ROLE OF POLICY DEVELOPMENT IN THE IMPLEMENTATION OF TECHNICAL INNOVATION PROJECTS: A CASE STUDY OF JKUAT – TECHEXPO

Kebati, C., & Gathenya, J.

ROLE OF POLICY DEVELOPMENT IN THE IMPLEMENTATION OF TECHNICAL INNOVATION PROJECTS: A CASE STUDY OF JKUAT – TECHEXPO

Kebati, C.,[*1] & Gathenya, J.[2]

[*1] Masters Scholar, College of Human Resource Development, Jomo Kenyatta University of Agriculture and Technology [JKUAT], P.O. Box 62000, 00200 Nairobi, Kenya

[2] PhD, College of Human Resource Development , Jomo Kenyatta University of Agriculture and Technology [JKUAT], P.O. Box 62000, 00200 Nairobi, Kenya

Abstract

Emergence of the technological age and the spread of information and communication technologies (ICTs), has seen the development of global systems and approaches which aim to transfer best practices ICTs. The combination of different types of knowledge by all stakeholders involved is a necessary process to initiate and to implement sustainable technological innovation projects. Each day there are young promising innovators providing solutions to everyday problems; however, many innovations which have been show cased in different expos never see the light of the day. A few succeed to go to the market but require support in order to commercialize. JKUAT Tech Expo is a student driven innovation expo that targets to expose and provide a forum through which students can interact with the industry by showcasing their projects and project ideas. Despite all the efforts put during the Expos, many of the innovations remain just that, innovations. Innovation activities should be guided by an adequate regulatory framework. This research sought to assess the role of stakeholder involvement in the successful implementation of Tech Expos in advancement of innovation projects exhibited. The study adopted an exploratory approach. The target population was drawn from all the JKUAT Tech Expo team leaders and implementation teams. A google form-online questionnaire was used. The data collected from the field was captured using Statistical Package for Social Sciences (SPSS) IBM version. Descriptive statistics was employed and a summary graphs, pie charts and frequency distribution tables given. Content analysis was used to analyze qualitative data to help triangulate quantitative data. Inferential statistics mainly involved the testing of correlation among the various variables. The questionnaires administered were all returned. Majority of the respondents were male. The findings revealed that stakeholders were involved greatly in setting up the objectives, however, stakeholder's duties and roles were not objectively defined, because the respondents could not openly define the level of engagement. During the policy development, there was an engagement gap between the management and the stakeholders. It is recommended in the Implementation of Technical innovation projects, stakeholders input should be considered in the policy development stage. A study on the low turnout of women innovators should be undertaken. Secondly, this study focused on public universities, one should be done in private universities to find if the factors cut across. The variables of the study contributed to a great significant however other studies should be done to check the effect of other underlying factors contributing to the Implementation of Technical innovation Projects.

***Keywords:** Policy, Innovation, Stakeholders, TechExpo, Technology*

Background of the Study

The emergence of the technological age and the spread of information and communication technologies (ICTs), according to (Walsham & Sahay, 2006), has seen the development of global systems and approaches which aim to transfer best practices ICTs. Innovative businesses can help develop solutions to major social issues like global food security, ageing populations or life-threatening diseases. Innovation boosts economic growth and creates jobs. Shaping the future in order to realize economic and social goals is one of the fundamental challenges of human society. But what prompts innovations? In his view (Marburger, 2011), the concept of need is the ultimate spark of innovation, he however says for innovations to be adopted and integrated into economies they must have the capability to satisfy some perceived need by consumers. Integrating innovative technology capabilities with customers' needs, with business strategy and other technology elements and processes requires a three-step mechanism. It involves integration of technology identification, implementation and potential technology commercialization processes (Jemala, 2012).

