

# THE INFLUENCE OF OPERATIONAL EFFICIENCY ON TEA FACTORIES PROJECT PERFORMANCE: A CASE OF TRANS NZOIA COUNTY, KENYA

KAMAU EDWARD MWANGI

[KENYA TEA DEVELOPMENT AGENCY]

---

**Abstract:** The operations of tea factories have a damning influence on the source of revenue of over 560,000 tea farmers in Kenya who deliver green leaf to tea factories. The purpose of this study was to analyze the impact of operational efficiency on tea factories project performance in Trans Nzoia County. This study was thus geared towards evaluating how operational efficiency during projects implementation and running the factories projects influence tea factories project performance in Trans-Nzoia County. The study was guided by Stakeholder Theory and Constraint Theory. The study used mixed methodology and descriptive research design. A pilot test was done in Chebut Tea Factory in Nandi County which falls outside the researchers' scope of research area. The target population was 90 employees of Kapsara and Elgon tea and the same number as the sample given. This was a census study. Data was collected using structured questionnaires, interviews and document analysis. Once ascertained, data duly collected was analyzed using descriptive statistics and Statistical Package for Social Sciences (SPSS) version 21. The study showed that Operational efficiency has positive relationship on tea factories project performance. The r value was 0.911 which is relative strong at 2 tailed significance of 0.000 which is below 0.01 significant levels. The results emanating from this research are of benefit to all project managers in tea factories and also line managers who will enhance the application of these findings to boost the performance of factory operations and furthermore boost returns to shareholders.

**Keywords:** tea factories, operational efficiency, factories project performance, shareholders.

---

## 1. INTRODUCTION

The operations of tea factories have a great influence on the source of revenue of over 560,000 tea farmers in Kenya who deliver green leaf to tea factories. Across the value supply chain, more than 10,000 people are directly employed in the small holder sector, indirectly benefitting over four million people. Factories engages hundreds of transporters and scores of small and large scale business partners who supply plant and machinery, vehicle spare parts, fuel and other operational and maintenance services. It is also notable that among the many of Kenya's export crops, tea is one of those crops that have maintained an upward trend in production and export earnings (Namu et al., 2014).

However the tea industry has had to contend with high costs of production and mismanagement that threatens its survival. There is need for immediate interventions to manage the vices. The tea industry in Kenya has to contend with the rising cost of production and in particular the high cost of labor as one of their key challenges. Blowfield and Dolan (2010) shows that an analysis carried out by the Unilever management indicated that labor costs constituted about 43 per cent of total costs in 2014. This figure had rose to about 55% of total costs by 2016. Another report by Sanne (2008) on Sustainability issues in the Tea Sector revealed the factors contributing to the high cost of production are the high costs of farm inputs particularly fertilizers, the high costs of energy/fuel at the factories, numerous taxes and levies, mismanagement, high overhead costs, bad agricultural practices and low labor productivity. Also Kimathi and Muriuki

(2013), observes that the tea industry is subject to more than 30 taxes, fees, levies, charges and payments that increase the cost of doing business and adds the administrative burden on organizations seeking to comply. Face with such challenges, Bello et al (2016) argued that there is need for major and minor changes in a business firm's strategic direction.

Use of modern technology is also a strategy of reducing costs of production. One of the most revolutionary changes made was the introduction of Continuous Fermentation Units (CFUs) at the factories. These are computerized "intelligent machines" that literary transformed the way tea was manufactured by eliminating human intervention in the process of fermentation. The result was greater consistency in the quality of made tea, more efficient production and a lowering of labor costs since a single CFU replaced almost 40 workers (Kimathi & Muriuki, 2013).

The other area of target in cost reduction was procurement. Electronic/online procurement is a system that can be used to cut down procurement related expenses. As observed by Rayport and Bernard (2005), switching costs for consumers who shop on the internet are significantly lower

Battistoni et al (2013) in a study in Roma and Italy on Analysis of the Effect of Operations Management Practices on Performance noted that enterprises all over the world operate in highly dynamic environments where key resources are scarce and uncertainty in business and is common. This shows the need for focusing on technology as one of the endeavors to manage such dynamism in operations and satisfy the stakeholders. The frequent and seemingly continuous changes in management of projects over time have resulted in the elevation of technology as an important basis of communication in organizations (Rimmington, Dickens, & Pasquire, 2015). It follows from this that indeed ICT is critical in implementation and project performance in general.

