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ABSTRACT

This study assessed the characteristics of process innovation, and analyzed their effect on firm performance. Process innovation has progressed over the past several decades and from the previous literature review it was confirmed to affect performance positively. Studies done in North America and other countries confirmed the positive relationship between process innovation and performance in humanitarian organizations. However, limited studies had been done in the humanitarian organizations here in Kenya. The study therefore attempted to fill that gap by addressing the following research objective; to determine the effect of process innovation on Organization Performance of humanitarian organizations in Kenya. The study was anchored on three theories; Porters Generic Strategies; Diffusion Theory of Innovation and Schumpeter Theory of Innovation. The study adopted a descriptive cross sectional research design. The target population was the top and middle managers of humanitarian organizations in Kenya which were selected through random sampling. Data was collected through questionnaire and analyzed through SPSS software. The result of the effect of process innovation on organizational performance indicated a strong positive correlation between the variables with a coefficient of correlations (r) of 0.709. The coefficient of determination (R^2) was 0.503 which indicated that 50.3% of change in organization performance in the humanitarian organization in Kenyan could be attributed to innovation ($P<0.05$). The study concluded that process innovation is a good predictor of organization performance and hence recommended that; for the humanitarian organizations in Kenya to achieve enhanced organizational performance, they should come up with process innovation within the organization which should be encouraged and embraced by all so as to achieve increased organizational performance.

Key words: Process Innovation, Performance, Nonprofit organization

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INTRODUCTION

The early exploration for the affirmative relationship between firm performance and firm level of innovation borrows heavily from (Schumpeter 1934). Schumpeter argues that when new products that are innovative are first introduced in the market there is usually low direct competition thereby allowing the organization to enjoy high profit. But over time due to competition and imitation the profits are likely to erode (Sharma and Lacey, 2004). Varis and Littunen(2010) suggest that improving firm performance and success is the major reason organizations involve in innovative actions.

Process innovation is the application of novel or considerably better production or delivery technique. Significant changes in techniques are equipment or software updating or installation, better technology for manufacturing e.g. automation, or sensor installation that improves processes. This type of innovation can advance the superiority of the product or decrease unit price of production (OECD Manual Oslo, 2005). Product innovation on the other hand is rolling out of a service, good that is significantly novel or enhanced as per its anticipated usage. This contains technical specification improvement materials, components or the software it come with e.g. plastics that are environmentally friendly or recyclable, detachable for replacement parts. (OECD Manual Oslo, 2005).

An organization has competitive advantage whenever it has the ability to attract customers from its competitors and withstand the competitive forces (Thompson & Stickland 1998). Sustainable competitive advantage is achieved in non-profit organizations by proper adoption and utilization of innovative systems and processes that result in long term advantage to the organization. Prahaland and Hamel (1990), describes main competence as specialized expertise that comes from complementing work activity and technology. Examples of competitive strategy include high standards of products; cost efficiency, simpler

mechanisms in achieving tasks. Artz et al. (2010) conducted a longitudinal study on the impact of product innovation and patents acquired on the organization performance in varied industries spanning from Canada and United States. They realized that firm performance was significantly affected by product innovation.

An investigation on if innovation has a direct influence on organization performance in particular service businesses was carried by (Therrien et al. 2011). The results showed that for a company to get more profit from its innovations it needs to arrive in the market early enough or have more novel products that can last the competition for a while. Another empirical study by (Gunday et al. 2011) done in Turkey covering the manufacturing firms in different industries explored the effects of process, product, marketing and organizational innovation. The research revealed that process means, product type, marketing and organizational innovation have an influence on organizational performance. The contribution of process innovation on performance in the non-profit organizations is not clear. This study therefore seeks to understand the effect of process innovation on performance of non-profit organizations in Kenya.

Research objective

The objective of this research was to establish the effect of process innovation on performance of nonprofit organizations in Kenya

LITERATURE REVIEW

This study was anchored on the following 3 theories:-

Schumpeter Theory of Innovation

Schumpeter (1934) argues that management is able to make an organization profitable if effective innovations are introduced. This theory suggests that the major responsibility of an entrepreneur is to bring in innovation and profit will come in the form of reward for the effort for his performance. A new policy or action that an entrepreneur introduces to

increase the demand for his products and lower the general cost of production is called innovation. Thereby saying an innovation can be grouped into two; demand increasing activities such as new quality, new commodity, or new markets. Second is cost reduction activities that is; new efficient machinery, new techniques, innovative methods of organizing industry.

