

**OPERATIONS STRATEGIES AND PROJECT PERFORMANCE OF
JAPAN INTERNATIONAL COOPERATION AGENCY
FUNDED PROJECTS IN KENYA**

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DECLARATION

I declare that this research project is my work and has not been submitted in any University. No part of this project may be reproduced without prior permission of the author and/or university of Nairobi.

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DEDICATION

This Research Report is a special dedicated to my parents Elizaphan Mungai Githongo and my late mum Kezziah Wanjiku Mungai who showed me to live practically in the virtues of humility, sacrifice and hard work and to my two daughters Kezzy and Jane whom I draw my strength and inspiration.

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ACRONYMS

CARD	Coalition for Africa Rice Development
DMU	Decision Making Units.
ERP	Enterprise Resource Planning
JBIC	Japan Bank for International Cooperation
JICA	Japan International Cooperation Agency
JIT	Just In Time
JOCV	Japan Overseas Cooperation Volunteers
NGO	Non-governmental Organisations
ODA	Official Development Agency
PDCA	Plan, do, check and Action
RCM	Red Crescent Movement
SCM	Supply Chain Management
TQM	Total Quality Management
UNHCR	United High Commission for Refugees
SPSS	Statistical Package for the Social Science

ABSTRACT

Operation strategy is critical to successful implementation of projects. Operations strategy ensures efficient operationalization of projects plans through seamless implementation. Projects carry activities which have a defined timeline and clear indicators, the two variables which largely define project success. Through operation strategies, project work schedules are adhered to and the resource are focused towards key performance indicators.

Japan International Co-operation Agency (JICA) has been involved in a number of projects in Kenya for the last ten years. The projects re multi-sectoral covering the areas of agriculture, economic infrastructure, health, human resources development, environment and water and sanitation. The success rate of the projects is high with only two failures both at sustainability level. An academic understanding of the role is what this study attempted to investigate on.

The study begins with understanding the concepts of operations, strategy, operations performance, JICA Projects in Kenya before answering research questions and objectives. The body of literature in operation strategies and performance of projects is covered in literature review.

The study carried out the research through collection of data which were analyzed using SPPP computer program before arriving at the conclusion.

CHAPTER ONE

INTRODUCTION

1.1 Background

There has been a paradigm shift from a focus on functional operations to project operations. Business strategies are being split into small manageable projects headed by a project manager who oversees success in their operations and ultimate completion. Project approach in organization strategy has been found to be superior to functional approach. It allows for more analyzability, integration, focus, accountability and is associated with higher performance leading to competitive advantage (Artoo et al., 2004). Consequently, the study of operations management in organizations is shifting from general operations to operation performance of projects (Morris et al., 2005).

Project portfolio is the key feature in modern organizations. Project portfolio is a set of projects that share and compete for scarce resources and are carried out under the sponsorship and management of a particular organization (Archer et al., 2004). Each project in the portfolio is treated as an independent business with its separate management, resources, objectives, and implementation timeline and operations strategy. Project manager ensures operations performance of the project by implementing the project and operations strategy. Management of different projects under a defined organizational umbrella gives synergy and delivers benefits higher than those total benefits that would be delivered by each project working independently (Potakal et al., 2009). To achieve this synergy and a higher performance in operations, a strategic fit for operations and corporate strategy is required (Turner, 2010).

1.1.1 Operations strategies

Slack and Lewis (2011) view operations strategy as a set of decisions which shape the long term capabilities of any type of operations and their contribution to overall strategy, through reconciliation of market requirements with operations resources. Satisfying market requirements requires that organization address the needs of a particular market.

Operations strategy can also be viewed as the development of long term plan for using the major resources of the organization for a high degree of compatibility between these resources and the firm's long term corporate strategy (Hayes et al., 2005).

Mill et al. (2002) states that operations strategy is the value addition process undertaken by the organization to ensure delivery of value to the customers through transformation of resources to final products and services. Whether market, planning or customer approach, operations strategy is resource based. Hayes et al. (2005) has observed that operations strategy provides to the organization a limitless framework of developing priorities on how to optimize on the available resources through efficient operational activities in an attempt to gain competitive advantage and achieve organizational objectives.

Leong et al. (2002) states that operational strategy can be categorized into structure and infrastructure decision making. Structure decision making is concerned with facilities, capacities, process technology and supply network. Infrastructure decision involves planning and control, quantity, human resources, new product development and performance measures.

1.1.2 Framework of Operations strategies

JICA is a project based organization whose activities are organized around a project. Each project is viewed as an independent operation. However, operation in all the projects are knowledge based requiring situational analysis and borrowing from knowledge gained from previous similar projects.

Operations strategy adopted by Japan International Cooperation Agency (JICA) for their projects in Kenya is largely plan based, customer or bottom-up focused and operations led. Plan based operation strategy are consistent with the JICA's overall mission. Hayes et al. (2005) argues that planned operation strategy should be consistent with the vision and mission and overall of strategy of the organization. JICA's vision is "inclusive and dynamic development". The vision is supported by four missions and four main

strategies. The missions are: addressing global agenda, reducing poverty through equitable growth, improving governance and achieving human security. The strategies are: integrated assistance, seamless assistance, promoting development partnership and enhancing research and knowledge sharing (JICA Kenya Annual Report, 2013).

Customer or bottom-up focus operations strategy involves responding to customer's demand, solving specific problems with the customers and learning from situational requirements (Leonard, 1992). To understand the community or customer needs, JICA conducts baseline studies for the purpose of understanding the situation prior to the launch of the project. Baseline studies helps in understanding community needs, planning for infrastructure support, and setting up parameters that shall be used to evaluate performance, impact and change brought about by the project. The bottom up operations strategy incorporates community participation and technology transfer which are also supportive to the vision and mission of JICA (JICA Annual Report, 2013).