In a study in USA on Impact of Information Technology on Mass Customization Capability of Manufacturing Plants, it was noted that Mass Customization production system combines the advantages of both mass production and product customization, benefiting from the cost-saving efficiency of the former and the flexibility associated with the latter (Peng, Liu, & Heim, 2011).

A study in Vietnam proposed a model of innovation process and technology in food factories in order to influence capacity, leadership and performance of organizations. Changes in technological and highly competitive market conditions strongly influence the innovation needs of enterprises. Enterprises have to seek for new product and process development to meet new customer requirements through technology transfer or inside research and development (Ngiyen & V, 2013).

Considering a global view, a study on Additive Manufacturing Technology found out that the major factors affecting production in the United States of America are the development of standards, improvements in the selection and affordability of inputs and also increasing the reliability and accuracy of processes and equipment in use. The increase in breadth and sophistication of emerging technological applications drive needs for improving process control, materials and inspection for safety purposes (Johnson, 2014). A study on firm performance stated that informal and formal communication within departments; internal integrating and networks always boost performance.

In a research on process operations, business executives saw technology as impactful on their functions (The Impact of Technology on Business Process Operations, 2014). In a 2008 Sloan Industry Conference, it was noted that new technologies expand markets via additional distribution channels, creative revenue streams, increasing employment and generally altering occupational mix (Figueroa, Gray, & Cerio, 2008). Any new technology will always have an impact on the operational system of an organization and even performance as it affects costs, revenue and even employment.

According to a study in Islamabad, Pakistani, training that is accompanied with continuous focus on development in aspects of technology affects the performance of organizations (Khan, Khan, & Khan, 2011).

A study conducted in Rivers State of Nigeria noted that the increasing customers` demand for high quality products and more flexibility all at lower costs have generated a new trend in the industries. This can be mitigated by effective adoption of various production processes (Uzochukwu & Ossai, 2016). Technology is one of the aspects to be embraced in the production processes to ensure flexibility in operations and quality output regionally in East Africa and also the continent as a whole.

A study on Information technology revealed that a factory has to attend to the varied demands of its consumers in regard to using efficient tools to produce quality goods (Rana, 2013). Indeed, world renowned organizations like Boeing, Allen-Bradley and Black and Decker have used automation of factories as a basis to improve manufacturing operations.

At international, national and local levels, project performance is key for the success of organizations. The researcher sees use of technology to be a solution to the rising costs that render enterprises non-competitive in Kenya. Factories in Kenya have been facing the challenge of increase in cost of operations (Kagira, Kimani and Kagwithi, 2012). This led to factories adopt various technology as a way of dealing with this challenge (KTDA, 2014). In particular, most factories had to: change the manual tea processing system to automated system, the Continuous Fermentation Unit; change steam boilers from furnace fuel steam boilers to fire steam wood boilers; and, computerize the tea buying processes (KTDA, 2014).

Lean production and supply chain management approach is gaining high attention in the current business world as one way of staying ahead of the competitors and achieving success for the enterprise stakeholders and many firms including sugar manufacturing companies in Western Kenya have been quick in embracing the same. Thus for proper operational performance, the approaches cannot be taken for granted (Mukopi & Iravo, 2015).

## 2. OPERATIONS EFFICIENCY EFFECTS ON TEA FACTORIES PROJECT PERFORMANCE

Effectiveness is the extent of the accomplishment of the right things, the right ends, and efficiency is the economics of doing things right, the economics of the right means. These are two fundamental concepts in all human activities and work, yet rarely are these two concepts collectively tested empirically. The lack of such experiential support limits a more complete conceptualization of these two ideas and places a serious constraint on our ability to expand our understanding of organizations and management. Specifically, in the field of project management, much of the research has been devoted to efficiency, independent of effectiveness, and research conducted on effectiveness does not provide a means to predict or affect the project outcome. This research presents results that demonstrate that the quality of the effort invested in efficiency during the operations in a factory reliably predicts project success at completion, as well as completing the project ahead of schedule. Yet, and in contrast to conventional thinking, only the quality of the effort in effectiveness reliably predicts the project completing under budget. This increased predictability offers organizations a powerful advantage in improving their business by focusing projects upfront on the right ends, thereby increasing the organization's competitiveness (Phelan, 2005)

