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INFLUENCE OF PORTFOLIO PLANNING ON PERFORMANCE OF GOVERNMENT PROJECTS IN RWANDA. A CASE OF KICUKIRO DISTRICT

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ABSTRACT

Project portfolio management is becoming established in both practice and the literature as a tool for prioritizing and managing multiple projects at the enterprise level. Despite the quantifiable benefits of portfolio management, relatively few public organizations have perfected the practice. In today's environment of tight budgets, rapid change and high risk, it is very astonishing that organizations continue to waste resources and efforts by delivering or by getting involved in the wrong projects and programs. This is where portfolio management comes in handy in assisting the government in ensuring that the right programs and projects are begun, and the wrong ones are not and if they are already ongoing it ensures that they are stopped. This study therefore sought to determine the influence of portfolio planning on performance of government projects in Kicukiro district. The design of this research was a descriptive survey research. The population for this study comprised of 18 top level managers, 42 middle level managers and 70 low level managers of Kicukiro District. Stratified proportionate random sampling technique was used to select the sample of 99 respondents. The study used a semi structured self-administered questionnaire to collect data from the respondents. Collected data was analyzed using SPSS version 21. Quantitative data was analyzed by descriptive analysis and presented in form of tables. Content analysis was used for the qualitative data and then presented in prose. From the analysis of the findings in relation to portfolio planning. Respondents agreed with a mean of 4.0366 that Portfolio planning facilitates time planning; they also agreed with a mean of 3.9878 that Portfolio planning is a key to organizational stability and flexibility. However, the respondents were neutral that selected components in a portfolio are prioritized based on evaluation scores as was shown by a mean of 2.5244. The study also conducted a Pearson's correlation analysis to establish the relationship between the variables. Portfolio analysis ensures good portfolio balance that enables the organization to achieve both growth and profit objectives. The study further concludes that portfolio planning affects the performance of government projects in Kicukiro district. It was evident that Portfolio planning facilitates time planning; it is also a key to organizational stability and flexibility. The research finally concludes that portfolio review affect performance of government projects in Kicukiro district. The study therefore recommends that the management team of government projects in Kicukiro district should consider portfolio inventory in their projects. The study recommends that the management team of government projects in Kicukiro district should always perform Portfolio analysis to ensure good portfolio balance that will enable the district to achieve both growth and profit objectives. The study further recommends that in order to facilitate time planning management team of government projects in Kicukiro district should establish proper portfolio planning. This will result in to organizational stability and flexibility. The study finally recommends that Review process in the project evaluation should ensure that the portfolio contains projects that support the achievement of strategic goals.

Key words: Portfolio Planning, Performance, Government Projects, Kicukiro District

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INTRODUCTION

All organizations, whether public sector, private sector or 'not for profit' undertake projects to support their operations; meet strategic objectives; respond to a need; solve a problem; develop an idea; or realize investment opportunities. It is critical for the project director to comprehend why his or her project was chosen for speculation. Notwithstanding, these projects can be chosen in a specially appointed way, at the impulse of a Government official, because of a need or open weight, or as a 'hallowed cow' (Meredith and Mantel, 2009). These activities draw on assets that different tasks, which should experience a great deal more investigation, should vie for. It has likewise been remarked that "there are typically a larger number of undertakings accessible for choice than can be attempted inside the physical and money related requirements of a firm, so decisions must be made in making up a reasonable project portfolio (Archer and Ghasemzadeh 2015).

Organizations today confront an exceedingly environment defined by quick changes, expanding multifaceted nature, and dangers from worldwide rivalry. In their endeavors to secure their own particular position and all the more basically to enhance their intensity, satisfactory systems must be produced and executed in the organizations (Blichfeldt and Eskerod, 2008). From the corporate level, system can be delivered by project portfolio management utilizing projects and tasks of various sorts and sizes as effective instruments. All the more critically, firms are finclined to assess their tasks from a portfolio's point of view in which a set or a sub-set

of the projects are assessed together, in connection to each other. Portfolio management strategies (techniques) can help key chiefs in assessing whether an arrangement of project is satisfactory from the point of view of long haul achievement (Killen et al., 2008).