Operations led approach is one in which excellence in operations is used to drive overall organization strategy. The approach is based on resource based view whereby superior performance of an organization comes from the way in which it acquires, develops and deploys its resources and builds its capabilities (Barney, 1991). Excellence in operations is achieved through incorporation of best practices in operations strategy. JICA has adopted result based project management strategy. Learning experiences from ex-post evaluations are adopted in operations of future projects which share similar situation challenges and have common objective. JICA research Institute conducts research and operations analysis to develop policies on best practices derived from information sharing and feedback from evaluation results (JICA Annual Report 2013).

JICA was established by the Law concerning the Independent Administrative Institution, Japan International Cooperation Agency (Law No.136 of December 6, 2002). The current organization was formed on October 1, 2003 as outlined in the International Cooperation (Independent Governmental) Agency Act of 2002. Its predecessor, the Japan International Cooperation Agency (also known as "JICA"), was a semi-governmental

organization under the jurisdiction of the Ministry of Foreign Affairs, formed in 1974. A major component of the comprehensive overhaul of Japan's ODA that the Japanese government had decided on in November, 2006 is the merger in 2008 between JICA and that part of the Japan Bank for International Cooperation (JBIC) which currently extends concessional loans to developing countries (JICA Profile, 2012).

JICA is a bridge linking Japan with developing countries. In accordance with its vision of “Inclusive and Dynamic Development”, JICA supports the resolution of issues of developing countries by using the most suitable tools in various assistance methods and a combined regional or country issue oriented approach. JICA is in-charge of administering all Official Development Assistance (ODA). ODA describes financial and technical cooperation extended to governments for development purposes. ODA assistance is classified as either bilateral assistance or multilateral assistance. Bilateral assistance is cooperation between two countries or Japan and another country while multilateral assistance is investment and contributions provided to international organizations.

JICA projects are classified as either, Technical Co-operation, ODA Loans and concessionary loans and Grant Aid. Technical co-operation projects are for human resources development and formulation of administrative systems in developing countries. Technical co-operation involves the dispatch of experts, provision of necessary equipment and training of personnel. ODA or concessionary loans are used for projects involving large scale infrastructure and other forms of development that require substantial funds. Grant aid is the provision of funds to developing countries with low income levels without the obligation of repayment. Grant aid is used for improving basic infrastructure such as schools, hospitals, water supply facilities and roads along with obtaining health and medical care equipment and other requirements.

Other JICA projects occur through disaster relief and co-operation through citizen participation. Disaster relief projects is in response to request by affected governments or international organizations such as Red Cross for rescue, search for missing persons or provision for first aid and medical treatment to victims involved in calamities.

Cooperation through citizenship involves dispatching of volunteers to work in countries in areas such as a local government office, schools, hospitals and other community service workers under the umbrella of Japan overseas cooperation volunteers (JOCV).

JICA projects in Kenya are coordinated at JICA Kenya office which also supports projects in Burundi, Eretria, Somalia and Seychelles. The projects are confined to five priority areas; Economic infrastructure, agriculture, water and sanitation/environment, human resources development and health. Since 2004 JICA has initiated 67 projects spread across the country and within the premises of the five priority areas. JICA projects in Kenya constitute to over 15% of the JICA projects in Africa. The projects are spread across in all the regions of the country with infrastructure development constituting of the biggest proportion (JICA Profile, 2012).

1.1.3 Project Performance

Project performance is the overall quality of a project in terms of its impact, value to beneficiaries, implementation effectiveness, and efficiency and sustainability (Chandes et al., 2010). Project performance is different from Industrial or manufacturing sector performance owing to the unique structural nature of the projects. However, like the operations of other sectors, project performance can be achieved through evaluation against suitable criteria, monitoring and control or benchmarking against set standards or previous performance of similar projects (Warmode, 2002). Key criteria against which the project performance can be evaluated against includes; relevance, effectiveness, impact, efficiency and sustainability (Hill, 2005).

Relevance examines the extent to which the project activities are suited to the priorities and policies of the target group, recipient and donor or sponsor. Key questions that are asked in assessing relevance are whether the goals of the project meet the needs of the beneficiaries and whether the activities and outputs of the project are consistent with the overall goal and attainment of its objectives. Effectiveness measures the extent to which a program or a project attains its objectives. Impact examines positive and negative changes as a result of the project. This includes direct and indirect effects and expected

and unexpected effects Efficiency measures the out puts in relation to the inputs to determine whether the project uses the least costly resources possible to achieve the desired results. Sustainability relates to whether the benefits of the project are likely to continue after the closure of the project (Chandes et al., 2010)

1.2 Research Problem

The multi-sectoral approach of operation strategies to manage projects adopted by JICA is unique out of the high success rate. JICA Kenya annual report (2009) reported one project failure. Training and capacity development project by the name of Africa Institute for Capacity Development (AICAD) closed at sustainability stage after it was handed over to the three East African Countries.

The success rate of JICAs projects with this exception translates to 98%. Also notable is the operational strategy of the projects at all the project levels; pre-implementation, implementation, post implementation and feedback stages. The high success rate elicits scholarly interest of studying the unique project management phenomena involved. The focus of study would center on the operations strategies adopted by JICA in ensuring project performance and eventual success of the projects in Kenya and how this body of knowledge can be shared between Japan and beneficiary countries.

Several studies on operations strategies have been undertaken in the various sectors of the economy. Bosibori (2012) found out that operations strategies are critical to the success of airline industries. Njoroge (2013) observed that real estate sector in Kenya adopts operations strategies to meet diverse needs of customers. Nyamunge (2001) concluded that operations strategies determine competitiveness of large manufacturing firms in Kenya. Sascha (2010) examined the influence of business strategy on project portfolio management and its success.

The studies provided a conceptual framework on management of project portfolio management and its success. To the best of the researcher's knowledge there hasn't been

any research on operations strategies and project performance of JICA funded projects in Kenya. The cause of success in JICA funded projects can only be speculated as a result of employing operations strategies. Thus the research aims to fill this gap by investigating the relationship between operations strategies and project performance of JICA funded projects in Kenya by answering the following research questions; What operations strategies are adopted by JICA?, and what is the relationship between operations strategies and project performance in JICA funded project in Kenya?