In the recent times, factories have introduced Electronic Weighing Solution (EWS) (KTDA, 2014). The technology is very efficient because it uses electronic weighing scales that measure green leaf to the gram. The data is then transmitted instantly via Safaricom's mobile network, using a Personal Data Assistant to a farmer's factory. A printer relying on Bluetooth churns out a receipt for the farmer on the spot. EWS has, therefore, helped in saving on time and human resources and having accurate data captured once at source. Automated reconciliation between weights of green leaf delivered to the factory and weights of the leaf at the buying center has also been made possible (KTDA, 2014). Reconciliation of the tea collected per day is in real time and thus there is no need of reconciliation clerks or payment of overtime for the reconciliation (KTDA, 2014). The objective of the factories' undertakings of the above innovations was to try to mitigate the ever increasing costs in tea production through creating such efficient systems which will enhance implementation of tea buying and other improvement projects to be eased.

For instance, KTDA (2019) is rolling out pilot tests on a project which will help farmers have their own smart cards where kilos weighed at the buying center will immediately be replicated in the smart card. On the same note, an efficient system of ensuring the project is a success is the short messaging system module which ensures that whatever weight is recorded by the logistic assistant at the buying centre is sent to the farmer promptly as a short messaging system and the same replicated to the factory management system. The efficiency of this project will bring the issues of theft and falsification to zero.

Kenya tea development has as well adopted efficient ICT systems across the product realization chain and its supporting services. These systems are so efficient in saving time and costs of doing business in the modern world. Their 100% utilization has been a key milestone especially in running departments between Mombasa, all the 68 managed factories and the headquarters based in Nairobi. According to Jose (2015) internet will significantly change manufacturing in the world and be able to control two-thirds of the global gross domestic product. As an aspect of technology, it affects the way business is carried out and hence project performance of organizations. An intranet is a set of networks, using the Internet Protocol and IP-based tools such as web browsers and file transfer applications that are under the control of a

single administrative entity. That administrative entity closes the intranet to all but specific, authorized users. Most commonly, an intranet is the internal network of an organization. A large intranet will typically have at least one web server to provide users with organizational information. All this allows for timeliness due to the quickness in internet.

Another field where KTDA have been able to achieve 100% efficiency in the doing of business in the whole line of tea manufacture is automation. According to Freeform Dynamics (2017), one way of driving better productivity and efficiency is to automate key operations activities. Beyond speeding up activities and immediately freeing up the time of IT operations staff, automation has the added benefit of helping to minimize mistakes caused by human error. This in turn means fewer outages and less remedial work, with a corresponding reduction in the time and distraction associated with this. Automation, as per this study, is of major effect to ensure efficiency and effectiveness and the research concurs. The idea is to automate as many aspects of operations as possible in a fully integrated manner. Thus automation can dramatically reduce the time you need to spend on routine administration work. It obviously takes time to develop confidence in an automated system to the point where you are happy for it to take care of detailed monitoring, tuning and management activity with little or no human intervention. Once you get used to it and learn to trust it, however, then the time, skills and experience of operations staff can be redirected towards higher level activities.

According to Thompson *et al.* (2005), the instant communication Features of the internet combined with all the real time data sharing and information availability have further effect of breaking down corporate bureaucracies and reducing overhead costs. This means management process like order processing, invoicing, customer accounting, and other kind of transaction costs can be handled fast, accurately, and with less paper work and fewer personnel. The time savings and transaction cost reductions associated with doing business online can be quite significant across both company and industry as it uses internet for purposes of efficiency and effectiveness. An extranet is a network that is limited in scope to a single organization or entity and also has limited connections to the networks of one or more other usually, but not necessarily, trusted organizations or entities—a company's customers may be given access to some part of its intranet—while at the same time the customers may not be considered trusted from a security standpoint.

In business operations, an intranet may be preferred by the owners of the company because information is more readily available with understood user-protocols in place and it is entirely shared by stakeholders within it, that is majorly the employees (Rimington, Dickens, & Pasquire, 2015). The Management Information System (MIS) provides information that managers have specified in advance as adequately meeting their information needs (Byars & Rue, 2003). It is important to observe that communication is made easier by the use of modern technology in several ways. A notable technology in the tea factory is the use of electronic weighing systems where tea is weighed to accurate measures minimizing the leaf loss for the customers and Computerization of operations in which firms has significantly taken manual work space hence reducing labor related costs

Competition in the world has caused various consolidations in the industry and hence resulted in pressure on resources and at the same time need to deliver higher throughput at lower costs (PlantWeb, 2003). Firms have to focus on the volumes of production in line with the resources at their disposal. In such circumstances, the element of changes has to be managed effectively.