Portfolio Management is meant for making the best hierarchical adjust by having an organized group of key procedures and choices. The portfolio management standards are the establishment whereupon fruitful portfolio management is assembled; they give a favorable authoritative environment in which there is powerful standards operation of portfolio definition and conveyance. The organization of these standards ought to be custom fitted in a way that suits the predominant conditions of the firm while likewise guaranteeing that the hidden reason is kept up. Portfolio Management depends on five adaptable standards which offer the establishment for fruitful portfolio management (Jardine, 2009).

Extend Portfolio Management's primary point is to boost aggregate estimation of projects through accomplishing their most extreme adjust of cost, returns and the dangers inside the organization assets restricted in this way deciding the ideal asset for conveyance and to timetable exercises to best accomplish an organization's operational and budgetary objectives. An ideal project portfolio is a composed accumulation of activities that accomplish a higher esteem to the organizations than the aggregate whole of commitments of the people (Fernsten, 2005).

Having a formal portfolio management handle helps officials figure out which extends most nearly adjust to the organization's key objectives, permits the organizations to stage activities to dodge asset bottlenecks, and enhances the checking of proposed project asks for that can be formally affirmed (Martinsuo, 2014). Advantages of a formal project handle incorporate management better correspondence among project partners, enhanced data sharing over all levels of the organizations through status reporting and upgraded basic leadership (extend supervisors can better respond and conform to changes that effect their activities). A very much characterized work process controlling a project through the project management life cycle empowers extend supervisors to concentrate on the projects and have certainty that management and partners know about the project's status (Project Management Institute, 2013).

Extend portfolio management can be characterized as the management of numerous undertakings with an attention on single project commitment to the achievement of the endeavor (Dye and Pennypacker, 2011). The Project Management Institute (PMI) characterizes a project, as "a transitory attempt embraced to make an extraordinary item, management or result" (Project Management Institute, 2008a) underscoring the brief way of the endeavor (implying that each project has a distinct start and end) and its non-tedious nature (i.e. a project makes interesting deliverables). Then again, portfolio is an accumulation of projects held by a speculation organization, flexible investments, budgetary establishment or person. Portfolios incorporate the measurements of market freshness and specialized creativity. Facilitate, extend portfolio is a gathering of activities that are done under the sponsorship and additionally management of a specific organizations (Archer and Ghasemzadeh, 2011).

Project portfolio management has for some time been the most used principle for managing the development of organizations (De Reyck, 2015), as organizations increasingly become multi-project environments more work is organized by projects. Now, organizations experience that effective management of single projects do not fulfill organizational objectives sufficiently. Thus, today project portfolio management is considered to be one of the most important areas for organizational development. However, research reveals that a large number of organizations are gaining below their potential in terms of creating value from their project portfolio and that insufficient management of the project portfolio is a significant reason. Furthermore, Jeffery and Leliveld (2014) show how organizations' lack of a centralized overview of the portfolio results in bad investments and the development of redundant applications.

Frigenti and Comninos (2012) contended that if public managers of state institutions are to prevail in what they do, they should distinguish needs, deal with the matter of project management and be watchful towards the organizations vision keeping in mind the end goal to stay away from low creation, dissatisfaction and an absence of inspiration in their representatives. In like manner, the journalists kept up that, in any event, it is not inaccurate to trust that the battles of open hirelings to effectively actualize and apply management culture and practice, obviously demonstrates how activities are seen and comprehended by project chiefs in broad daylight establishments. Be that as it may, these essayists were resolved to see more "firm, steadfast devoted units working, for example, those with right part character, those that can spur specialists to participate and interface well with each other. They guarantee that project management hones have advanced with time, and keeping in mind the end goal to enhance execution, a great deal of center is required in the nature of management practice itself. Today, extends in broad daylight foundations are increasingly being consolidated into the organization's business structure as a major aspect of a general objective or mission and along these lines, state organizations and offices are relied upon to receive great project administration culture and practices, which will prompt to effective results.

However, many still translate extends as recognizing undertakings that are exceptionally organized, and the sort that inherently includes a building approach. This is not generally genuine (Frigenti and Comninos, 2012).