(Dodds, 2007) regarded technology as a powerful contributor to strengthening Higher Education Institutions (HEIs). Universities for instance comprises of communities of researchers who are engaged in the exciting prospect of knowledge discovery, communities of education who share new ideas for effective teaching and learning and communities of staff who informally discuss mutual challenges and solutions. Then there are the students who have nearly limitless ways of forming social, learning, athletic, virtual, and other types of communities. Communities of innovators often spring up in this line. Without suggesting that there is a formula or a single way of doing so (Dodds, 2007), says it is reasonable to consider several factors and associated action steps that can foster the development of communities of innovation

According to (Amirinia, 2016), technology is one of the most important factors to create competitiveness that builds up economical capability of countries. Technology improvement necessitates international cooperation. This offers stability and attractiveness to the involved parties and stability to the countries. In developing countries the perspective of innovation is not so much a matter of asserting global knowledge, but more the contest of enabling the first use of innovative technology for domestic use (Dahlman, 2007). He adds that innovations are broadly viewed as improved products, processes, and businesses or organizational models. (Soni, 2014) opines, innovation is about facilitating new technology through global knowledge in the domestic context of developing nations. Innovation is all about acquiring, familiarizing, dissemination and not just research and development (R&D), he says. (Dahlman, 2007) agrees with this statement that development schemers ought to think not only of R&D and the creation of knowledge, they need more to address the details of its acquisition, adaptation, dissemination, and use in diversified local settings.

An example of a technology exhibition is the Innovation Technology Exhibition (INOTEX) which is a premier regional event for professionals engaged in technology and Innovation in Iran. It is the idea behind two leading governmental organizations of I.R.IRAN who are the partners behind INOTEX. The Vice Presidency for Science and Technology and Presidential Center for Innovation and Technology Cooperation. It has evolved over the years and a number of unique events which reflect the constantly changing nature of Innovation and Technology in Iran and have helped provide a full experience and comprehensive overview of innovation exhibitions (Amirinia, 2016).

Another example is the 2016 Science Engineering Technology & Innovation Exhibition which offers

face-to-face engagement with key personnel, and acts as an effective platform to showcase Amazon Filters capabilities to end-users actively seeking engineering solutions. It focusses on the specific needs of the industry sector and host site, ensuring that products are in front of the right people in the right circumstances. It has an established track record of attracting staff from all areas of the Sellafield site covering: Waste Management, Decommissioning, Process, Operations, Maintenance, Storage, Design and Procurement (Amazon, 2016).

JKUAT Tech Expo

The Innovation (JKUAT Tech Expo) showcase is a unique event that displays ideas and research projects from students in the University. It is an event held every year and involves different people from the industry. Tech-Expos major on communicating ideas. Communication is the process by which participants create and share information with one another in order to reach a mutual understanding. Communication channel is also the means by which messages get from one individual to another (Rogers, 2002). Giving an example he says mass media channels are more effective in creating knowledge of innovations, nevertheless interpersonal channels are more effective in forming and changing attitudes toward a new idea. This influences the decision to adopt or reject a new idea. Individuals typically evaluate an innovation, not on the basis of scientific research by experts, but through the subjective evaluations of near-peers who have adopted the innovation.

Statement of the Problem

The stakeholder group is a primary concern of any successful project. Stakeholders with specialized capacities and responsibilities are essential and therefore the identification of relevant stakeholders should be done during the early stages of any project phase. Early contacts contribute to identification of issues and priorities particularly when interest groups are expected to play an active role in the implementation process and in operation and maintenance (Sanoff, 2000). The combination of different types of knowledge by all stakeholders involved is a necessary process to initiate and implement sustainable technological innovation projects. However, there are many uncertainties with regard to the transformation of technological potential into positive economic and social outcomes. Each day there are young promising innovators providing solutions to everyday problems. However, many innovations that have been show cased in different expos never see the light of the day. A few of them nevertheless succeed to go to the market but require a lot of support in order to take their businesses to the next stage. Additionally, if the small startups go to the market without proper guidance in skills such as financial management, system establishment, marketing and so on, the persons overseeing the innovations will be solely responsible for the poor implementation of these technology projects. In JKUAT one of the public universities in Kenya, there is a student driven innovation expo that targets to expose and provide a forum through which students can interact with the industry by showcasing their projects and project ideas. Despite all the efforts put during the last Expos, many of the innovations remain just that, innovations, they never get to cross the "valley of death". This is caused by, the innovations lacking perception of reality coupled with delusional attitudes that keep this inaccurate reality in place. Secondly, there is breakdown of communication systems developed to handle potential information flaw and thirdly there is too much focus on products and technology while ignoring the other options within innovation, such as service, business model and platform collaborations. According to (Zizlavsky, 2013), innovations are successful if the results of a series of activities in management, marketing,