Rapidly changing environment makes flexibility in operations as one of the major priorities to beat stiff competition both in the manufacturing and service sectors (Arand, 2003).

Increasing the part processing time at a workstation increases the manufacturing cycle time at that workstation. In a system with process drift, this increase may, in turn, reduce the throughput and the total manufacturing cycle time. This can occur because the manufacturing cycle time increase consequently delays the detection of process drift at a preceding workstation (its detection time increases). As a result, the average yield decreases, the cumulative yield decreases, and the batch size leaving the next inspection station is smaller. The reduced batch size decreases the job processing times, utilization, and manufacturing cycle time at the workstations following the inspection station (Chincholkar, Burroughs, & Hermann, 2004).

Aspects of tea cutting rate efficiency per hour are well monitored by very efficient automated alarm controls which detect low volumes being transmitted through a weigh feeder system. This assists the managers in monitoring parameters such as arrival rates of the output and also the processing time or cycle that is involved. Thus, it uses some kind of sensitivity analysis in the processes in order to optimize production in the factory. Basically, those steps that cause delays can be focused on for improvement purposes. It also brings out light on how the available resources may be engaged maximally. Furthermore, efficiencies in monitoring these elements in operations' are key aspects that boost project success in the

factories. For instance new systems of tea withering have been installed to reduce the costs of operations and this boost the chances of getting more capital to invest in other factory projects.

### 3. METHODOLOGY

This chapter describes the research design, population, sampling frame, sample and sample technique, research instruments, data collection procedure, pilot that was undertaken as well as the researcher's data processing and analysis of the same data collected. Research design is a plan or a framework for guiding a study (Kothari, 2008). The design connects the questions or objectives of the study to the data gathered. Descriptive survey research design was used in this study. The target population for the study was 90 respondents. Therefore, the study sample size was 90 respondents as in the sample frame. This means that the study adopted a census sampling technique to select all the 90 respondents to represent our sample size. The researcher used both primary and secondary data collection instruments to collect both primary data and secondary data respectively. Data was collected by use of a semi structured predesigned questionnaire. Primary data of both quantitative and qualitative type was collected by the researcher through observations, checklist, interview schedules and questionnaires. A pilot test of 20 questionnaires to 20 respondents was done in Chebut Tea Factory in Nandi County to test the validity and reliability of data collection instrument. The changes after pilot outcomes were incorporated into the instruments which were adjusted accordingly. Cronbach alpha test of 0.7 and above was used. Analysis of the data was done using *spss* 21 software. Comparative tables and percentages were also used for data analysis and presentation. Inferential statistics were also used-Pierson correlation. Multiple regressions model/analysis was further generated to determine the relationship between independent and dependent variable. The model enables the researcher to predict value of the outcome binary variable given values of the explanatory variables.

### 4. RESULTS OF THE STUDY

According to Freeform Dynamics (2017), one way of driving better productivity and operation efficiency is to automate key operations activities. The study aimed at examining the effect of efficiencies on tea factories project performance in Trans-Nzoia County. The targeted population of the study was 90 respondents but only 72 who filled in the questionnaire. This means the response rate was 80.0 percent. According to Best & Khan (2007) a response rate of 50.0 percent is considered adequate, 60.0 percent good and above 70.0percent very good. A pilot test of 20 questionnaires to 20 respondents was conducted in Chebut Tea Factory in Nandi County. The questionnaire tool returned a highly acceptable score since all coefficients are above 0.75. An internal consistency technique using Cronbach's alpha was then applied to measure the reliability of all the questionnaires issued to different groups of pilot respondents. The respondent age in years was the first item on the questionnaire. Table 4.2 summarizes this information indicating a majority 36.0 percent of respondents were aged between 40-49 years old. On the highest level of education attained, 43.0 percent have university level, 29.0 percent have college level, 10.0 percent are post graduate level of qualification, 8.0 percent of the respondents said that they have Secondary school certificates, while 10.0 percent have Professional qualifications. Results showed that 39.0 percent had between 5 – 10 years' experience 33.0 percent had between 10 – 15 years of experience in the service. 13.0 percent of the respondents had less than 5 years' experience in tea factories project while 10.0 percent had served for 15 – 20 years, and 5.0 percent had served in tea factories project for over 20 years.