Damanpour (2014) supports the Schumpeter theory of innovation by arguing that Non Profit organizations can introduce innovation in the firm by introducing activities that reduce the overall cost of production and achieving the firm's objective with lesser financial resources. Schumpeter argues that the recurrent practice is completely the result of innovation in the firm, both commercial and industrial. NPOs can change the means, change the industrial organization change the procedures of production and transportation, introduction of a different market, production of a new product, etc. The innovation does not mean invention only but rather it refers to the use of new technology, new approaches and original foundations of energy

Diffusion Theory of Innovation

Diffusion theory was developed by Everett Rodgers a professor at Boston University. Rogers (2003) says this theory explains at what rate new ideas spread, how and why. He says that the method with which innovation is spread on a given time in a social structure among people in a social setting is the diffusion of innovation. Rogers suggest the following major features that influence the movement of creativity, communication, social structure, innovation, social system and time period. The innovation must be fully embraced for it to sustain itself. As the idea gets embraced a point comes where the innovation will get to a crucial mass of people. Human capital is a big contributor to this process.

Adoption of new ideas as a result of diffusion is gradual with some people adopting the idea as soon

as they get to hear of it while some take time to adapt to the idea. Diffusion demonstrates itself in varied ways and is depended to the type innovation-decision and process of adopters. The level, by which a distinct person embraces a new idea, forms the criterion for the adopter classification in innovativeness. The classification of people who the idea is intended for as described by Everett are; innovators, early adopters, early majority, late majority, and laggards. This theory therefore implies that an organization must nature a culture of innovation and entrepreneurship to have all employees understand and appreciate a certain level of responsibility in adopting innovative mindset.

Porters Generic strategies

Porter (1980) defines how a company attracts competitive advantage by three types of strategies: focusing on one items or specific goal, differentiation relative to its rivals or lower cost. Attaining competitive advantage calls for an organization to make a decision about the type of competitive advantage it will try to achieve and the scope within which it will achieve it. There are two variants in the focus strategy, differentiation emphasis and cost emphasis. The two elementary kinds of competitive advantage cost and differentiation together with the opportunity the organization looks to pursue results to the generic strategies leads to attain better performance in the business. An organization's ability to cope with the five forces better than its rivals results to the organization achieving competitive advantage.

The theory examines the structural issues with an attempt to stabilize efficient operations relative to the current business environment. If an organization is targeting a given kind of customers by offering lower prices for its goods or services it is using cost leadership strategy but if this organization is providing higher service or product quality to get higher prices it is using differentiation strategy. It is

trying to make itself unique to be the most preferred in the market. If the organization is only

concentrating to produce one kind of service or goods it is using the focus strategy.

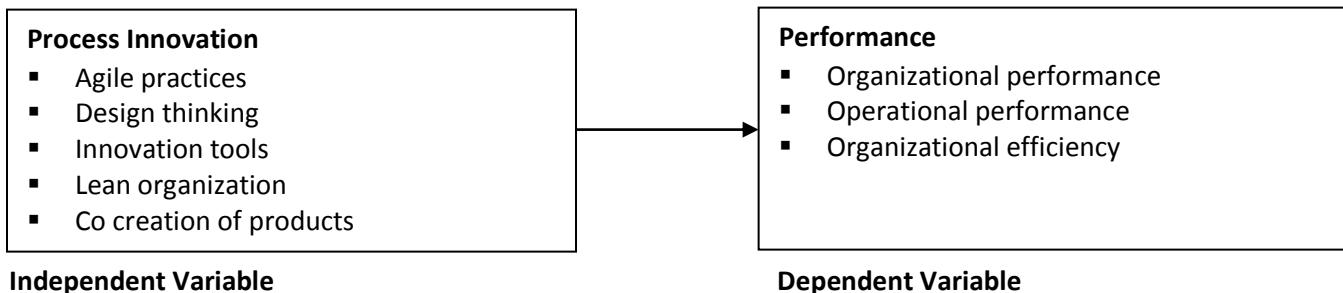


Figure 1: Conceptual Framework

METHODOLOGY

This study utilized a cross sectional descriptive research design to explore viable relationships and describe how each factor fortified matters under study. Descriptive design provided measureable data from a cross section of the chosen population. This study comprised of a selected number of Public Benefit Organizations (both social enterprises and NGOs) located in Kenya with headquarters in Nairobi County selected through random sampling technique. According to a report by the Kenya Projects Organization (2014) there were 330 nonprofit organizations registered to operate in Kenya as at 2014 that had headquarters in Nairobi. The target population was 330 organizations. 50 organizations were randomly selected out of the 330 registered during the study. This gave us sample coverage of 15%. A questionnaire was constructed which included an innovation measure gotten from (Lin et al. 2010) containing items and an organization performance scale adapted from (Venkatraman, 1989) comprising 3 items for the aim of testing the above specified hypotheses. The questionnaire was designed to have both open ended and closed questions. A five point Likert scale questionnaire was utilized; the Likert scale had a five anchor ratings of strongly agree, agree fairly agree, disagree and strongly disagree. Respondents were senior management cadre members i.e. head of programs and managers. The Statistical Package for Social Sciences (SPSS) was

applied for analysis thus generated descriptive frequencies and inferential statistics which were used to develop answers and generalization concerning the population under study.