1.3 Research Objectives

- i. To determine the operations strategies adopted by JICA funded projects in Kenya
- ii. To establish the relationship between operations strategies and project performance of JICA Funded projects in Kenya.

1.4 Value of the Study

The study will be of value to JICA and Japanese government who shall use the study as a scheme of enhancing operation strategies for all their projects in Kenya. Donor Agencies and non-governmental organizations involved in community development projects shall use the study to understand the importance of having clear operations strategies as a support to operation efficiency and success of the projects. Kenya government which is also involved in other development projects shall use the study in gaining insight of JICA'S operations and hence replicate the JICA model in their projects.

The study is a step forward towards recognizing the paradigm shift from functional management to project management through operations. Scholars shall research more on application of this paradigm shift in other sectors in addition to project management i.e. education institutions, research bodies and religious organizations.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

Operation strategy is critical to performance of an organization because it determines how well the resources are utilized and prioritized through the various competing needs of an organization. Operation strategies represent operationalization through determination of work processes using various work techniques. Different organizations employ different operation strategies depending on nature of their business strategies (Chase et al., 2007)

2.1.1 Operations Strategies

Operations strategy is a set of systems which an organization has put in place to develop, protect and leverage on its unique resources and advantages. Operations strategies differ between organizations owing to the uniqueness of the resources and advantages. Development of operations systems requires creativity, innovation, insight and experience on how to combine the diverse resources to define an operation strategy that isn't imitable (Hill, 2005).

The uniqueness of the operations strategy developed by an organization confers an advantage to it over the competitors. Chase et al. (2007) observes the resources include land and buildings, fixed and moving machines and equipment, tools, raw materials and other current assets which are largely classified as the structural component of operations. Advantages includes organizational knowledge, managerial competencies, supply chain relations and networks, loyalty, technology applications, co-ordinations process and jobs design and the synergy arising from the integration of all which are classified as the process competent of operations (Leong et al., 1990).

Competitive strategy and resources based views form the basic foundations towards formulation of operations strategy.

Competitive strategy focuses on how an organization formulates and implements a business strategy that accords it a competitive advantage in the external business environment (Partha et al., 2011). Business competitive strategies can be classified as defender, prospector, analyzer and reaction (Miles and Snow, 1978). The first three competitive strategies focus on cost, and efficiency of operations and the last one being a strategic failure.

Porter (1980) categories business competitive strategies as cost leadership, differentiation, concentration and stuck in the middle. The first three competitive strategies focus on cost and differentiation on operation and products while the last represent no strategy. Treacy and Wicerbema (1983) advocate the competitive strategies of operational excellence, customer intimacy and product leadership. Operational excellence competitive strategy focuses on efficiency and cost reduction; customer intimacy focuses on efficiency and differentiation while product leadership focuses on distinct product innovation.

Bowman and Faulkner (1997) argue that competitive strategies are a hybrid of the three approaches and have a focus on price leadership, efficiency and differentiation. Competitive strategy approach holds that operations strategies adopted by an organization are supportive to the business strategy. Organizations adopting competitive approach have their strategies aiming at seamless operations, efficiency, cost reduction and customer in differentiation of outputs (Sohrab et al., 2013).

Resource based view is an internal analytical process that focuses on organizations capabilities of the opinion of that organizations capabilities and resources should be optimally utilized through strategic operation activities to develop a sustainable competitive advantage for the organization. Stephane (1999) states that resource based view is inwardly looking whereby the primary goal of a strategy is to develop and leverage resources through operation innovations anchored within business processes and

organizational routines. Grant (1991) proposes a five step process in developing operational strategy using the resource based view.

At first there is an extensive analysis of the operating capabilities existing within the organization. Management then selects a few core capabilities according to their superior returns potential or “rent generating capacity”. The selected capabilities are further analyzed through extensive “market tests” to ensure that they can provide effective and sustainable competitive advantage.

Finally, business diversification and capability development strategies are formulated to ensure operations are rebuilt according to the strengths–opportunities relationship identified through strategic analysis. Identification of the core competencies is a difficult thing in practice and requires a consensus between team members, innovative thinking and high proficiency and skills between the team players (McGrath et al., 1996). Resource based view implies that the operations manager becomes the centrally placed person in developing appropriate operation strategies that shall gain competitive advantage (Hamel et al., 1994.)

The two views are not mutually exclusive and operation strategy comes about through an interactive process that employs both perspectives. A firm may opt to position itself in the market and then develop capabilities or it may examine its capabilities and chose to leverage them in identifying new business or market segments in which to compete (Backman et al., 2008).

2.2 Operations Strategy Development Models

The models provide a framework on how the organizations can develop strategies in their operations. Changes in the business environment have led to evolution of the models through time. There is however no single model that would be prescribed for a situation and organizations are required to have contingency perception in applying the models and generate innovation and creativity during model modification (Slack et al., 2004).

2.2.1 The trade-off concept and sand cone model

The model is the oldest in the field of operations strategy. Skinner (1969) founded the model on the basis of specialization. The fundamental argument in the model is that firms may not excel in all the four competencies of operations; quality, cost, speed and flexibility. A firm would select one in two competencies to build competitive advantage on. Trade off would therefore occur for the competencies not focused on. Market based analysis is the single most important basis of determining the competencies to focus on.

2.2.2 Wheelwright and Hayes Four –Stage Model

Wheelwright and Hayes (1985) model traces the adoption and recognition of operation as a strategic tool which guarantees competitive advantage through four phases each with distinct characteristics. The first stage described as internally neutral is characterized by absence of focus on either quality, cost or flexibility. Second stage is referred to as externally neutral. Organization at this stage tries to gain parity with its competitors by copying best operation practices of its industry such as Just In Time and Total Quality Management.

Third stage is described as internally supportive. The organization has operation strategies that are linked to and derived from the business strategy. Fourth stage is the externally supportive in which operations strategy is used as a basis of developing of the business strategy, Organization at this stage has developed and acquired best practices which are above those of the market or the industry. It coincides with sandcone productivity frontier which thrives on innovative and creativity of learning organizations (Sohrab et al., 2013).