#### 4.1 operation efficiencies and tea factories project performance

Statement	SA	A	N	D	SD	Total
The use technology in electronic weighing scales that measure green leaf to the gram helps in saving on time and human resources and accurate data captured once at source	36.0	42.0	19.0	3.0	0	100
Beyond speeding up activities and immediately freeing up the time of IT operations staff, automation has added benefit of helping minimize mistakes caused by human error	34.0	43.0	7.0	12.0	4.0	100
Management process like order processing, invoicing, customer accounting, and other kind of transaction costs can be handled fast, accurately, and with less paper work and fewer personnel.	29.0	47.0	3.0	10.0	11.0	100
General performance of the company has improved	12.0	45.0	0.0	30.0	13.0	100

The findings showed that majority 42.0 percent of the respondents agreed while 36.0 percent strongly agreed that the use technology in electronic weighing scales that measure green leaf to the gram helps in saving on time and human resources and accurate data captured once at source. 19.0 percent were neutral and 3.0 percent disagreed the use technology in electronic weighing scales that measure green leaf to the gram helps in saving on time and human resources and accurate data captured once at source. This means that in majority 78.0 percent agreed that the use technology in electronic weighing scales that measure green leaf to the gram helps in saving on time and human resources and accurate data captured once at source.

The findings obtained data on whether beyond speeding up activities and immediately freeing up the time of IT operations staff, automation has added benefit of helping minimize mistakes caused by human error. The results of data analysis results shows that majority 43.0 percent of respondents agreed while 34.0 percent strongly agreed that beyond speeding up activities and immediately freeing up the time of IT operations staff, automation has added benefit of helping minimize mistakes caused by human error, totalling 77.0 percent. But 7.0 percent were neutral, 12.0 percent disagreed while 4.0 percent strongly disagreed. This implies that majority of the respondents agreed that beyond speeding up activities and immediately freeing up the time of IT operations staff, automation has added benefit of helping minimize mistakes caused by human error.

The results of the study also showed that majority 47.0 percent of the respondents agreed while 29.0 percent strongly agreed that management process like order processing, invoicing, customer accounting, and other kind of transaction costs can be handled fast, accurately, and with less paper work and fewer personnel. But 3.0 percent were neutral, 10.0 percent disagreed and 11.0 percent strongly disagreed. This shows that majority 76.0 percent agreed that management process like order processing, invoicing, customer accounting, and other kind of transaction costs can be handled fast, accurately, and with less paper work and fewer personnel.

The findings further showed majority 45.0 percent of respondents agreed while 12.0percent strongly agreed that general performance of the company has improved. While none of the results in the finding was neutral, 30.0 percent disagreed and 13.0 percent strongly disagreed. This shows that majority 57.0 percent agreed that general performance of the company has improved. This can be mitigated by effective adoption of various production processes (Uzochukwu & Ossai, 2016). Technology is one of the aspects to be embraced in the production processes to ensure flexibility and efficiency in operations and quality output regionally in East Africa and also the continent as a whole.

#### 4.2 Pearson Correlation

Variable	Test	tea factories project performance
efficiencies	Pearson Correlation	.911**
	Sig. (2-tailed)	.000
	N	75

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

The study shows that efficiency has positive relationship on tea factories project performance. The r value is 0.911 which is relative strong at 2 tailed significance of 0.000 which is below 0.01 significant level.

#### 4.3 Regression Analysis

The study did regression on quantitative data between efficiency on tea factories project performance.

Model 1	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	3.976	.182		45.521	.000
effect of efficiency	.323	.354	.309	.878	.344

a. Dependent Variable: tea factories project performance

Both the constant and efficiency contribute significantly to the model. The regression equation is presented as follows; tea factory project performance = 3.976+0.323(efficiency).

#### 4.4 Model Summary

Model 1	R	R Square	Adjusted R Square	Std. Error of the Estimate
	.369 <sup>a</sup>	.137	.064	.583
a. Predictors: (Constant), efficiency				

Table 4.4 provides the R and R<sup>2</sup> value. The R value is 0.369, which represents the simple correlation. It indicates an average degree of correlation. The R<sup>2</sup> value indicates how much of the dependent variable, "tea factory project performance", can be explained by the independent variable, "Efficiency". In this case, 13.7 percent can be explained, which is relatively significant.