scientific, technological, organizational, financial and business are visible. Supporting Zizlaysky (Vega-Jurado, Juliao-Esparragoza, Paternina-Arboleda, and Velez, 2015) emphasize that innovation activities should be guided by an adequate regulatory framework that should govern how the interaction between all the stakeholders can effectively promote innovation processes and identify the strengths and weaknesses of some processes that are presently employed. Successful innovation requires rich cross-pollination both inside and outside the projects. This research seeks to investigate how stakeholder engagement can act as a bridge to the successful implementation of Tech Expos.

Objective of the study

To determine the role of policy development stage on the implementation of the technical innovation project.

Theoretical Review

Stakeholder Theory and Policy Development

Stakeholder management according to (Mishra & Mishra, 2013) has turned out to be an essential tool to transfer ethics to management practice and strategy. (Fontaine, Haarman, & Schmid, 2006) citing Freeman opines that the idea of stakeholder management, or a stakeholder approach to strategic management, advocates for managers to formulate and implement processes that gratify all and only those groups who have a stake in the business. This involves the management and incorporation interests of shareholders, employees, customers, suppliers, communities and other groups in a way that assures the long-term success of the business. According to (Mishra & Mishra, 2013), the objective of stakeholder participation is to increase the performance of policies in regard to the service outputs and outcomes for the client population whose conditions these policies target because by involving them, agencies create access to information. Further, (Fontaine *et al.*, 2006) asserts that the stakeholder methodology involves active management of the business environment therefore it leads to creation of relationships that lead to promotion of shared interests in order to improve business strategies. According to (Schalk, 2015) the effect of involvement on policy performance is not the same for all stakeholders due to differences in their access to information and resources, their influence, and their specific interests. The key point noted in his literature is that the effect of stakeholder involvement on policy performance is possibly nonlinear and stakeholder-specific.

(Mishra & Mishra, 2013) further explains that the management of competing stakeholders has also emerged as a vital tool got strategic management, and says it is necessary for the stakeholders to be categorized for the better use of rules for generating appropriate strategies. In addition, it is important to note that stakeholders possess different types of information that organizations are not likely to possess, and that may guide and improve policies. They may provide evidence-based information that derives from their specific core tasks, may serve as fire alarms when programs fail or problems occur during service delivery, and provide performance feedback and finally, by providing information on their daily operations, tasks, goals and competencies, stakeholder enable the improvement of inter-organizational coordination of service delivery (Schalk, 2015).

The normative approach is based upon moral premises about how actors and organizations should go about their activities. According to (Donaldson and Preston 1995), stakeholder-oriented policies are justifiable based upon the supposition that they do hold legitimate interests in the company activities that should be taken into consideration by managers as, from (Freeman's, 1998) perspective, stakeholders should not be seen merely as the means of raising organizational

performance. Research within this framework evaluates relationships in accordance with ethical and philosophic principles. (Jones and Wicks 1999) propose stakeholder theory as a normative ethic that should approach which obligations from the stakeholder model rest upon the management, and particularly the level of importance of obligations attributed to some stakeholders over other stakeholder groups.

Policy Development

In (Lemke and Harris-Wai, 2015) view, involvement of key stakeholders in policy development is of great essence. Practically, engaging stakeholders leads to the identification of areas of agreement as well as disagreement and provides an opportunity to understand fully what might be driving key stakeholder differences. Stakeholder input may also help articulate the values of the broader community affected and align policy recommendations, expectations with the goal and mission of the organization. The idea of stakeholder approach to strategic management is the formulation and implementation of processes which satisfy all and only those groups who have a stake in the business is a must by the top management (Wanyama, 2013) suggests. The harmonization of the requirements of the business to those of the stakeholders is crucial for long-term success of the project goals. When it comes to important corporate decisions, it is necessary to know about the expectations of different stakeholders and to determine to what extent they could and would exert an influence. Policy-makers and planners have recognized the importance of a people-centered development. It leads to equitable distribution of resources, environmental and social sustainability (Sen, 2000). (Lemke and Harris-Wai, 2015)**,** accentuates, a number of frameworks have been developed in various disciplines to assist policy makers in planning for policy development and analysis. They add that some of these frameworks include components that address key stakeholder consultation. Policy development includes elements such as agenda setting, analysis, policy formation, implementation, policy review and evaluation. The stages appear chronological, beginning with agenda setting and ending with implementation and evaluation, but policy decision making in practice rarely follows a linear format. Such a process would be heavily influenced by a set of favorable legal and institutional environments that are formed on an integral part of the governance framework of any organization.