2.2.3 Content Model – Structural and Infrastructure Contents

The model was developed by Leong et al. (1990) which guides in determining the key decision areas which call for emphasis when developing operation strategy. The model differentiates decision making criteria into structural and infrastructural. Structural criteria of operations strategy are physical in nature, involve capital investment and have a relative high degree of permanence and inflexible. They are the hardware of the

organization and include physical facilities and their location and sizes, capacity and the ability to satisfactorily serve a market, technology in use and the supply network.

2.2.4 Process Model – Four Perspectives of Operations Strategy

According to Slack and Lewis (2011) operations strategies emerges from four different perspectives namely top down, bottom up, marketing led and operations led. The model relates the operations strategy to the vertical organization levels and horizontally with the departments.

Vertically the operations strategy can either be top down or bottom up. Top down supports the business strategy that is developed by the top level management. Such operations strategy coincides with wheel Wright and Hayes stage three. Bottom up approach arises out of observation on operations behavior and evaluation of predictable patterns which become operational norm. It's a perspective where the organization learns from its experiences, developing and enhancing its operational capabilities through incremental improvements (Hayes et al., 2005).

Horizontally the operations strategy can either be market or operations led. Market led operations strategy involves translating marketing requirements into operations decisions. Such a strategy considers how the organizational products and services win orders in the market place (Terry, 1985).

2.3 Contextual Framework of Operations Strategy

Operations strategy is contextual to the nature of the organizations and business. All organizations including government and churches adopt operations strategies unique to the nature of their business. Operations strategies however have similarities for the firms operating in similar industry. Skinner (1969) states that, the study of operations strategies was initially focused on manufacturing before diversifying to service, projects and humanitarian and non-governmental organizations (NGO's).

2.3.1 Operations Strategies in other sectors

Manufacturing concerns operations strategies are unique to those of other organization because their objective is to add value to production processes and produce goods and services (Schrub et al., (2013). Operations strategies in service aims in enabling operations management to develop a system that can produce and deliver a service package that matches customer's expectation with perception (Armistead, 2003).

Operations strategy for projects involves the activities carried out in the four project phases of planning, implementation, post implementation and feedback. The four stages or phases are interrelated despite having distinct activities (Turner, 2010).

2.3.2 Humanitarian Organizations Operations Strategies

Humanitarian Organizations are focused on reducing human misery and sufferings caused by natural calamities or man-made inflictions such as civil Humanitarian organizations like United Nations High Commission for Refugees (UNHCR). Red Cross, Red Crescent Movement (RCM) and other Non-Governmental Organizations (NGO's) involved in disaster relief. All the humanitarian organizations work under the values of humanity, impartiality and neutrality (Sandwell, 2011). Unlike the projects whose activities are planned and clearly defined with schedules and timelines, activities of humanitarian are adhoc, crisis based with a time horizon that isn't predictable (Pache et al., 2010).

Operations strategy adopted by such organizations requires flexibility. Nori et al., (1995) defines flexibility as the ability to respond or conform to new situations which are unpredictable. Flexibility associated with such operations strategy includes expansion, distribution, routing, labour and equipment flexibility (Arias, 2003). Expansion flexibility is the ease with which capacity can be added when needed. The flexibility helps when the operations on the ground require enhancement. Distribution flexibility is the case in which channels of distribution can be altered to match the situation while routing flexibility is the ability to use alternative physical routes or directions to reach the

intended destination. Labour and equipment flexibility is the ease of interchange of personnel and machine during the operations.

Notable Operations Strategies in projects includes lean operations, continuous improvement or Kaizen, Enterprise resource planning (ERP), Just-in-time (JIT) and supply chain management (SCM) (Panizzolo, 1998).

Lean operation aims at meeting demand instantly, deliver perfect quality and eliminate waste in all its forms. Waste is regarded as any activity that doesn't add value to the operations (Ohno, 1988). Waste in project occurs through punctuated flow of raw-materials that affect projects deadlines, unnecessary motions and movements, inventory and raw materials management.

Continuous improvement or Kaizen is achieved through learning experienced in other similar projects. This forms the basis of continuous improvement, elimination of common mistakes and high rate of projects success (Gary, 2009). Enterprise Resource Planning (ERP) ensures an integrated mode of information sharing across the various projects (Bajwa, 2004).

Supply Chain Management (SCM) in JICA projects is based on contractual and mutual partnership between the project and the service providers. The supply chain management is supported by ERP in the procurement process. Strategic linkages are established in the supply chain. The linkages are between the organization and local suppliers or international supplies. Efficient supply chain management allows for practice of Just In Time (JIT) (Gary, 2009).

2.4 Operations Strategies and Project Performance

Performance is a relative term that is dependent upon the set objectives, evaluation criteria or indicators. Every performance is realized after assessment or evaluation against expectations or standards. Performance can be expressed in quantitative or qualitative terms depending on the nature of the tasks being carried out. Operational performance is

dependent upon the nature of the activities, business or the industry in which the organization is operating in (Slack et al., 2004).

Project performance is largely dependent upon the indicators which have been set during the planning stage. Achievement of the objectives at the various stages of project development is translated to imply a high performance of a project. The criteria of operation strategy adopted by the project aim at ensuring reduction of waste on the materials, confinement to budget and scheduled work programs.

2.5 Japan International Cooperation Agency (JICA) funded Projects in Kenya

JICA plays a critical support role in economic development of Kenya by supporting projects aimed at achieving millennium development goals as well as vision 2030. The projects are in line with the government focus of achieving high living standards, international competitiveness and economic prosperity for its citizens (Vision, 2030). The projects are in agriculture, Human Resources Development, health, water and sanitation/environment, economic infrastructure and volunteering activities.

Project based organizations use projects as coordinating mechanisms within the established organization. Project based organizations have a set of projects that cease to exist once their projected time is over, leaving the organization intact to initiate and absorb other projects (Davies et al., 2010). Activities are organized around small temporary systems of work organization or projects rather than the large permanent organization (Malone et al., 1998).