The Governments of many creating nations essentially are not effectively overseeing admirably their rare assets. The nations are still confronted with much "insufficiency issues" that are clear and all around settled in numerous open segments, Government organizations and offices (NPO, 2008). Nations that are best have been found to have a ceaseless stream of activities in which thoughts are produced, assessed and executed. These different undertakings, when combined and incorporated for investigation and basic leadership turn out to be a piece of the nation's project portfolio.

In South Africa, project intensive organizations depend on delivering every project successfully and profitably, but many public institutions have no standardized project management practices and have no enterprise level project management system in place (Leonore & Werner, 2013). Nowadays many Africa nations are confronting some of the four greatest widespread issues, for example, excessively numerous dynamic projects, frequently twofold what an organizations ought to have; a number of these aren't right tasks that won't give esteem to the organizations; undertakings are not connected with the key objectives of an organizations and along these lines they don't meet the objectives of the organizations; besides, regardless of the possibility that each dynamic project is a positive one, there is a general unevenness in asset use both in short and long haul projects (Archer and Ghasemzadeh, 2011).

Vision 2020 Umurenge Programme is a new initiative by the Government of Rwanda (GoR) in collaboration with development partners and NGoS. It is led by the Ministry of Local Government, Good governance, Community Development and Social affairs (MINALOC) and supported by the Ministry of Finance and Economic Planning (MINECOFIN, 2012). cdf 2013.

It is also in this regard that the government of Rwanda opted the Vision 2020 Umurenge program as a complementary program with integrity development program (IDP) to accelerate economic development through improved technology, contribute to wellbeing for all based good governance as well as overall attainment of vision 2020 objectives and those of MDGs.

During the Akagera 4th retreat in February 2007 the leadership of the country debated the scale of poverty in Rwanda as well as possible remedies. The rate of poverty observed in 5 years from 2000/2001 to 2005/2006 was low (extreme poverty from 41.30% to 36.90%) to existing rate progress the country would only achieve the vision 2020 poverty reduction target in 2030.

So, for that reason the government of Rwanda decided to put in place Vision 2020 Umurenge program (VUP) which is an integrated local development program for accelerating the rate of poverty reduction, rural development growth and social protection. In fact, it has both protective and productive qualities.

Statement of the Problem

Project portfolio management is getting to be set up in both practice and the writing as an instrument for dealing with different undertakings at the endeavor level and organizations are progressively perceiving that portfolio management can help them settle on the choices that separates them from their rivals. In today's surroundings of tight spending plans, quick change and high hazard, it is extremely astounding that some districts keep on squandering assets and endeavors by conveying or by getting included in the wrong activities and projects. This is the place portfolio management proves to be useful in helping the region Government in guaranteeing that the right projects and tasks are started, and the wrong ones are not and, in the event, that they are as of now progressing it guarantees that they are ceased. The right undertakings and projects are those that together give the top-level augmentation to and organization's vital objectives, goals and targets.

Insights have demonstrated that more than half of activities started bν district mayors unsuccessfully executed (World Bank, 2015), a circumstance on the off chance that it holds on it prompted to low managements quality. Open supported tasks in the province are additionally infamous for coming in over spending plan, missing due dates, and neglecting to live up to clients' desires Every project in the portfolio has an arrangement of assignments to be finished. Every one of these errands has a cost and time allotment in light of its temperament. Poor management hone and the absence of a sound management culture and hardworking attitude in district committees, is frequently reprimanded for the separate in the province's ability to convey open merchandise and projects to its nationals. Performance culture and great practice by open directors utilized in the district to handle projects have relapsed, and therefore, activities are viewed as neglecting to meet the objectives and goals of the province. In region Governments especially, portfolio project management is obligatory keeping in mind the end goal to acquire changes the activities because of the progressions occurring in nature and also to enhance the aggressiveness and performance of the sector. This study therefore sought to establish the practices that the Kicukiro district adopt and the influence of these practices on their performance.

Objectives of the Study

The general objective of this study was to establish the influence of project portfolio management practices on performance of governments' projects in Rwanda, the case of Kicukiro District. The following specific objective guided the study:

To determine the influence of portfolio planning on performance of government projects in Kicukiro district.