Many organizations in (Schroeder, 2013) view, struggle in their attempts to become successful innovators, notwithstanding the well-documented association between innovation and business performance. He adds that with the available evidence it shows that companies that are most successful at innovation, approach the whole idea in an all-inclusive manner. The development of strategies is done systematically integrated to the organizations culture and the system strategy. Few organizations however, take this approach. Citing PricewaterhouseCoopers global survey of CEOs (2011) less than 10% response described the organizations they ran as active innovator. The traditional stakeholder management in (Schroeder, 2013) opinion, mainly views stakeholder engagement as a way of risk mitigation and a more forward thinking perspective. To stimulate innovation, however, he says, stakeholder involvement should be a collaborative affair with an active integration of stakeholders' views and decisions into the core business and strategic processes. There is an increasing importance of innovation and the role played by technological capabilities in a firm's growth trajectory, but in spite of all this, little is known how technological innovation in different organizations is driven by their technology strategy, the plan that guides the accumulation and deployment of technological resources and capabilities (Dasgupta, Sahay, &

Gupta, 2009). Innovation management is complex and involves various aspects. For innovations to succeed it calls for an organization that encourages experimentation, constantly monitors the environment, evaluates its own performance and is committed to continuously progress its performance.

In academia and industry there is a growing agreement that innovation is central to economic growth. It has noticeable overall multiplier effects on national economies (Troshani, Rampersad, & Plewa, 2011). Organizational structures and systems are important in supporting innovation progression especially in a learning culture. To encourage a more innovative culture can be encouraged through formalized company rules and regulations (Schroeder, 2013). (Troshani *et al.,* 2011) notes that, managers in many organizations are more attentive on innovation as an essential endeavor for revenue generation in the fast-changing knowledge driven economy. He however alludes, these innovation initiatives are characterized by a high failure rate. The failure rate can be attributed to poor innovation implementation, ineffective management of innovation outcomes, inadequate stakeholder participation and poor innovation planning among others.

In a meeting dubbed TICAD that was held in Jomo Kenyatta University of agriculture and Technology (JKUAT) in the Month of July year 2016, the Higher education institutions were urged to engage various stakeholders in policy formulation that would contribute to the development of Science, Technology and Innovation (STI) in Africa. Different stakeholders including the government are essential in policy framework to help incorporate and support the integration of intellectual property considerations into its efforts towards formulating an innovation policy. Intellectual Property (IP) is a necessity for commercialization of innovations (Blakeney & Mengistie, 2011). In many projects, stakeholders have recognized that innovation systems include several components which need to work together, supporting and complementing each other's efforts to foster and nurture an innovation eco-system. However, many were not aware of the number of policies in existence, and when made aware, were skeptical about the ability to implement that many policies. Policy direction in and of itself was appreciated but there was confusion as to the nature and content of the different policies and their respective objectives. Stakeholders felt that Sri Lanka lacked a coordinated innovation system, and that its fragmented approach hindered the objective of establishing a system with its various components, efforts and policies working together, complementing each other's roles.

Research Methodology

This chapter described in detail the approach that the study employed. The research paradigm adopted in the study was discussed. The study adopted an exploratory approach, which was a blend of quantitative and qualitative research. It was designed to establish the extent to which various variables contributed to realization of the project outputs, and the extent to which these variables determined the implementation effectiveness. In this study, the primary data was collected through the use of questionnaire and descriptive survey was used to describe the status quo, but then the qualitative data provided an explanatory dimension. Population (Saunders, 1987) defines it as the total collection of elements about which one wishes to make inferences. The target population for the study was drawn from the JKUAT Tech Expo projects for the last 5 years from 2012 - 2016. This is because data was not available for the other years. Table 1 below describes the sampling frame.

