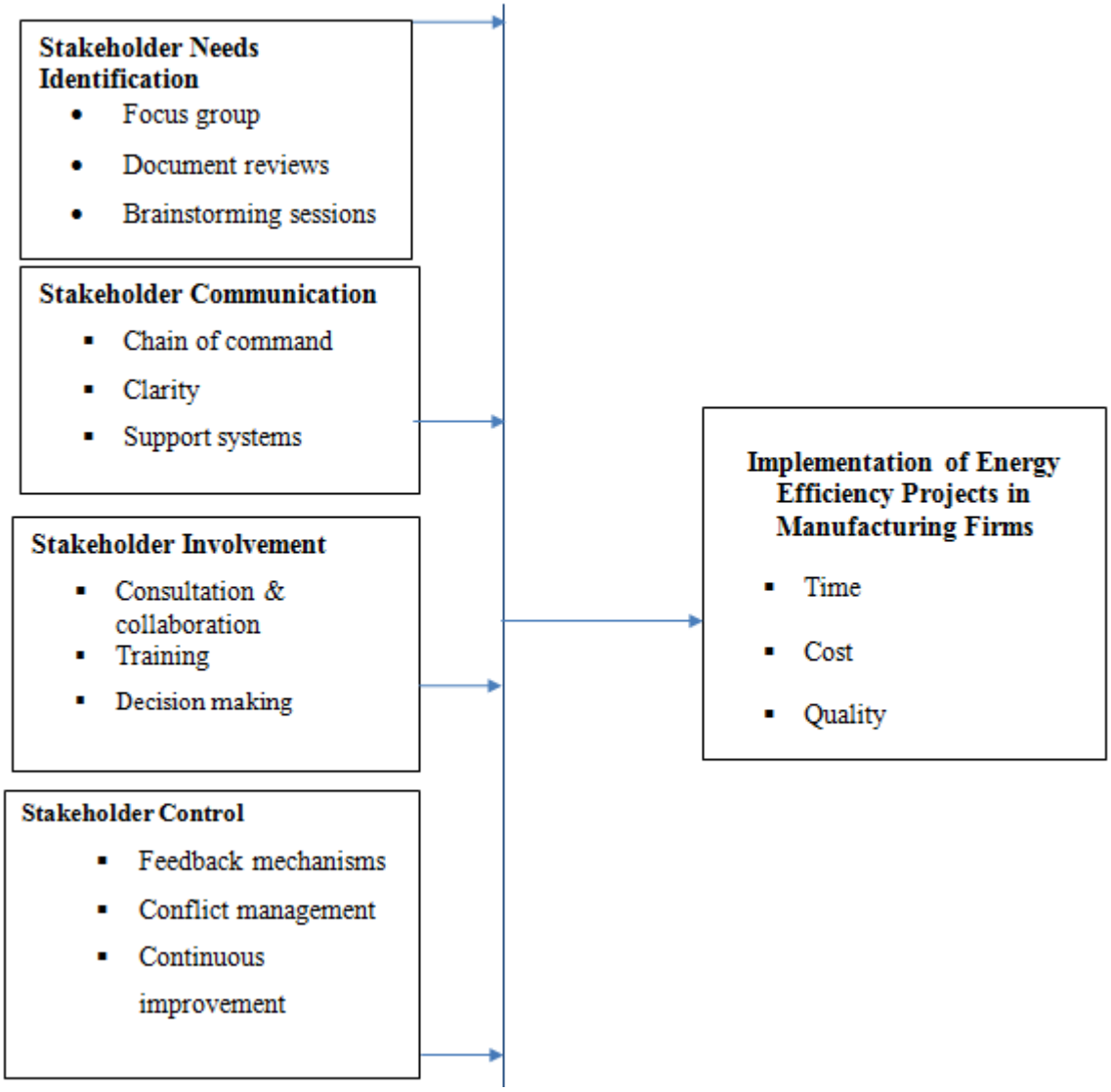
opportunities in relation to green manufacturing adoption (Atamba, 2016). It is strategically beneficial and innovative to incorporate and manage stakeholders concerns in a way that guarantee strategic success and competitive advantage (Ajelabi & Tang, 2010)