FINDINGS AND DISCUSSIONS

The study intended to investigate the impact of Product innovation on organizational performance of NPOs in Kenya.

A total of 100 questionnaires were administered to the selected NPOs in Kenya. 81 were successfully completed by the respondents giving a response rate of 81% of the total questionnaires. To measure Organization Innovation, a set of five statements were formulated. The respondents were asked to indicate the extent of agreement with each of the organization innovation statements. The results were presented in Table 1.

Organizational innovation is an application of better organizational methods in the daily operation of the business practices, external relations or reorganization of the systems. Innovation in organization can be envisioned to improve firm performance by improving workplace satisfaction, lowering the administrative cost e.g. business process reinvention, design thinking, employing scrum in nonprofit business operation, supply-chain management, management of total quality, lean production in addition to organizational agility.

Table 1: Descriptive Statistics- Process Innovation

Process Innovation	1(VS)	2(S)	3(M)	4(L)	5(VL)	Mean	STD
Agile practices allow my organization to be more adaptive to new challenges	0(0%)	1(1.2%)	2(2.5%)	20(24.7%)	58(71.6%)	4.6667	0.59161
Application of design thinking allows my organization to be more strategic	0(0%)	0(0%)	3(3.7%)	33(40.7%)	45(55.6%)	4.5185	0.57252
Application of innovation tools improves efficiency of my organization	0(0%)	0(0%)	10(12.3%)	36(44.4%)	35(43.2%)	4.3086	0.68268
Ease of firm adaptation of new methods or improved systems improves performance	0(0%)	0(0%)	12(14.8%)	35(43.2%)	34(42.0%)	4.2716	0.70732
Lean organizations are more likely to achieve their goals effectively and efficiently	0(0%)	0(0%)	10(12.3%)	31(38.3%)	40(49.4%)	4.3704	0.69722
Co-creation of products, programs and services allows for better chances of success in my organization	0(0%)	0(0%)	8(9.9%)	31(38.3%)	42(51.9%)	4.4198	0.66829

Note: 1=Very Small, 2=Small, 3=Moderate, 4=Large, 5=Very Large, Mean, S.D. =Standard Deviation

Source: Field Data (2019)

The results revealed that 20(24.7%) and 58(71.6%) of the respondents agreed to a large and very large extent that agile practices allow their organization to be more adaptive to new challenges. More than half of the respondents confirmed the application of design thinking allowed their organizations to be more strategic with 33 (40.7%) and 45 (55.6%) agreeing to a large and very large extent respectively. The results also revealed that application of innovation tools improved efficiency of organization as shown by a majority of the respondents 36(44.4%) and 35 (43.2%) who agreed to a large and very large extent to this statement. Similarly, 35(43.2%) and 34(43.2%) of the respondents agreed to a large and very large extent respectively that the ease of firm adaptation of new methods or improved systems

improved performance. The study also indicated that a majority of the respondents 31 (38.3%) and 40 (49.4%) agreed to a large and very large extent that lean organizations were more likely to achieve their goals effectively and efficiently. Lastly, 31(38.3%) of the respondents and an additional 42(51.9%) agreed to a large and very large extent that co-creation of products, programs and services allowed for better chances of success in their organization.

Organization Performance

To measure Organization Performance, a set of five statements were formulated. The respondents were asked to indicate the extent of agreement with each of the organization performance statements. The results were presented in Table 2.

Table 2: Descriptive Statistics- Organization Performance

Organization Performance	1(VS)	2(S)	3(M)	4(L)	5(VL)	Mean	STD
Adoption of innovative methods allows my organization to be more marketable to donors	0(0%)	0(0%)	7(8.6%)	7(8.6%)	67(82.7%)	4.7407	0.60782
Innovation allows my organization to be more efficient and effective in product management	0(0%)	0(0%)	7(8.6%)	18(22.2%)	56(69.1%)	4.6049	0.64574
Innovation allows my organization to be more financially prudent	0(0%)	0(0%)	6(7.4%)	32(39.5%)	43(53.1%)	4.4568	0.63343
High performing organizations are more environmentally sustainable	0(0%)	0(0%)	10(12.3%)	34(42.0%)	37(45.7%)	4.3333	0.68920
High performing organizations create better competitive advantage	0(0%)	1(1.2%)	8(9.9%)	20(24.7%)	52(64.2%)	4.5185	0.72648
High performing organizations have highly motivated employees	0(0%)	0(0%)	6(7.4%)	21(25.9%)	54(66.7%)	4.5926	0.62805

Note: 1=Very Small, 2=Small, 3=Moderate, 4=Large, 5=Very Large, Mean, S.D. =Standard Deviation

Source: Field Data (2019)

The findings revealed that 7(8.6%) and 67(82.7%) of the respondents agreed to a large and very large extent that adoption of innovative methods allowed their organization to be more marketable to donors. The results further revealed that innovation allowed organizations to be more efficient and effective in product management as shown by 18(22.2%) of the respondents who agreed to a large extent and 56(69.1%) who agreed to a very large extent.