Deming's theory of profound knowledge

Deming's theory of profound knowledge is a management philosophy grounded in systems theory. It is based on the principle that each organization is composed of a system interrelated processes and people which make up system's components. The success of all workers within the system is dependent on management's capability to orchestrate the delicate balance of each component for optimization of the entire system (Bowen, 2010). The system of profound knowledge is based on system appreciation to understand the company's processes and systems, variation knowledge to understand the occurrence of variation and their causes, knowledge theory to understand quality programs and psychology knowledge to understand human nature. In his fourteen points, he proposed that among other management commitment. points, positive corporate culture, employee's education and training and proper communication system is paramount in implementation of project outcomes

Conceptual Framework

At the point when unmistakably verbalized, a theoretical system has potential convenience as an instrument to platform inquire about and, consequently, to help an examination to make importance of resulting discoveries. Such a structure ought to be expected as a beginning stage for reflection about the examination and its setting as an instrument intended to help an investigation to create mindfulness and comprehension of the circumstance under investigation; by comprising of Independent and Dependent factors. As per Kothari (2009), a variable is an idea, which can go up against characteristics of quantitative values.

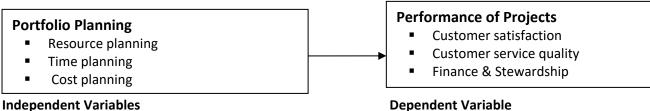


Figure 1: Conceptual Framework

Dependent Variable

METHODOLOGY

The descriptive research design was adopted because the study is a survey involving collection of data at one point in time. In addition, the design is preferred because it enabled assessing relationships between variables and it provides opportunity to identify moderators between variables (Tashakkori & Teddlie, 2011). Singleton (2009) describes a descriptive survey as a comprehensive design that enables large and diverse amounts of data to be collected within a short time frame and analyzed

quantitatively, giving a credible presentation of results.

According to Mugenda and Mugenda, (2013), a population can be defined as an entire set of relevant units of analysis or data. The target population of this study was 130 staff from Kicukiro district. The population for this study comprised of 18 top level managers, 42 middle level managers and 70 low level managers of Kicukiro District.

Table 1: Target Population

Category	Population
Top level managers	18
Middle level managers	42
Low level managers	70
Total	130

Stratified random strategy was utilized to choose the specimen. The objective of stratified irregular inspecting is to accomplish the wanted representation from different sub bunches in the populace. In stratified random sampling subjects are chosen in a manner that the current sub-amasses in the populace are pretty much spoken to in the example (Kothari, 2009). As per Pole and Lampard (2012), stratified irregular inspecting oftentimes minimizes the examining mistake in the populace. This thusly expands the accuracy of any estimation techniques utilized. As indicated by Mugenda and Mugenda (2008), from ordinary circulation the population extent can be assessed to be

A sample size of 99 respondents was determined from a total population of 130 individuals using the formula by Yamane (1967).

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

Where n = the desired sample size

e= probability of error (i.e., the desired precision, e.g., 0.05 for 95% confidence level)

N=the estimate of the population size.

$$n = \frac{130}{1 + 130 \ (0.05)^2} = 99$$

FINDINGS AND DISCUSSION

Portfolio Planning

The study sought to assess how portfolio planning influence performance of Government projects in Kicukiro District. The findings were shown in Table 2.

Table 2: Extent portfolio planning affect performance of Government projects

	Frequency	Percentage
Little extent	6	7.5
Moderate extent	16	20.0
Great extent	34	42.5
Very great extent	24	30.0
Total	80	100.0

The findings showed that 42.5% of the respondents indicated that portfolio planning affects the

performance of government projects to a great extent, 32.5% indicated a very great extent, 20%

noted that portfolio planning affects the performance of government projects to a moderate extent whereas 7.5% indicated little extent. The

findings imply that portfolio planning affect the performance of government projects to a great extent.

Table 3: Statements on Portfolio Planning

Statements		Std. dev
Portfolio planning enables component selection	3.293	1.51
Portfolio planning facilitates resource planning	3.256	1.16
Portfolio planning facilitates time planning	4.037	1.10
Portfolio planning facilitates cost planning	3.109	0.94
Selected components in a portfolio are prioritized based on evaluation scores		1.04
Portfolio planning is key to organizational stability and flexibility		1.071

Table 3 presents the analysis of the findings in relation to portfolio planning. Respondents agreed with a mean of 4.0366 that Portfolio planning facilitates time planning; they also agreed with a mean of 3.9878 that Portfolio planning is a key to organizational stability and flexibility. However, the respondents were neutral that selected components in a portfolio are prioritized based on evaluation scores as was shown by a mean of 2.5244.