The purpose of a business is to create as much value as possible for stakeholders; this is according to stakeholder concept (Angelopoulos, Cowx, & Buijse, 2017). To succeed and be sustainable over time, executives must keep the interests of customers, suppliers, employees, communities and shareholders aligned and going in the same direction. The shareholders or stockholders are the owners of the company as the traditional view puts it, and the firm has a binding fiduciary duty to make sure their needs come first and increase value for them (Aziz & Abdel-Hakam, 2016). However, an argue by stakeholder indicates that there are other parties involved, including governmental bodies, political groups, nongovernmental, international organizations, trade associations, trade unions, communities, financiers, suppliers, employees, and customers. Stakeholders can at times be termed as competitors-their status being derived from their capacity to affect the firm performance. The stakeholder nature is highly contested (Aliyu, Modu, & Tan, 2018)with thousands of definitions existing in the academic literature (Aziz & Abdel-Hakam, 2016).

The stakeholder groups have a direct voice in terms of decision making and would influence the development of the corporation policies. Industrial energy efficiency projects may not live to the stakeholders' expectations due to competing socially beneficial resources of companies' resources (Angelopoulos, Cowx, & Buijse, 2017). However, it is difficult to fulfill the objectives of all the stakeholders, it may slow decisions based on the number and delays in operations. Stakeholder theory has been extensively used to provide a mechanism for addressing changing demands in a dynamic business environment (Aapaoja & Haapasalo, 2014). The purpose of an organization is to make profits for stockholders, which is can only be sustainably achieved through pursuit of legal, ethical and discretionary responsibilities. In this study the researcher used stakeholder theory to underpin stakeholder management as an independent variable.

Conceptual Model and Hypothesis

The conceptual framework gives a view of the interaction and relationship between the independent and the dependent variables. The independent variable in this study is stakeholder management operationalized into stakeholders' identification, stakeholder communication, stakeholder involvement and also stakeholder control. The dependent variable for the study is implementation of energy efficiency projects measured in terms of completion of the project within time, cost and quality. This is illustrated in Figure 1.



Independent Variables **Dependent Variable**

Empirical Review

Zhu, Tian and Ma (2009) examined the Biskupek (2016) study show summarized information about stakeholders and their role in project implementation based on literature review. The second part of the article is dedicated for the research about stakeholder influence on project implementation. The only condition to participate in the survey was managing projects. The research tool was a questionnaire which was sent by e-mail to the respondents. 90 project managers from the area of south Poland were invited to join the project, and 62 people sent back a completed questionnaire. The results received from the survey in the process of analysis and interpretation allows putting forward a thesis that stakeholder's identification as a whole group are significant for the implementation of the whole project. Their impact is so important that it is possible to tell that they decide also about the project success or failure.

Aapaoja and Haapasalo (2014) carried out a study on the framework for stakeholder identification and classification in construction projects. Current construction is implemented in highly demanding and complex built environments where projects are executed by coalitions of multiple stakeholders that have divergent interests, objectives, and socio-cultural backgrounds.

These projects face challenges in not only identifying and managing stakeholders but also satisfying their requirements. This paper introduces a framework that is developed to assist project managers in facilitating stakeholder management and requirement engineering, especially in the project initiation phase. The study results indicated that an appropriate stakeholder identification, classification, and management are crucial in order to collect and manage the stakeholder requirements, and any misjudgment in this process could lead to project failure.

Rajhans (2018) objective of the study was to explore the use of effective communication in stakeholder relationship management and also to find out a methodological framework to use communication as an effective tool for managing successful stakeholder relationships at all levels. The study was conducted through a questionnaire survey and structured interviews of stakeholders working at different project organizations. The results indicated applications of communication in managing multiple functions of stakeholder management. A framework for effective communication management was suggested as a part of the results which can be used by practitioners in all types of project organizations for successful stakeholder relationship management.

Alsulaimi & Abdullah (2020) study centered on examining communication among stakeholders in information technology projects, exploring measures for application by project managers to ensure success. The study objective was to depict a need for workflow process automation for effective stakeholder communication, identify challenges in communication and develop a useful workflow automation application for implementation in IT projects using Microsoft Visual Studio (ASP.net). Through the app, there is the defining of stakeholders and communications within the project with the inclusion of tasks, their status, and specific milestones. The research applied a descriptive-survey method and reviews in expanding on the study, relying on information from reviewers and past studies. In the attainment of the project aims, the design and development of a communication software/application were undertaken. The prototype app was made with Microsoft Visual Studio (ASP.net). The design considers an app platform for adequate coverage and communication of stakeholders on different tasks. The prototype app is vital in supporting IT Project Manager in a dynamic stakeholder communication process. With the app, project managers can conveniently plan and control IT projects. The study showed challenges faced by project managers in communication. This entailed resistance in data sharing, inability to reach multiple stakeholder needs and audience.