Project based organizations have notable features that differentiate them from other organizations. First the projects are viewed as transitory organizational or configurations for allocating personnel and resources. Secondly, there is permanent learning in the temporary structures. Learning occurs incrementally through inference of previous experiences and institutions memory of the organization that is well documented (Grabber, 2002). Thirdly there is innovation capabilities associated with the projects. Out

of the learning experience, methodology and operations, strategies do change as new projects are being undertaken (Whitley, 2006). Fourthly there is network and social relations associated with projects. Staff working in a project gain group identity and are likely to develop team culture and cohesiveness which is essential for project success (Bakker, 2010).

JICA mode of operation makes it to be a project based organization. Various JICA projects in Kenya are “Stand Alone,” with each project being an independent sub-entity with its own management, resources and distinct object. Operations of one project don't affect the operations of the other projects nor is the life of the projects connected. The central coordinating office, JICA Kenya however requires documentation of the learning process or outcomes which is in turn used to improve future projects (JICA Evaluation Report 2013).

2.6 Evaluation of JICA funded Projects in Kenya

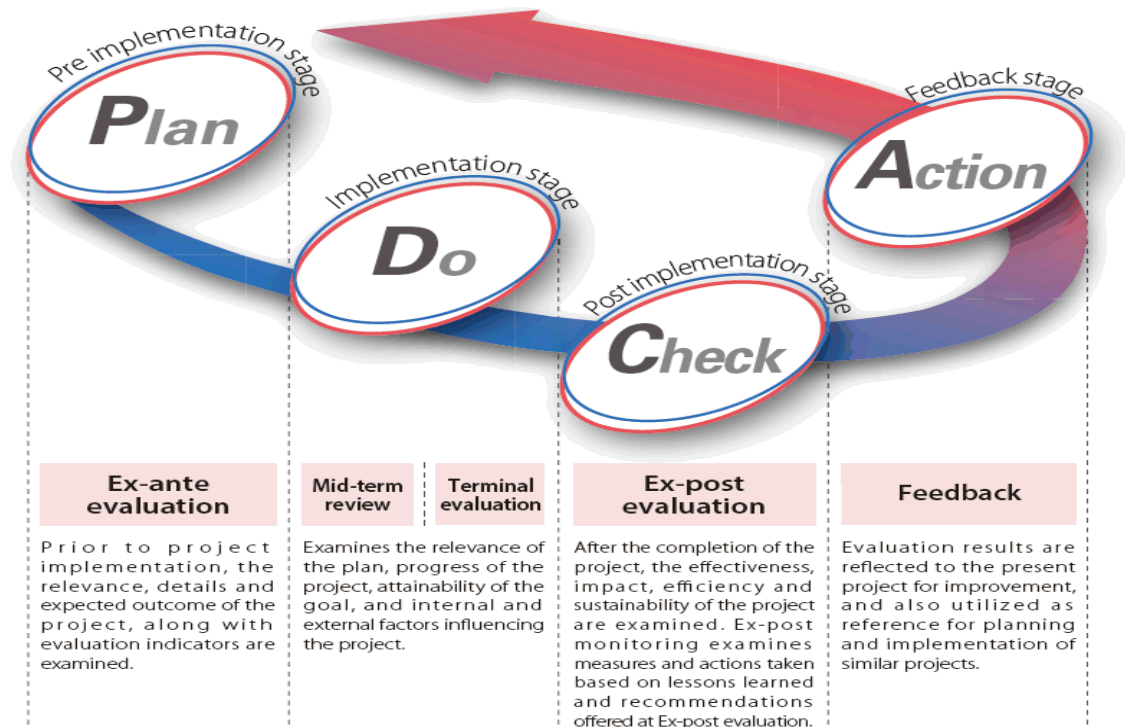
The performance evaluation system of JICA has the following features; consistent evaluation throughout the projects cycle; coherent methodologies and criteria; cross sectional and comprehensive evaluation through a thematic evaluation; ensuring objectivity and transparency, and emphasizing use of evaluation results (Evaluation Report, 2012)

Consistent evaluation through the product cycle involves evaluation at pre-implementation stage, implementation stage, post implementation stage and at feedback stage. The evaluation is referred to as PDCA cycle meaning Plan, Do Check and Action. Evaluation on PDCA cycle fits with the four stages of the project (Evaluation Report, 2013).

Cross sectoral and comprehensive evaluation through a thematic evaluation aims at deriving recommendations and lessons learnt. Projects evaluated this way must have a common theme. Ex-post evaluation and ex-post monitoring require an objective

evaluation by independent persons in order to check on quality of JICA projects. Feedback is critical as a learning process (Chanders & Pache, 2010).

Table 1: The PDCA Cycle



Source: JICA Annual Report, (2013).

2.7 Conclusion

Operations strategies are instrumental to performance and achievement of organization's objectives. Through operations, strategy efficiency in utilization of organization objectives is achieved leading to competitiveness. Business strategy of an organization once defined relies on the mode of operation strategies adopted for successful implementation and realization. There is therefore a need to have a structural fit between the business strategy adopted and the operations strategy developed. There is a clearly defined fit that serves to ensure that the operations are geared towards achievement of project success. This is ensured through project planning, continuous evaluation and a learning process, through feedback mechanism. Sustainability of the project is considered

to be an integral part of the project. Such sustainability is achieved through community ownership of the project and involvement of the recipients in decision making about the project and technology transfer.