CONCLUSIONS

According to the findings of the study conclude that portfolio inventory significantly affects performance of Government projects in Kicukiro District. Component identification was in regard to proposed, delayed and ongoing projects. Furthermore, it was evident in the study that project categorization is tailored to match organizational resources; projects are evaluated to come up with an optimal mix. The study deduces that projects selected in a portfolio are not aligned with the strategic objective of the organization. The study further concluded that affects portfolio analysis performance Government projects in Kicukiro District. Portfolio analysis ensures good portfolio balance that enables the district to achieve growth objectives. The study further concludes that portfolio planning affects the

performance of Government projects in Kicukiro District. It was evident that Portfolio planning facilitates time planning; it is also a key to organizational stability and flexibility.

RECOMMENDATIONS

The management team of Government projects in Kicukiro District should consider portfolio inventory in their projects. Component identification should take a lead in regard to proposed, delayed and ongoing projects. The management team should also establish strong project categorization which is used to match organizational resources. In addition, projects evaluation should be done to determine optimal mix as well as to determine resource required for the project.

Areas for further research

From the above findings, conclusion and recommendation the study suggests that an indepth study should be carried out to determine the challenges faced by Government projects in Kicukiro District in implementing the portfolio management practices. A further study should also be carried out to establish the effects of portfolio management practices on performance of Government projects in Kicukiro District.

REFERENCES

Andersen, E. S., (2008), *Rethinking Project Management: An Organizational Perspective*, Harlow, Prentice Hall/Financial Times, 345 p.

Archer, N. and Ghasemzadeh, F. (2004). *Project Portfolio Selection and Management*. The Wiley Guide to Managing Projects. Morris P. and J. Pinto. Hoboken, NJ, John Wiley & Sons, Inc.: 237-255.

- Babbie, E. R. (2015). The Practice of Social Research. Nelson Education.
- Blichfeldt, B. S., and Eskerod, P. (2008). Project portfolio management There's more to it than what management enacts. *International Journal of Project Management*, 26, pp. 357-365.
- Blomquist, T., and Müller, R. (2006). *Practices, Roles & Responsibilities of Middle Managers in Program and Portfolio Management*. Project Management Institute, 37(1). pp. 52-66.
- Bradford L. B. (2007). *Applying Financial Portfolio Analysis to Government Program Portfolios*. Master's Thesis, Naval University.
- Chien, C., (2012). A Portfolio-Evaluation Framework for Selecting R&D Projects, R&D Management, vol. 32, no 4, p. 359-368.
- Cooper, D.R and Schindler, P.S. (2008). Business Research Methods (8th edn) McGraw-Hill: New York.
- Cooper, R. G., Edgett, S. J., &Kleinschmidt, E. J. (2006). *Portfolio Management for new products,* 2nd edition, ISBN-13: 978-0-7382-0514-4. ISBN-10: 0-7382-0514-1
- Crawford, L., Terrence J. Cooke-D., (2005). *Project Governance*: The Pivotal Role of the Executive Sponsor, at PMI Global Congress North America, Toronto, Canada.
- Dahlgren, J., and Söderlund, J. (2009). Management Control in Multi-Project
- Organizations: A Study of R&D Companies, at IRNOP V, (28 to 31 May 2012). Renesse, The Netherlands.
- Danilovic, M, and Sandkull, B. (2005). The Use of Dependence Structure Matrix and Domain Mapping Matrix in Managing Uncertainty in Multiple Project Situations, *International Journal of Project Management*, vol. 23, no 3, p. 193-203.
- De Reyck, B. (2005). The Impact of Project Portfolio Management on Information Technology Projects, International Journal of Project Management, vol. 23, no 7, p. 524-537.
- Dietrich, P. (2006). *Mechanisms for Inter-Project Integration Empirical Analysis in Program Context*. Project Management Institute, 37 (3). pp. 49-61.
- Dinsmore, P., and Cooke-Davies, T. (2006). The Right Projects Done Right. San Francisco: John Wiley & Sons.
- Dye L. and Pennypacker. J. S. (2011). West Chester, PA, Center for Business Practices: 207-238.
- Gareis, R. (2011). Management by projects: the management strategy by the new project-oriented company.