Table 1: Sampling Frame

Group from 2012 - 2016	No. of participants
Innovators (The presenters)	124
Committee Members	45
Total	169

Since the target population is less than 10000, Yamane's formula for the calculation of sample size was used. This was given as follows:

$n = N / (1+Ne^2)$

Where,

n is the desired sample size

N is the population size (169 participants)

e is the margin of error (5% is used for this study)

The sample size was calculated as follows:

$n = 169 / (1+169*(0.05)^2)$

$= 118.805$

Therefore, the sample size was taken to be approximately 119 participants. A Google form was used for this study. Questions were developed using google forms and emailed to the respondents. The questionnaire which had both open and closed ended questions. A questionnaire (Kothari, 2004) consists of a number of questions printed or typed in a definite order on a form or a set of forms. The tool was selected after carefully considering the nature of the data to be collected, the target population, the time available and the objectives/ research questions of the study. An introduction letter from the university was obtained to authorize the collection of data.

Reliability is defined as the extent to which an assessment tool produces consistent findings. Reliability for of the responses was tested using the Cronbach alpha. Normally, α should be between 0.7 – 0.9 (Santos, 1999). According to Gay (1992), reliability is a measure of degree to which a particular measuring procedure gives consistent results or data after a repeated trial. The formula used to calculate the Reliability Coefficient is as follows: (N/ (N-1)) ((Total Variance – sum of Individual Variance)/ Total Variance).

A pilot study was done using content validity. It tested whether all the important aspects of the constructs were measured. This was done by first testing the instruments on 10% of the target population and reviewing the findings. Validity was determined by the use of face and content validity. Face validity tests whether the questions appear to be measuring the intended constructs, while content validity determined whether it covers a representative sample of the behavior area to be measured and covered.

The responses were collected using an excel worksheet which was later exported and coded in Statistical Package for Social Sciences (SPSS) IBM. Descriptive statistics including frequency, percentages and means were employed and a summary of graphs, pie charts and frequency distribution tables given. Content analysis was used to analyze qualitative data to help triangulate it into quantitative data. Correlations for the variables were defined as the performance components were done and results presented in tables.

Research Findings and Discussion

This section is on data analysis, interpretation and discussion of the research findings. Descriptive and inferential analysis techniques were used to analyze the data where descriptive analysis involved generation of frequencies, mean and percentages while Pearson's correlation analysis and regression analysis performed under inferential analysis involved establishing significant linear relationship between the dependent variable and the independent variables.

Cronbach's Alpha test was used to test for the reliability of the various constructs and the findings were recorded in the table below. The research findings revealed that Policy development had a coefficient of 0.886, Strategy Formulation had a coefficient of 0.919, Prototyping had a coefficient value of 0.856, Evaluation had a coefficient value of 0.792 and Implementation of Technical Innovation Projects had a coefficient of 0.747. According to Mugenda and Mugenda (2003), a coefficient of 0.70 and above implies high degree of reliability of the data. Hence, all the proposed constructs were accepted to be reliable.

Table 2: Cronbach Alpha Test

Factors	Cronbach's Alpha	Comments
Policy Development	0.886	Accepted

General Information

This section sought to describe the general information of the respondents. This entailed respondent's gender, respondent's level of participation in the Tech Expo Project, the respondent's highest level of education and the number of Tech Expo's the respondents have participated in. Response rate, under this study, a total number of 119 questionnaires were administered and a total of 117 questionnaires were returned for analysis. This indicated a 98.32% response rate which is excellent according to Mugenda and Mugenda (2003).

According to the research findings, majority of the respondents, 87%, were male while 13% of the respondents were female. This could mean that most of the technical courses in the University comprise are Male dominated.
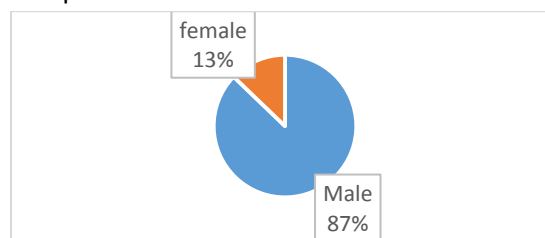

Figure 1: Respondent's Gender

The role of policy development stage on the implementation of the technical innovation project
The first objective in this study was to determine the role of policy development stage on the implementation of the technical innovation project. This section sought to analyze the data descriptively and then performed Pearson's correlation analysis to meet the objective.