Hravi, Coffey and Trigunarsyah (2015) study examined the level of stakeholder involvement during the project's planning process. Stakeholders often provide the needed resources and have the ability to control the interaction and resource flows in the network. They also ultimately have strong impact on an organization’s survival, and therefore appropriate management and involvement of key stakeholders should be an important part of any project management plan. A series of literature reviews was conducted to identify and categorize significant phases involved in the planning. For data collection, a questionnaire survey was designed and distributed amongst nearly 200 companies who were involved in the residential building sector in Australia. Results of the analysis demonstrate the engagement levels of the four stakeholder groups involved in the planning process and establish a basis for further stakeholder involvement improvement.

Gregory, Atkins, Midgley and Hodgson (2020) study focused on the issue of stakeholder involvement in problem structuring interventions. A concise framework is proposed to aid critical reflection in the design and reporting of stakeholder involvement. This is grounded in a critical-systemic epistemology, and is informed by social identity theory. They illustrated the

utility of the framework with an example of a problem structuring workshop, which was part of a green innovation project on the development of a technology for the recovery of rare metals from steel slag. Evaluation of this problem structuring intervention revealed significant stakeholder involvement about the issues needing to be accounted for, and a range of possible options for the development of the steelworks site projects.

Yu, Liang, Shen, Shi and Wang (2019) study focused on controlling the conflicting interests of stakeholders presented a significant challenge to the success of urban redevelopment. In the study, they proposed a model for analyzing stakeholder conflicts in urban redevelopment projects based on the stakeholder salience theory and Pawlak's conflict theory. In this model, the attributes, key concerns, and attitudes of different stakeholders control are captured by empirical investigation and salience analysis. Stakeholder conflicts controls are then quantified using Pawlak's conflict theory with consideration of stakeholder specifics. Finally, an action scheme is generated that mitigates stakeholder conflicts and maximizes project benefits. To evaluate its effectiveness, they applied this model to a real redevelopment project in the Wenzhou Ecological Park. The results indicated that this model can be used to balance the interests of stakeholders and reduce stakeholder conflicts in urban redevelopment projects in China.

Jung, Lee, Yap and Ineson (2015) study focused on the preliminary stages of a large scale culture-led urban regeneration project initiated by the Korean government in Gwangju Stakeholders' perceptions of culture's contribution to urban regeneration and their views on collaborative partnerships were explored. Qualitative data were gathered via semi-structured interviews from 19 purposively selected stakeholders. This case study determined public–private cooperation in regenerating Gwangju could, simultaneously, generate positive socio-cultural and economic impacts in society. However, stakeholders lacked opportunities for active control Hence, closer working relationships between central–municipal government and public–private/voluntary sectors were recommended. The case confirmed that long-term implementation of such projects needs to be anticipated and based on longitudinal and structured strategic planning to promote successful partnership collaborations amongst central/municipal governments, local communities and residents).

RESEARCH METHODOLOGY

The study adopted a descriptive research design. This was based on the hypothesis that was put forth by the researcher tested through statistical outcomes, and the choice of statistical tests was based upon the level of measurement of the data. Predictions can be made on the basis of the previously observed and explained realities and their inter-relationships. The study's target population was 458 manufacturing firms operating within Nairobi County, Kenya. The unit of observation was the production managers in the manufacturing firms registered with KAM and are in KAM's 2021 directory. The sample size of this study was calculated from the Slovin's formula given as:

$$n = \frac{N}{1 + N\,(e)^2}$$

Where: n = Sample size,
N = Total population and
e = Error tolerance (confidence level).
Since the population N = 458,

Error tolerance = 0.05,
The sample size is determined as:

$$n = \frac{458}{1 + 458(0.05)^2} = 214$$

The sample size therefore becomes 214.