 Butterworth-Heinemann.
- Ghasemzadeh, F. (2008). *Project Portfolio Selection*: A Decision Support Approach. DeGroote School of Business. Hamilton, ON, McMaster University.
- Grant, R.M. (2012). Contemporary Strategy Analysis, 4th ed., Blackwell, Oxford,
- Hagel, M. (1991). Planning or organizing: the implications of systems theories of activity for management of operations. Omega 24 (4), 367-384.
- Harper, W.B, (2012). Marketing Research: text and cases (7th Ed.). New Delhi: AITBS publishers.
- Jankowicz-C., J. (2012). Low Cost Mutation Discovery Methods Suitable For Developing Countries. Science Med, 3, 245-249.
- Jefferey, M. and Leliveld, I. (2004). Best practices in IT portfolio management. MIT Sloan Management Review. (Spring 2004): 41-49.

- Jim S., Shankar S., & Tim H. (2012). *Systems thinking: taming complexity in project management, On the Horizon*, Vol. 20 Iss: 2, pp.126 136
- Johnson G. and Scholes K. (2006). Exploring Corporate Strategy, 6th Edition; Prentice Hall, Europe
- Kaule, R. D. (2008). Analyzing project management culture and practice of public managers in Papua New Guinea: a case study of the National AIDS Council Secretariat. Master of Philosophy in Development Studies, Massey University.
- Kendall, G.I., Rollins, S.C., (2003). Advanced project portfolio management and the PMO: multiplying ROI at warp speed, ISBN 1-93215-02-9
- Killen, C. P. and Hunt, R. A. (2010). Dynamic capability through project portfolio management in service and manufacturing industries", *International Journal of Managing Projects in Business, Volume 3, Issue 1, pp* 157-169.
- Killen, C.P., Hunt, R. A., and Kleinschmidt, E.J. (2008) Project portfolio management for product innovation. International Journal of Quality and Reliability Management, 25 (1). pp. 24-38.
- Kinyanjui M. N., (2012). Employees in Small Enterprises in Nairobi: Job Search and Career Patterns, *Institute of Development Studies, University of Nairobi, May*
- Kinyanjui, M. and Mitullah, W.V., (2009). *Inter-Firm Dynamics in the Construction Sector*. University Nairobi, IDS Discussion Paper No. 296.
- Kirsch, L.J. (2013). *Portfolios of control modes and IS project management,* Information Systems Research, vol. 8, no. 3, pp. 215-239.
- Kothari, C. (2009). *Research methodology: methods and techniques*. 2nd Edition, New Delhi: New International Publishing Ltd.
- Laslo, Z. (2009). Project portfolio management: An integrated method for resource planning and scheduling to minimize planning/scheduling-dependent expenses. *International Journal of Project Management.8* (6): 609-618.
- Leonore, G. and Werner, S. (2013). Entrepreneurship and Dynamic Capabilities: A Review, Model and Research Agenda, *The Journal of Management Studies*, vol., no 4, p. 917-955.
- Levine, H. A. (2005). Project Portfolio Management, San Francisco, CA, John Wiley & Sons.
- Lycett, M, Rassau, A., and Danson, J. (2004) Programme management: a critical review. *International Journal of Project Management*, 22, pp. 289-299.
- MacCormack, A, and Verganti, R. (2003). Managing the Sources of Uncertainty: Matching Process and Context in Software Development, *Journal of Product Innovation Management*, vol. 20, no 3, p. 217.
- Martinsuo, M., and Lehtonen, P. (2007). Role of single-project management in achieving portfolio management efficiency, *International Journal of Project Management*, 25, pp. 56-65.
- McDonough, E. F., and Spital, F. C. (2003). *Managing Project Portfolios, Research Technology Management*, vol. 46, no 3, p. 40.
- Meskendahl, S. (2010). The influence of business strategy on portfolio management and its success A conceptual framework. *International Journal of Project Management, 28, pp. 807-817*