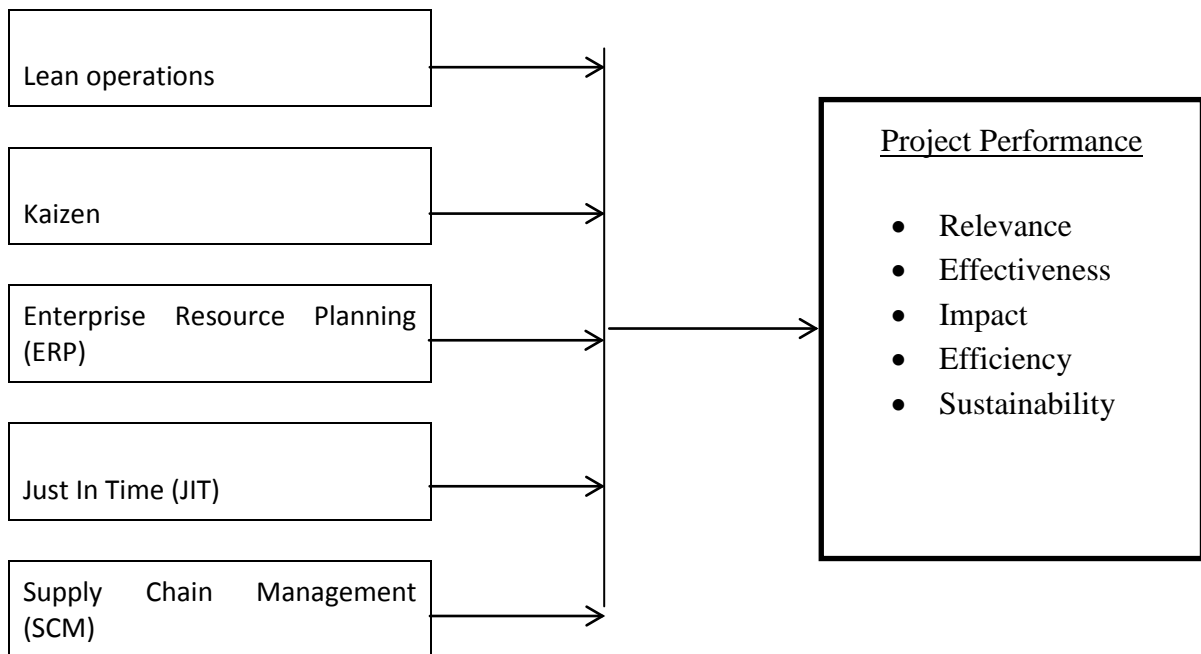
Japan's role in economic development in Kenya and improvement of the wellbeing of its citizen has a wide impact because JICA's projects are multi-sectoral and social economic based.

2.8 Conceptual Framework

This study will seek to establish the effects of operation strategies on the project performance of JICA funded projects in Kenya. The independent variables in this study will be Lean operations, Kaizen, Enterprise Resource Planning, Just In Time and Supply Chain Management. The study will therefore seek to establish the influence of the independent variables on the dependent variables which will be Relevance, Effectiveness, Impact, Efficiency and Sustainability.

Independent Variables

Dependent Variables



Source: Author, (2014)

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter provides the methodology of the research study used. It gives the specific procedures that were followed in undertaking the study. The research design, population, sampling design, data collection methods and data analysis are described in this chapter.

3.2 Research Design

The study used a descriptive research design. A descriptive study attempts to describe or define a subject, often by creating a profile of a group of problems, people or events, through the collection of data and tabulation of the frequencies on research variable or their interaction (Cooper and Schindler, 2006) Descriptive design method provided qualitative data from the respondents. The data collected answered questions concerning the objectives of the subject under study.

3.3 Target Population

Target population of the study comprises of 67 JICA projects in Kenya (See APPENDIX II).

3.4 Sample Design

Stratified sampling method was applied to generate the research sample. The method recognizes the existence of strata with distinct characteristics in the sample frame. Stratified sampling method ensures the sample is a representative of the population by ensuring that data is collected from each stratum (Kothari, 2004). Strata in this study included various categories under which JICA projects are classified. These includes; Agriculture, Water and Sanitation/Environment, Economic Infrastructure, Human Resources Development and Health.

Mugenda and Mugenda (2003) recommend that 10 percent or more of the target population is representative of the population where the appropriate method of sample design is applied. The research settled for a sample size of 30 projects. The sample size was big enough to accommodate project strata which are small and which yield a sample of one project e.g. Human Resource Development. It also allows project strata with more than two projects to carry a proportionate weighting in the sample size e.g. agriculture. 100% sampling was accommodated where the strata had few projects e.g. Human resources development.

TABLE 2: TARGET POPULATION AND SAMPLE SIZE

Project Sector	Population	Sample size
Agriculture	15	7
Water and Sanitation/ Environment	7	4
Infrastructure and Energy	30	11
Human Resources Development	3	3
Health	12	5
Total	67	30

Source (Author 2014)

3.5 Data Collection

The study used both primary data and secondary data. Primary data was collected through the use of questionnaire. Questionnaire enables the researcher to focus on areas of importance and which address the research directly (Leedy, et al., 2001). Open ended and closed ended questions as well as structured and unstructured was used in the questionnaire. Structured questions reduce data collection time while unstructured questions encourage the respondent to give in depth responses thereby enhancing quality of data collected (Cooper and Schindler, 2008).

Questionnaires were standardized to ensure validity and reliability. The questionnaires were administered to one senior manager of the sampled projects. The managers were either project officers or project coordinators. Drop and pick method was used whereby the selected managers were expected to have filled the questionnaire after three days.

Electronic system of e-mail and followed up by telephone was applied to managers outside Nairobi.

Secondary data was collected from project reports which are available at JICA website.

In the study, reliability was confirmed by pre-testing the questionnaire with a selected sample from one of the projects. The pretest was conducted by both the principle researcher and the research assistant to enhance clarity of the questionnaire. According to Mugenda and Mugenda (2003), the accuracy of the data collected largely depends on the data collection instrument in terms of validity and reliability. This instrument was reviewed based on the pre-test experience.

3.6 Data Analysis

Data analysis was conducted using descriptive and inferential statistics. The specific descriptive statistics used were the mean scores and frequencies. The particular inferential statistics used was regression analysis.

Multiple regression analysis was used to establish the relationship between independent variables and the dependent variables.

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \mu + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7$$

Where;

Y = Project performance = Relevance, Effectiveness, Impact, Efficiency and sustainability

X_1 = Lean Operations = Reduction of waste, quality delivery and customer satisfaction.