Descriptive analysis on the role of Policy Development
Table 3: Policy Development in the Implementation of Technical Innovation Projects

STATEMENT	SD (%)	D (%)	N (%)	A (%)	SA (%)	Mean	SD
University management actively push to make the tech expo projects a success	4.3	23.1	22.2	46.1	4.3	3.231	0.995
There are policy guidelines setup to run the tech-expo projects	4.3	4.3	13.7	41.0	36.7	4.017	1.033
The tech expo objectives are clearly set out	4.3	4.3	0.0	40.2	51.2	4.299	0.993
The general mission of the project is clearly defined	0.0	0.0	8.5	40.2	51.3	3.786	0.908
There is effective communication among all parts of the Project	0.0	9.3	4.3	49.6	36.8	3.829	0.985

The project stakeholders are engaged in the policy development level	4.3	12.8	41.0	36.8	5.1	3.256	0.902
Their input is put in consideration while developing the policies	4.3	8.5	49.6	28.2	9.4	3.299	0.912

The findings revealed that 27.4% disagreed, 22.2% were neutral and 50.4% agreed that the University management actively push to make the tech expo projects a success. On the same, the study sort to understand the views of the respondents on policy guidelines 8.6% of the respondents disagreed, 13.7% were neutral and 77.8% agreed that there are policy guidelines setup to run the tech-expo projects. On policy development the study further sort to assess whether the set tech expo objectives were clearly defined. The response was as follows 8.6% disagreed and 91.4% agreed that the tech expo objectives are clearly set out. Other questions were asked to evaluate the role of policy development. On the general mission set, the response agreed on average with 8.5% neutral and 91.5% agreeing that the general mission of the project is clearly defined. The study further investigated whether there was effective communication among all parts of the project. 9.3% of the respondents disagreed, 4.3% were neutral, 86.4% agreed. Lastly, the study investigated whether the input of the stakeholders was put into consideration while developing the policies. 12.8% of the respondents disagreed, 49.6% were neutral, and 37.6% of the respondents agreed.

Stakeholder's input from the start of the Policy Development

Table 4: Stakeholder's input right from the start of the Policy Development

	Frequency	Percent
Yes	66	56.4
No	51	43.6
Total	117	100.0

The respondents were asked to give their own opinion regarding stakeholder's input right from the start. From the table 4 above, 56.4% of the respondents indicated that right from the start of the policy development stakeholder input is considered while 43.6% stated that stakeholder input is not considered. In (Lemke and Harris-Wai, 2015) view, involvement of key stakeholders in policy development is significant because engaging stakeholders early enough leads to the identification of areas of agreement as well as disagreement and provides an opportunity to understand fully what might be driving key stakeholder differences. Additionally, literature according to (Troshani *et al.,* 2011) notes that, managers in many organizations are more attentive on innovation as an essential endeavor for revenue generation in the fast-changing knowledge driven economy. He however alludes, these innovation initiatives are characterized by a high failure rate. The failure rate can be attributed to poor innovation implementation, ineffective management of innovation outcomes, inadequate stakeholder participation and poor innovation planning among others.

Inferential Statistics, Pearson's Correlation analysis of the linear relationship between Policy Development and Implementation of Technical Innovation Projects

Table 5: Pearson's Correlation analysis of the linear relationship between Policy Development and Implementation of technical innovation as the dependent variable

		Y	X1
Y	Pearson Correlation	1	.606[**]
	Sig. (2-tailed)		.000
	N	117	117
X1	Pearson Correlation	.606[**]	1
	Sig. (2-tailed)	.000	
	N	117	117

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

From the results in Table 5, Policy Development was found to have a statistically significant linear relationship with the dependent variable at 5% confidence level as their p-values were found to be less than 0.05. The relationship was positive since the Pearson's correlation value was positive.