To determine the sample size of each category of energy efficiency projects in manufacturing firms will be sampled using stratified random sampling. This is to ensure that the sampling units have equal chance in the study. The analysis was carried out to test the significance of the model by the use of Analysis of variance (ANOVA) and R^2 was used to measure the extent of the goodness of fit of the regression model. The statistical significance of the hypothesized relationship was interpreted based on F and t-test values at a 95% confidence level.

RESULTS AND DISCUSSION

A multiple regression analysis was conducted to investigate the joint causal relationship between the independent (stakeholder management) and dependent variables (implementation of industrial energy efficiency projects in manufacturing firms in Nairobi County, Kenya). In Table 1, the correlation coefficient (R) of 0.887 shows that there is a positive joint correlation between stakeholder management (stakeholder needs identification, communication, involvement and control) with implementation of industrial energy efficiency projects in manufacturing firms in Nairobi County, Kenya. From the study findings, it is notable is notable that correlation determination of by R^2 value (0.787). The study results imply that stakeholder needs identification, communication, involvement and control jointly accounted for 78.70% of the implementation of industrial energy efficiency projects in manufacturing firms in Nairobi County, Kenya as represented by the R^2. This therefore means that other factors not studied in this research contribute 21.30% to the implementation of industrial energy efficiency projects in manufacturing firms in Nairobi County, Kenya. This implies that these variables are very significant and need to be factored to implementation of industrial energy efficiency projects in manufacturing firms in Nairobi County, Kenya.

Table 1: Model Summary (Combined Effect)

R	R-Square	Adjusted R Square	Std. Error Estimate
.887	.787	.761	.14532

Further, the analysis of variance was used to examine whether the regression model was a good fit for the data. The F-critical (4,162) was 1.765 while the F-calculated was 149.615 as shown in Table 2. This shows that F-calculated was greater than the F-critical and hence linear relationship between the stakeholder management and stakeholder needs identification, communication, involvement and control. In addition, the p-value was 0.000, which was less than the significance level (0.05). Therefore, the model can be considered to be a good fit for the data and hence it is appropriate in predicting the influence of the four independent variables (stakeholder management) on the dependent variable (stakeholder needs identification, communication, involvement and control).

Table 2: ANOVA[a] Statistics (Combined Effect)

Model		Sum of Squares	d.f	Mean Square	F	Sig.
1	Regression	1146.650	4	286.662	149.615	.000[b]
	Residual	310.339	162	1.916		
	Total	1456.989	166			

a. Dependent Variable: Y

b. Predictors: (Constant), X_1,X_2,X_3,X_4

Further, the study ran the procedure of obtaining the regression coefficients, and the results were as shown on the Table 3. The coefficients or beta weights for each variable allows the researcher to relative importance comparatively of the project planning. In this study the unstandardized coefficients and standardized coefficients are given for the multiple regression equations. However, discussions are based on the unstandardized coefficients. The Multiple regression model equation would be ($\mathbf{Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon}$) becomes:

$Y= 10.987+ 0.623X_1+ 0.789X_2 + 0.715X_3 + 0.601X_4$. This indicates that implementation of industrial energy efficiency projects in manufacturing firms in Nairobi County, Kenya = 10.987 + 0.623 (Stakeholder Needs Identification) + 0.789(Stakeholder Communication) + 0.715(Stakeholder Involvement) + 0.601(Stakeholder Control). According to the regression equation established, taking all factors into account stakeholder needs identification, communication, involvement and control constant at zero, implementation of industrial energy efficiency projects in manufacturing firms in Nairobi County, Kenya was 10.987.

Findings in Table 3 showed that stakeholder needs identification had coefficients of estimate which was significant basing on $\beta_1 = 0.623$ (p-value = 0.003 which is less than $\alpha = 0.05$). Also, the influence of stakeholder needs identification is more than the influence attributed to the error and supported by the t values whereby $t\ cal= 3.218 > t\ critical =1.96$ at a 5 percent level of significance, thus we conclude that stakeholder needs identification significantly influence implementation of industrial energy efficiency projects in manufacturing firms in Nairobi County, Kenya. The study findings are in agreement with the literature review by Williams and Johnson (2014) that stakeholder needs identification plays an important role in project implementation.