- Mikkola, J. (2011). *Portfolio management of R&D projects:* implications for innovation management. Tec novation, 21(7), pp. 423-435.
- Miller, L. A. (2014). A Model for Project Prioritization in Higher Education Information Technology. California State University, Chico.
- Miller, R. and Olleros, X. (2011). *Project shaping as a Competitive Advantage*. The Strategic Management of Large Engineering Projects: Shaping Institutions, Risks, and Governance.
- Miller R. and D. R. Lessard. Cambridge, MA, MIT Press. Mintzberg, H. (2003). *Strategy making in three modes,* California Management Review, Vol No. 2 PP 44-53.
- Morris, P & Pinto, J. K., (2007). Project program & portfolio management. John Wiley & Sons Canada.
- Mugenda, M. O., & Mugenda, A. G. (2009). *Research Methods in Education:* Quantitative and Qualitative Approach, Nairobi
- Müller, R. (2009). *Project Governance, Burlington*, VT, Gower Publishing Co. Müller, R., Martinsuo, M., and Blomquist, T. (2008). Project Portfolio Control and Portfolio Management Performance in Different Contexts'. *Project Management Journal*, 39 (3), pp.28-42.
- Müller, R., Martinsuo, M., and Blomquist, T. (2008). Project Portfolio Control and Portfolio Management Performance in Different Contexts. *Project Management Journal*, 39 (3).pp.28-42.
- Njuguna, N. (2011). *Collaboration between formal and informal enterprises in the construction sector in Tanzania*, Habitat International,
- Olsson, J. (2006). *Development of a Model for Risk Assessment of Projects at SKF*: A Benchmarking Study of Portfolio Management.
- Oludhe, S.H. (2012). An evaluation of the jobbing Contractor in the urban setting of the Construction Industry in Kenya. University of Nairobi, Department of Land Economics, Unpublished B.A. Dissertation
- Persson, J.S., Mathiassen, L., Boeg, J., Madsen, T.S. & Steinson, F. (2009). Managing Risks in Distributed Software Projects: *An Integrative Framework, Engineering Management, IEEE Transactions on, vol. 56, no. 3, pp. 508-532.*
- Pole, C., & Lampard, R. (2012). *Practical Social Investigation: Qualitative and Quantitative Methods In Social Research*. Routledge.
- Project Management Institute, (2008). *The Standard for Portfolio Management, Second Edition, Newtown Square, PA*, Project Management Institute, 146 p.
- Rahayu S. A., & Edhi T. (2015). Dynamic project interdependencies (PI) in optimizing project Portfolio management (PPM). *International Journal of Technology.* 5: 828-837
- Sanchez, T., Hynuk, and Anne D. (2008). A Project Portfolio Risk-Opportunity Identification Framework, *Project Management Journal*, vol. 39, no 3, p. 97.
- Siegel, T. (2003). *Social Research Methods:* Qualitative and Quantitative Approaches. Boston: Allyn and Bacon Publishers.
- Somekh, V. and Cathy, D.(2005). Business research methods (3rd Ed). New Delhi: Tata McGraw Hill
- Thiry, M. (2004). For DAD: a programme management life-cycle process. International *Journal of Project Management*, 22, pp. 245-252.

- Thomke, S, and Reinertsen, D. (2008). *Agile Product Development: Managing Development Flexibility in Uncertain Environments*, California Management Review, vol. 41, 1, p. 8.
- Thompson, J. D. (1967). *Organizations in Action:* Social Science Bases of Administrative Theory, New York, McGraw-Hill, 192 p.
- Tichy, N. and Bennis, W. (2007). Making judgment calls The ultimate act of leadership. *Harvard Business Review. 2007 (10).*
- Verganti, R., (2013). Planned Flexibility: Linking Anticipation and Reaction in Product Development Projects, Journal of Product Innovation Management, vol. 16, no 4, p. 363.
- Wachira N. I. (2011). *The Construction Industry in the 21st Century: Its image, employment prospects and Skill Requirements*: Case Study of Kenya. Unpublished Report for the ILO.
- Wheeler, D. (2013). *Contributing factors to optimal project portfolio selection*. Master of Applied Science (Research)Thesis, Queensland University of Technology