Reasons for consideration of Stakeholder's input

In cases where for instance department heads are consulted, there has been a great wealth of information that comes forth that aids in the relay of a successful expo. Secondly, some policies seem to be already put in place thus the stakeholders adhere to some from the beginning. Also the diverse nature in the technical field makes different groups able to contribute what particularly affects them or is in line with their field. Lastly, tech expo being a competition and without involvement some would think they were judged harshly. The opinions are in accordance with the literature, (Sen, 2000) views, when it comes to important corporate decisions, it is necessary to know about the expectations of different stakeholders and to determine to what extent they could and would exert an influence. Policy-makers and planners have recognized the importance of a people-centered development. It leads to equitable distribution of resources, environmental and social sustainability. More consideration on stakeholder's input right from the start of the Policy Development should include the following; Collecting and considering stakeholders views, Consultation should begin on a clean state from the beginning, encouraging of innovators to form clubs that can be used to mentor graduates, management being more committed to nurture the innovators and more follow up on implementation of projects.

Discussion of the Role of Policy Development on the Implementation of the Technical Innovation Projects

Only half of the respondents agreed that University management actively push to make the tech expo projects a success, meaning the other percent does not know the role of the university in the expos. Secondly, being that most of the respondents are innovators they may not know the role of the management fully. As per the responses on policies, there was revelation that there are set policies that guide the technical innovation projects. This is in line with the literature that accentuates, policy-makers and planners have recognized the importance of a people-centered development. It leads to equitable distribution of resources, environmental and social sustainability (Sen, 2000)

On policy development the study further sort to assess whether the set tech expo objectives were clearly defined. Majority of the respondents agreed that the tech expo objectives are clearly set out. This probably meant that the respondents

understood clearly the defined objectives. This is in agreement with the literature that reviews, a number of frameworks have been developed in various disciplines to assist policy makers in planning for policy development and analysis (Lemke and Harris-Wai, 2015).

Other questions were asked to evaluate the role of policy development. On the general mission set, the response agreed that the general mission of the project is clearly defined. This could mean that the respondents understood the general mission of the technical innovation projects. The study revealed that there was effective communication during the policy development and the participants were in agreement. From the findings, it seemed that the stakeholders was not adequately considered while developing the policies. This would affect the implementation of the technical innovation project assenting to (Wanyama, 2013) who opines, the idea of stakeholder approach to strategic management is the formulation and implementation of processes which satisfy all and only those groups who have a stake in the business is a must by the top management. The study further adds, the harmonization of the requirements of the business to those of the stakeholders is crucial for long-term success of the project goals.

Summary, Conclusion and Recommendation of the Findings

In summary, respondents agreed that there are policy guidelines setup to run the tech-expo projects. Majority also agreed that the tech expo objectives are clearly set out and there was effective communication during the policy development however, on the input of stakeholders during policy development most of the respondents disagreed with the statement meaning stakeholder's input was not so much considered during the development of the policies. The study concludes that the idea of stakeholder approach to strategic management in the formulation and implementation of processes satisfied all groups who had a stake in the project. It however did not equally engage all the stakeholders as per their expectations. The management failed to harmonize the requirements of all the stakeholders which is crucial for long-term success of the project goals. The study also concluded that communication flow within the tech –expo organizers, committee members and innovators was not adequate. As a result, it cascaded into failure of many other processes such as scanty guidelines on the stakeholder's roles in addition the method of engagement not clearly laid out during the planning which is part of communication. The study recommends that during the policy development period, top management engage all the groups that have a stake to the technical implementation process for its successful completion. There should be effective internal and external communications which are key factors that contribute to successful projects.

Areas for Further Research

- A paltry 13% of respondents 'were female in the survey giving a general reflection of the low turnout of women innovators. There should be a study on why the situation is like that and what intervention measures can be put in place to increase their percentage.
- The study only concentrated on public Universities and precisely JKUAT, therefore further studies should be done in private Universities to find if the factors cut across.

References

Amazon. (2016). Amazon Filters exhibiting at 2016 Science Engineering Technology & Innovation Exhibitions in Sellafied, Cumbria.

Amirinia, H. eza. (2016). The 5th International Innovation and Technology Exhibition.