Further, 75(92.6%) of the respondents agreed to a large and very large extent that innovation allowed organizations to be more financially prudent. Similarly, majority of the respondents confirmed that

high performing organizations were more environmentally sustainable as supported by 34(42.0%) who agreed to a large extent and additional 37(45.7%) who agreed to a very large extent. The results also revealed that 20(24.7%) of the respondents agreed to a large extent and 52(64.2%) also agreed to a very large extent that high performing organizations created better competitive advantage. Lastly, the study findings indicated that high performing organizations had highly motivated employees with 21(25.9%) and 54 (66.7%) of the respondents agreeing to a large and very large extent respectively.

Table 3: Correlation Analysis

		Process Innovation	Organization Performance
Process Innovation	Pearson Correlation	1	.709**
	Sig. (2-tailed)		.000
	N	81	81
Organization Performance	Pearson Correlation	.709**	1
	Sig. (2-tailed)	.000	
	N	81	81

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

Source: Field Data (2019)

The Pearson correlation analysis was used to investigate the relationship between process innovation and organization of humanitarian organizations in Kenya. The study established a coefficient of correlation (r) as 0.709**, $P<0.05$ at 95.0% confidence level. This showed that there exist a strong correlation.

Regression Results of Process Innovation and organizational performance

Regression analysis was used to tell the amount of variance accounted for by one variable in predicting another variable. Regression analysis was conducted to find the proportion in the dependent variable (Organization Performance) which can be predicted by the independent variable (Process Innovation). Table 4 showed the analysis results.

Table 4: Process Innovation and organizational performance

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.709 ^a	.503	.497	.50322	.503	79.946	1	79	.000

a. Predictors: (Constant), Process Innovation

ANOVA^a

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	20.245	1	20.245	79.946	.000 ^b
	Residual	20.005	79	.253		
	Total	40.250	80			

a. Dependent Variable: Organization Performance

b. Predictors: (Constant), Process Innovation

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	.358	.192		1.861	.066
	Process Innovation	.817	.091	.709	8.941	.000

a. Dependent Variable: Organization Performance

Source: Field Data (2019)

The results revealed a coefficient of determination (R^2) of 0.503. This illustrated that process innovation could explain the 50.3% of the variance in organization performance in the humanitarian organizations in Kenyan. The F test gave a value of $(1, 79) = 79.946$, $P<0.01$, which supported the goodness of fit of the model in explaining the variation in the dependent variable. It also meant that process innovation is a useful predictor of organizational performance in the humanitarian

organizations in Kenyan. The regression equation to estimate the Organizational Performance in the humanitarian organizations in Kenyan as a result of process innovation was stated as:

$$\text{Organization Performance} = 0.358 + 0.817 \text{Process Innovation} + e$$

The findings of this study are in agreement with studies by Anyango (2018) who conducted a research on the effect of product and process innovation of

financial performance of hotels and restaurants in Nairobi County. Findings from the study indicated that product and process innovation affected the financial performance of hotels and restaurants positively. This was supported by a study by Nyamota (2015) on the effect of process innovation in utility companies in Kenya. Findings from this study indicated a positive statistically significant relationship between sale of electricity, a measure of the prepaid process innovation and financial performance indicator of return on assets.

CONCLUSIONS AND RECOMMENDATION

The study established a coefficient of correlation (r) as 0.709^{**} , $P<0.05$ at 95.0% confidence level. This showed that there exist a strong and significant positive relationship between process innovation and organizational performance of the humanitarian organizations in Kenyan. The results also revealed a coefficient of determination (R^2) of 0.503. This illustrates that Process innovation could explain 50.3% of the variance in organizational performance in the humanitarian organizations in Kenyan. This

implied that organizational performance in humanitarian organizations in Kenya increases with an increase in process innovation and vice versa.

The conclusions were derived from the findings after testing the hypothesis from the research objectives. As concerns the objective, it was also concluded that there was a positive and significant relationship between process innovation and organizational performance of humanitarian organizations in Kenya. With the application of process innovation, it is clear that organizational performance will increase.

Humanitarian organizations should adopt process innovation such as significant changes in techniques, or ways of doing things in order to reduce time taken to produce a service or use lesser resources to produce value. Humanitarian organizations also have a capacity to eliminate waste in their program implementation if they adopt process innovation. Lastly, humanitarian organization have a chance to be lean and agile if process innovation is adopted: this allows the organizations to be competitive in the donor market.

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