## 5. CONCLUSION

The null hypothesis H<sub>01</sub>: Operations Efficiency do not have significant effect on tea factories project performance in Trans-Nzoia County was rejected. Therefore, Efficiencies do have significant effect on tea factories project performance in Trans-Nzoia County. The findings showed that majority agreed that the use technology in electronic weighing scales that measure green leaf to the gram helps in saving on time and human resources and accurate data captured once at source and beyond speeding up activities and immediately freeing up the time of IT operations staff, automation has added benefit of helping minimize mistakes caused by human error And that management process like order processing, invoicing, customer accounting, and other kind of transaction costs can be handled fast, accurately, and with less paper work and fewer personnel. The findings further showed majority agreed that general performance of the company has improved.

### 5.1 RECOMMENDATIONS

Based on the findings and as evidenced from study findings, efficiency plays a key role in enhancing tea factories project performance in Trans-Nzoia County, the study recommends that the management of the tea factories should invest more on latest technology in order to have a reduction of scrap or waste and shorter lead times leading to high profits since issues of cost are critical in the modern business operations as they can positively or negatively impact on project performance. Management process like order processing, invoicing, customer accounting, and other kind of transaction costs can be handled fast, accurately, and with less paper work and fewer personnel. Beyond speeding up activities and immediately freeing up the time of IT operations staff, automation has added benefit of helping minimize mistakes caused by human error.

### 5.2 SUGGESTION FOR FURTHER RESEARCH

Therefore, the study recommends further research into the challenges of embracing operations efficiency technologies in tea factories. It also recommends a replica of the same study in other tea factories as well as a study into the advantages of these mechanisms of efficient operations in the implementation of projects in other companies outside the bracket of the tea industry.

## REFERENCES

- [1] Abbas, Q., Hunjra, A. I., Azam, R., Ijaz, M. S., & Zahid, M. (2014). Financia Performance of Banks in Pakistan after Merger and Aquisition. *Journal of Global Entrepreneurship Research*.
- [2] Ahmad, S. (2014). Technology in Organizations. *Impact: International Journal of Research in Business Management*.
- [3] Ahmad, T. (2013). A Review of Cost Management Techniques in Planning Phase of Construction Projects. *Global Research Analysis International*.
- [4] Ajao, S. O., & Small, S. O. (2012). Liquidity Management and Corporate Profitability:Case Study of selected Manufacturing Companies listed on the Nigerian Stock Exchange. *Society for Business and Management Dynamics*, 10-25.
- [5] Akyol, D. E., Tuncel, G., & Bayhan, M. G. (2007). A comparative analysis of activity-based costing and traditional costing. *World Academy of Science, Engineering and Technology*.