Berman, S. L., Wicks, A. C., Kotha, S., & Jones, T. M. (1999). Does stakeholder orientation matter? The relationship between stakeholder management models and firm financial performance. *Academy of Management journal*, *42*(5), 488-506.

Blakeney, M., & Mengistie, G. (2011). Intellectual property policy formulation in LDCs in Sub-Saharan Africa. *Afr. J. Int'l & Comp. L.*, *19*, 66.

Dahlman, C. (2007). Technology, globalization, and international competitiveness: Challenges for developing countries. *Asdf*, 29.

Dasgupta, M., Sahay, A., & Gupta, R. (2009). Technological Innovation and Role of Technology Strategy: Towards Development of a Model. In *9th Global Conference on Business & Economics. UK: Cambridge University*.

Dodds, T. (2007). Information technology: A contributor to innovation in higher education. *New Directions for Higher Education*, *2007*(137), 85–95.

Fontaine, C., Haarman, A., & Schmid, S. (2006). The stakeholder theory. *Edlays Education*, *1*, 1–33.

Harrison, J. S., & Freeman, R. E. (1999). Stakeholders, social responsibility, and performance: Empirical evidence and theoretical perspectives. *Academy of management Journal*, *42*(5), 479-485.

Jemala, M. (2012). *Integration of Technology Management and its Development Interlevel Overlap and Technology Identification*.

Kothari, C. R. (2004). *Research methodology: methods and techniques*. New Age International.

Lemke, A. A., & Harris-Wai, J. N. (2015). Stakeholder engagement in policy development: challenges and opportunities for human genomics. *Genetics in Medicine*, *17*(12), 949–957.

Mishra, A., & Mishra, D. (2013). Applications of stakeholder theory in information systems and technology. *Engineering Economics*, *24*(3), 254–266.

Mugenda, O. M., & Mugenda, G. A.(2003). *Research methods Quantitative and Qualitative Approaches. Nairobi: ACTS*

Preston, L. E., & Donaldson, T. (1999). Dialogue. Academy of Management Review, 24(4), 619-620.

Rogers, E. M. (2002). Diffusion of preventive innovations. *Addictive behaviors*, *27*(6), 989-993.

Santos, J. R. A. (1999). Cronbach's alpha: A tool for assessing the reliability of scales. *Journal of Extension*, *37*(2), 1–5.

Saunders, M. N., & Lewis, P. (2012). *Doing research in business & management: An essential guide to planning your project*. Pearson.

Schalk, J. (2015). Linking Stakeholder Involvement to Policy Performance Nonlinear Effects in Dutch Local Government Policy Making. *The American Review of Public Administration*, 0275074015615435.

Schroeder, H. (2013a). Strategic innovation for business performance: the art and science of transformation. *Technology Innovation Management Review*, *3*(9), 6.

Schroeder, H. (2013b). Strategic innovation for business performance: the art and science of transformation. *Technology Innovation Management Review*, *3*(9), 6.

Sen, S. (2000). Involving stakeholders in aquaculture policy-making, planning and management. In *Aquaculture in the Third Millennium». Technical Proceedings of the Conference on Aquaculture in the Third Millennium, Bangkok, Thailand* (pp. 20–25).

Soni, D. (2014). International Competitiveness, Globalization and Technology for Developing Countries: Some Reflections from Previous Research.

Troshani, I., Rampersad, G., & Plewa, C. (2011). Adopting innovation management software in university innovation commercialization. *Journal of Computer Information Systems*, *52*(2), 83–92.

Vega-Jurado, J., Juliao-Esparragoza, D., Paternina-Arboleda, C. D., & Velez, M. C. (2015). Integrating Technology, Management and Marketing Innovation through Open Innovation Models. *Journal of Technology Management & Innovation*, *10*(4), 85–90.

Walsham, G., & Sahay, S. (2006). Research on information systems in developing countries: Current landscape and future prospects. *Information Technology for Development*, *12*(1), 7–24.

Wanyama, M. N. (2013). *Stakeholder involvement in change management at Kenya Ports Authority*. University of Nairobi.

Zizlavsky, O. (2013). Past, present and future of the innovation process. *International Journal of Engineering Business Management*, *5*.