In addition, the findings in Table 3 indicates that stakeholder communication had coefficients of estimate which was significant basing on $\beta_2 = 0.789$ (p-value = 0.000 which is less than $\alpha = 0.05$). Also, the effect of stakeholder communication is more than the effect attributed to the error and supported by the t values whereby $t\ cal= 3.687 > t\ critical =1.96$ at a 5 percent level of significance,, thus we conclude that stakeholder communication significantly influence implementation of industrial energy efficiency projects in manufacturing firms in Nairobi County, Kenya. The study findings are in agreement with the findings by Halpin (2016) that the main objective stakeholder communication is to produce time tables for individual activities following the plan. There are numerous possible plans available for any given project hence evolving different schedules.

Further, the findings in Table 3 indicates that stakeholder involvement had coefficients of estimate which was significant basing on $\beta_3 = 0.715$ (p-value = 0.002 which is less than $\alpha = 0.05$). Also, the influence of stakeholder involvement is more than the effect attributed to the error and supported by the t values whereby $t\ cal= 3.611 > t\ critical =1.96$ at a 5 percent level of significance, thus we conclude that stakeholder involvement significantly influence

implementation of industrial energy efficiency projects in manufacturing firms in Nairobi County, Kenya. The study findings are in agreement with the findings by Owino (2017) that the stakeholder involvement comprises the task of identification and determination of required materials, set up and maintain the materials records, determine target inventory levels, delivery frequency including materials logistic planning such as temporary facilities, access roads and storage area.

The findings in Table 3 indicates that stakeholder control had coefficients of estimate which was significant basing on $\beta_4 = 0.601$(p-value = 0.004 which is less than $\alpha = 0.05$). Also, the effect of stakeholder control is more than the effect attributed to the error and supported by the t values whereby $t_{cal} = 2.568 > t_{critical} = 1.96$ at a 5 percent level of significance, thus we conclude that stakeholder control significantly influence implementation of industrial energy efficiency projects in manufacturing firms in Nairobi County, Kenya. The study results are in tandem with the findings by Mulwa (2012) that the participative approaches of stakeholder control in projects rely on people and success is determined by their involvement and cooperation

Table 3: Regression Coefficient Results (Combined Effect)

Model		Unstandardized Coefficients		Standardized Coefficients	T	P-value.
		B	Std. Error	B		
1	(Constant)	10.987	1.324		8.279	.000
	Stakeholder Identification	.623	.199	.555	3.128	.003
	Stakeholder Communication	.789	.168	.676	3.687	.000
	Stakeholder Involvement	.715	.198	.599	3.611	.002
	Stakeholder Control	.601	.234	.525	2.568	.004

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CONCLUSION AND RECOMMENDATIONS

The main purpose of this study was to examine the relationship between stakeholder management and implementation of industrial energy efficiency projects in the manufacturing firms in Nairobi County, Kenya. The results showed that stakeholder need identification, communication, involvement and control have a positive and statistically significant influence on implementation of industrial energy efficiency projects in the manufacturing firms in Nairobi County, Kenya.

The study recommends that stakeholder needs identification is crucial in determining the successful implementation of energy projects in the manufacturing firms in Kenya.. It determines who should be involved in a project, identifying the project goals and choosing the right communication methods, and also looks at all of the tools and funding required to complete the project, points out. Appealing to what a stakeholder wants or needs from the project is especially key in the proposal phase, where support for the energy efficiency project is essential, and in the initial stages of getting a project organized and effectively moving forward.

Stakeholders are the people and organizations whose attitudes and actions have an impact on the success of energy efficiency projects. The key stakeholders include employees, labor unions, suppliers, customers, business partners, investors and shareholders, the local community, government authorities and regulators. There is need to enhance effective communication ensures that they receive information that is relevant to their needs and builds positive attitudes

to implementation of energy efficiency projects in the manufacturing firms.

The project managers should continuously train all project staff and leadership on both stakeholders' analysis and participation in their projects to enable them to competently involve all stakeholders in project implementation. The study therefore recommends that the stakeholders should play a critical role in decision making because they are the beneficiaries of the projects and know well projects are beneficial to them. Therefore, all the stakeholders should be involved in the choosing the project location, analyzing the needs of the community in terms of the type of school and in financial analysis of the costs and benefits.

The control of stakeholder is key in effective implementation of energy efficiency project in the manufacturing firms. It is a process in that monitors the entire project and also the stakeholder relationships. It is done by adjusting different strategies in engaging the stakeholders. It helps to improve the efficacy of the stakeholder engagement activities as the continues to evolve due to the different changes of the environment and energy efficiency project requirements

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