- [6] Al-Hroot, Y. A., Mssadeh, A. A., & Amireh, M. S. (2015). The Effect of Activity-Based Costing On Companies`Financial Performance: A Study among Jordanian Industrial Shareholding Companies. *European Journal of Business and Management*.
- [7] Allen, C. (2013). Compensation as a construct for employee Motivation in Health Care. *American Journal of Management*.
- [8] Al-Mashari, M., & Zairi, M. (1999). BPR implementation process: an analysis of key success and failure factors. *Business Process Management journal*.
- [9] Ambrose, S. C. (2015). *Sales and Operations Planning: A Performance Framework*. Kennesaw State University.
- [10] Anyanzwa, J. (2014, June 20th). Standard Digital News. Nairobi, Kenya.
- [11] Arand, D. A. (2003). Service Operations Strategy, Flexibility and Performance in Engineering Consulting Firms . *International Journal of Operations and Production Management*.
- [12] Asrarhaghighi, E., Rahman, A. A., Sambasivan, M., & Mohamed, A. Z. (2013). Diversification strategy and Performance Studies: Results, Measures and Sampling Design. *Journal of Advanced Management Science*, 1 - 7.
- [13] Barksdale, H. C., & Darden, B. (1971). Marketers' attitudes toward the marketing concept. *The Journal of Marketing*, 29-36.
- [14] Banutu-Gomez, B. M. (2012). COCA-COLA: International Business Strategy for Globalization. *International Trade & Academic Research Conference (ITARCH)*. London: The Business & Management Review.
- [15] Bart, M., Philip, B., & Jo, B. (2003). Fundamental Modes of Operation for Mass Customization. *International Journal of Production Economics*.
- [16] Bartley, S. J., & Golek, J. H. (2004). Evaluating the Cost Effectiveness of Online and Face-to-Face Instruction. *Educational Technology and Society*, 167-175.
- [17] Bastl, M., Grubic, T., Templer, S., Harrison, A., & Fan, I.-S. (2010). Inter-Organisational Costing Approaches - the inhibiting factors. *The International Journal of Logistics Management*, 65 - 88.
- [18] Battistoni, E., Bonacelli, A., Fronzetti Colladon, A., & Schiraldi, M. M. (2013). An analysis of the effect of operations management practices on performance. *International Journal of Engineering Business Management*, 5(Godište 2013), 5-43.
- [19] Bello, D. C., Radulovich, L. P., Javalgi, R. R. G., Scherer, R. F., & Taylor, J. (2016). Performance of professional service firms from emerging markets: Role of innovative services and firm capabilities. *Journal of World Business*, 51(3), 413-424.
- [20] Bhatt, P., & Sumangala, J. K. (2012). Impact of Earnings Per Share on Market Value of an equity share: An Empirical Study in Indian Capital Market. *Journal of Finance, Accounting and Management*, 1 - 14.
- [21] Blowfield, M. E., & Dolan, C. (2010). Fairtrade facts and fancies: What Kenyan
- [22] Fairtrade tea tells us about business' role as development agent. *Journal of Business Ethics*, 93(2), 143-162.
- [23] Botchkarev, A., & Andru, P. (2011). A Return on Investment as a Metric for Evaluating Information Systems: Taxonomy and Application. *Interdisciplinary Journal of Information, Knowledge and Management*.
- [24] Boyns, r., & Edwards Richard, J. (1997, Winter). British Cost and Management Accounting Theory and Practice, C.1850-C1950, Resolved and Unresolved issues. *Business and Economic History*, pp. Volume twenty six, no.2.
- [25] Bromiley, P., & Rau, D. (2016). Operations Managment and the Resource Based View: Another View. *Journal of Operations Management*.
- [26] Busch, R., & Kick, T. (2009). *Income diversification in the German banking industry*. Berlin: Deutsche Bundesbank Eurosystem.



- [27] Cellini, S. R., & Kee, J. E. (2010). *A Handbook of Practical Program Evaluation*.
- [28] Chincholkar, M. M., Burroughs, T., & Hermann, J. W. (2004). *Estimating Manufacturing Cycle Time and Throughput in Flow Shops with Process Drift and Inspection*. Oregon: NSF.
- [29] Clarkson, M. E. (1995). A stakeholder framework for analyzing and evaluating corporate social performance. *Academy of management review*, 20(1), 92-117.
- [30] Cochrane, H. J. (2014). *Cost-Benefit Analysis as a Framework for Financial Regulation*. Chicago: National Bureau of Economic Research.
- [31] Cokins, G. (2006). *Implementing Activity-Based Costing*. Montvale: Institute of Management Accountants.
- [32] Commons, J. R. (1931). *American Economic Review*, 648 - 657.
- [33] Craig, P., Dieppe, P., Macintyre, S., Michie, S., Nazareth, I., & Petticrew, M. (2008). Developing and evaluating complex interventions: the new Medical Research Council guidance. *Bmj*, 337, a1655.
- [34] Deshpande, R., & Farley, J. U. (1999). Corporate culture and market orientation: Comparing Indian and Japanese firms. *Journal of International Marketing*, 111-127.
- [35] De Silva, M. J., Breuer, E., Lee, L., Asher, L., Chowdhary, N., Lund, C., & Patel, V. (2014). Theory of Change: a theory-driven approach to enhance the Medical Research Council's framework for complex interventions. *Trials*, 15(1), 267.
- [36] Di Serio, L. C., de Oliveira, L. H., & Schuch, L. M. (2011). Organizational Risk Management - A Case Study in Companies that have won the Brazilian Quality Award Price. *Journal of Technology Management & Innovation*.
- [37] Dogan, O. I. (2013). The Impact of the Operational Performance of World Class Manufacturing Strategies:A Company Application. *International Journal of Business, Humanities and Technology*.
- [38] Donaldson, T., & Preston, L. E. (1995). The stakeholder theory of the corporation: Concepts, evidence, and implications. *Academy of management Review*, 20(1), 65-91.
- [39] Dossetor, K. (2011). Cost-Benefit analysis and its application to crime prevention and criminal justice research. *Canberra: Australian Institute of Criminology*.
- [40] Dragnic, D. (2014). Impact of Internal and External Factors on the Performance of Fast-Growing Small and Medium Businesses. *Journal of Contemporary Management Issues*.
- [41] Dreze, J., & Stern, N. (1987). *Handbook of Public Economics*. North-Holland: Elsevier Science Publishers.
- [42] Dynamics, F. (2017). *The Impact of Automation on IT Operations*. Tokyo: Fujitsu.
- [43] Eleventh Parliament(Third Session-2015). (2015). *Report of the Departmental Committee on Agriculture, Livestock and Co-operatives on the Crisis Facing the Sugar Industry in Kenya*. Nairobi: Kenya National Assembly.
- [44] Eleventh Parliament,Third Session. (2015). *Report of the Departmental Committee on Agriculture, Livestock and Co-operatives on the Crisis Facing the Sugar Industry in Kenya*. Nairobi: Kenya National Assembly.
- [45] Figueroa, M., Gray, L., & Cerio, D. (2008). The Effects of Technological and Organizational Changes on Employment and Labor-Management Relationships in the Electronic Media Industry. *Sloan Industry Studies Annual Conference*.
- [46] Fisman, R., & Love, I. (2003). Trade Credit, Financial Intermediary Development and Industry Growth. *The Journal of Finance*.
- [47] Ford, S. L. (2014). Additive Manufacturing Technology: Potential Implications for U.S Manufacturing Competitiveness. *Journal of International Commerce*.
- [48] Freeman, R. E. (1984). Strategic management: A stakeholder perspective. *Boston: Pitman*, 13.