X_2 = Kaizen = Continuous utilization of learning and experiences gained from similar projects

X_3 = Enterprise Resource Planning (ERP) = Sharing of Information

X_4 = Just- In-Time (JIT) = Timely delivery of products and services

X_5 = Supply Chain Management (SCM) = Strategic Linkages or Vertical Integration with stakeholders

Control variables

X_6 = Project Funds = Donor funds availed to the project

X_7 = Human Resource Capital = Qualifications, Skills, Diligence etc. of project employees.

In the model, α = the constant term while the coefficient $\beta_{i=1..7}$ was used to measure the sensitivity of the dependent variable (Y) to unit change in the predictor variables. μ is the error term which captures the unexplained variations in the model. In its complete form, the model was;

Project Performance = $\alpha + \beta_1$ Lean Operations + β_2 Kaizen + β_3 Enterprise Resource Planning + β_4 Just- In-Time + β_5 Supply Chain Management + β_6 Project Funds + β_7 Human Resource Capital

CHAPTER FOUR:

DATA ANALYSIS, FINDINGS AND DISCUSSIONS

4.1 Introduction

The research objective was to determine the operations strategies adopted by JICA and establish the relationship between operations strategies and project performance of JICA Funded projects in Kenya. This chapter presents the analysis, findings and the discussion with regard to the objective. The analysis is presented in mean and standard deviations while the findings are presented in frequency distributions and tables.

4.2 Background Information

The demographic information considered in this study included the job titles of the respondents, work life experience, the projects that are currently ongoing, and the thematic area of the projects. A total of 30 questionnaires were issued out. The completed questionnaires were edited for completeness and consistency. Of the 30 questionnaires distributed, 24 were returned. This represented 80% response rate which was deemed to be adequate in the realization of the research objectives. The respondents had worked for the organization for different number of years that ranged from 5 to 11 years and their job position was in the middle to top management cadre. The respondents included project supervisors, programme coordinators, administrators, and project managers.

The projects that were found to be undertaken by JICA varied and included in such areas as in Agriculture, Economic Infrastructure, Human Resource capacity and health sectors. Presently, the organization is carrying out projects that deal with the improvement of maternal and child health, water supply projects, incubating grassroots women capacity for sustainable socio-economic empowerment & livelihood transformations, HIV/AIDS control and construction of Nairobi missing links. In addition, JICA is engaged with the strengthening of health in Nyanza province, the strengthening of mathematics and science in education sector, development of national water master plans and also projects concerned with strengthening of capacity for supervision on road maintenance. The

diverse nature of the projects that are being undertaken by the organization will require that the project managers develop appropriate operational strategies to achieve the desired operational performance. On the basis of the above experience and different types of projects, it is evident that the respondents were an invaluable source towards realization of the research objective.

4.3 Operational Strategies at JICA

This section of the questionnaire sought to establish the existence of the operational strategies, the form that the implementation of the strategies takes and the characteristics that the strategies take. The findings of the study were that all the projects being undertaken by JICA have operational strategies that guide them. It was also found that the organizations operational strategy is mostly top-down and is aligned to the overall corporate strategy that has been developed by the JICA.

The organization was found to have operations in different countries and with such a spread in operations, it was imperative to integrating profit, people, and the planet into the culture, strategy, and operations of companies. As (Hammer 2005) pointed, there are immense benefits to nonmanufacturing processes to applying the time-based and waste-minimization efforts that TQM and JIT had applied to manufacturing. This will explain the findings of the study that even the non-profit oriented organizations have reasons to embrace these operational strategies in their operations to be able to realize their objectives as well as meet the expectations of the stakeholders.

On the questions of whether the respondents found the operations strategies being employed in the organization is aligned with JICA's corporate strategy as well as copies good practices in other practices, the response was varied. The results to the questions are represented in table 4.1 below.

Table 3: Operational strategy alignment to JICA’s corporate strategy

	Frequency	Percent	Cumulative Percent
NO	7	26	26
Yes	17	74	100.0
Total	24	100.0	

The findings above show that JICA has been employing modern operation strategies that meet the set international requirement. This findings support the position taken by Porter (1991) that as organizations developed their core competencies, they included in the business processes, the tools and concepts of TQM and JIT were applied to developing new product development and managing supply chains. Therefore, the adoption of appropriate operational strategies is no longer a source of competitiveness but rather it is necessary for realization of the organizational objectives more effectively.

4.3.1 Alignment of operational strategies to government requirements and organizational capabilities

The operational strategies adopted by a firm should be market led, meet government requirements as well be based on capabilities and the resources of the projects. On whether JICA’s projects meet the above criteria, the results was mixed with half of the respondents agreeing to the same while the other half holding a contrary position. These results are presented in table 4.2 below.

Table 4: Alignment of operational strategies to government requirements and organizational capabilities

	Frequency	Percent	Cumulative Percent
Valid yes	12	50	50.0
no	12	50	100.0
Total	24	100.0	

The findings from the questions shows that 50% of the respondents were of the view that the present operational strategies of the JICA funded projects was compliant to the government requirements as well as being based on the capabilities and resources of the organization while the other 50% were of contrary opinion.

4.3.2 Success of operation Strategy in meeting project performance measures

The researcher identified five operations strategy that affects the success of the projects being undertaken by JICA. These strategies included lean operations, kaizen, enterprise resource planning, just-in-time and the supply chain management. In a scale of 1 to 5 in which 5 (very large extent and 1 (Not at all), the results of the findings is represented in table 4.3 below.

Table 5: Effectiveness of the applied Operation Strategy

	Mean	Std. Deviation
Lean Operations Meets the objective_of waste reduction, quality delivery and customer satisfaction	4.2857	.61125
Kaizen Meets the objective of continuous utilization of positive learning and experiences gained from similar project inside and outside Kenya to improve current project performance	4.1429	.36314
Enterprise Resource Planning (ERP) Meets the objective of enhancing sharing of information in all sections of the project to enable planning and optimum use of resources	3.8571	.49725
Just-In-Time (JIT) Meets the objective of timely delivery of products or services as and when required.	3.9286	.91687
Supply Chain Management Meets the objective of enhancing strategic linkage or vertical integration with suppliers, customers and other stakeholders	3.4143	1.18831
Overall Mean	3.926	

From the results above, the ability of the lean operations to achieve the objective_of waste reduction, quality delivery and customer satisfaction came out as an achievable goal under the lean operations strategy (mean = 4.2857). The adoption of the Kaizen strategy to achieve the objective of continuous utilization of positive learning and experience gained in similar projects in the firm (mean= 4.1429). On the other extreme end of the scale, supply chain management strategy aimed at enhancing strategic linkage or vertical integration with suppliers, customers and other stakeholders was found to be the least responsive strategy on JICA projects (mean = 3.4143).