- [49] Greenley, G. E., & Foxall, G. R. (1998). External moderation of associations among stakeholder orientations and company performance. *International Journal of Research in Marketing*, 15(1), 51-69.
- [50] Johnson, P. F. (2014). *Purchasing and supply management*. McGraw-Hill Higher Education.
- [51] Kimathi, C. K., & Muriuki, F. M. (2013). A Showcase of Smallholder Agriculture in the EAC: The Case of the Smallholder Tea Sector in Kenya. In *International Symposium and Exhibition on Agricultural Development in the East African Community, Kampala, Uganda*.
- [52] Kohli, A. K., & Jaworski, B. J. (1990). Market orientation: the construct, research propositions, and managerial implications. *The Journal of Marketing*, 1-18.
- [53] Namu, N. N., Kaimba, G. K., Muriithi, D. K., & Nkari, I. M. (2014). impact of c cost reduction strategies on performance of tea factories in embu county, kenya. *European Journal of Business and Social Sciences*, 3(9), 26-48.
- [54] Narver, J. C., & Slater, S. F. (1990). The effect of a market orientation on business profitability. *The Journal of marketing*, 20-35.
- [55] Rayport, J. F., Jaworski, B. J., & Kyung, E. J. (2005). Best face forward: Improving companies' service interfaces with customers. *Journal of Interactive Marketing*, 19(4), 67-80.
- [56] Sanne, V. W. (2008). Sustainability Issues in the Tea Sector A Comparative Analysis of Six Leading Producing Countries. *Stichting Onderzoek Multinationale Ondernemingen (Centre for Research on Multinational Corporations)*.
- [57] Shapiro, B. P. (1988). *What the hell is market oriented?* (pp. 1-3). HBR Reprints.
- [58] Wachuma, P., & Shalle, N. (2016). Effect of Lean Supply Chain Management Practices on Organizational Performance in Government Ministries in Kenya; A Case of Children's Department in the MLSSS. *International Journal of Academic Research in Business and Social Sciences*.
- [59] Waddock, S. A., & Graves, S. B. (1997). The corporate social performance–financial performance link. *Strategic management journal*, 18(4), 303-319.
- [60] Wolfer, R., Faber, N. S., & Hewstone, M. (2015). Social Network Analysis in the Science of Groups: Cross-Sectional and Longitudinal Applications for studying Intra and Intergroup Behaviour. *American Psychological Association*.
- [61] Xiaosong Peng, D., Liu, G., & Heim, G. R. (2011). Impacts of information technology on mass customization capability of manufacturing plants. *International Journal of Operations & Production Management*, 31(10), 1022-1047.