The ability of the ERP to achieve enhancement sharing of information in all sections of the project to enable planning and optimum use of resources was also found to have

minimum impact on the project's success (mean = 3.8571). The operations strategy adopted by firms helps in increasing their level of flexibility and in this present study, it was evident that adoption of the lean operations has increased JICA's projects to adapt to changes in their operating environments. This position is similar to that pointed by Nori et al., (1995) when they studied effect of operation strategy on operations of American manufacturing firms and conclude that lean manufacturing enhanced the ability of the firms to respond or conform to new situations which are unpredictable.

Flexibility associated with such operations strategy includes expansion, distribution, routing, labour and equipment flexibility (Arias, 2003). Expansion flexibility is the ease with which capacity can be added when needed. The flexibility helps when the operations on the ground require enhancement.

4.4 Effect of Operations Strategies on Project Performance

This section of the questionnaire sought to establish how the various operational strategies of the JICA affected the project performance of the organization. The results were measured on a Likert scale with 5 (To a very large extent) and 1 (Not all). The results are represented in the tables that follow.

Performance is based on the following criteria

Relevance – The extent to which the goal of the activity meets the needs of the beneficiaries.

Effectiveness – The extent to which the project attains its objectives.

Efficiency – The extent outputs in relation to the inputs determine whether the aid uses the least costly resources possible to achieve the desired results.

Impact – Examines positive and negative changes as a result of the project.

Sustainability – Relates to whether the projects are likely to continue after the closure of the project.

4.4.1 Effect of Lean Strategy

Table 6: Effect of Lean Operations

Performance Criteria	Mean	Std. Deviation
Relevance - JICA initiated projects are able to meet beneficiaries needs.	4.2351	.65044
Effectiveness -the projects undertaken by JICA meets the intended objectives	4.3265	.51355
Efficiency - The benefit - costs ratio of the organizations projects is high	3.1272	.66299
Impact - JICA projects have a positive and negative changes to the community	2.9745	.69929
Sustainability - The projects are able to continue even after the handing over of the same	2.4286	1.01635
Overall Mean	3.4184	

Current organizational projects are far from producing truly sustainable projects; however, moving towards that goal is possible. One strategy for improving the sustainability of projects is through lean operational strategies, which focuses on removing waste from projects to make them more efficient.

The findings from the JICA projects showed that lean operations strategy have a great effect on the project and meeting the needs of beneficiaries. Partha, (2011) states that meeting the objectives is the biggest indicator of effectiveness By ensuring that there is waste reduction and quality delivery lean operations strategy contributes highly to project efficiency. The minimal standard deviations on the answers from the respondents show that there was high level of agreement among the respondents. By adopting lean operations, JICA projects are efficient and have a high benefit/cost ratio. The efficiency arises from reduction in all forms of waste and a quality culture that is tied to all the operations (4. 1272). Lean operations however had a low mean score in impact (2.4745)

and sustainability (2.4286) because the two criteria are affected by many exogenous variables outside the project domain (Wills 2009).

4.4.2 Kaizen Strategy

Table 7: Effect of Kaizen Strategy on Project Performance at JICA

Performance Criteria	Mean	Std. Deviation
Relevance - Kaizen strategy has enabled JICA projects to meet needs of the community and society in which the project is based.	4.5714	.64621
Effectiveness - Kaizen strategy has enable JICA projects to achieve the objectives of what they were set up for.	4.4286	.51355
Efficiency - The strategy has enabled JICA incur much lower cost for a high returns in a project	3.0000	.55470
Impact - Kaizen strategy has enabled higher positive change projects at JICA	3.1429	.66299
Sustainability - Kaizen oriented projects have been registering a prolonged project life after project closure	3.5000	1.01905
Overall Mean	3.7286	

The adoption of Kaizen operational strategy by JICA is intended to realize an intensive and focused approach to process improvement. The strategy seeks operational optimization by eliminating waste—non-value-added activities from the perspective of the customer. Consequently, the adoption of Kaizen strategy has enabled JICA projects to meet needs of the community and society in which the project is based (Mean= 4.5714) as well as be able to achieve the objectives to which they were set for (mean = 4.4286). However, a moderate result was found on whether the JICA projects had achieved a minimal cost reduction as a result of adopting the Kaizen strategy. This finding will be slightly different from the one found by Womack (2009) to the extent that conducting a kaizen event helps to eliminate waste by empowering employees with the responsibility, time, and tools to uncover areas for improvement and to support change. Similarly moderate results were found in criteria’s of impact and sustainability because of other

exogenous factors. The results are however better than that of lean operations on the two strategies

4.4.3 Enterprise Resource Planning

The ability of JICA projects to be relevant, effective, efficient, and sustainable and have an impact as a result of adopting the ERP was also investigated. Managing a project should take into consideration project strategy so that it is successful and will contribute to the prosperity of the organization. In contrast, without good strategic management, a project may be completed successfully and yet may make a relatively insignificant contribution to the development of an organization. This goal is able to be achieved through the adoption of the ERP strategy.

Table 8: Effect of Enterprise Resource Planning Strategy

Performance Criteria	Mean	Std. Deviation
Relevance – FRP installed by JICA relevance to the projects undertaken in the sense that they meet the needs of the beneficiaries	4.2545	.65044
Effectiveness - The ERP system applied contributes to effectiveness in the sense that the projects are able to achieve intended objectives	4.0571	.49725
Efficiency - The ERP system contributes to efficiency in the sense that we are able to realize our desired objectives at a minimal cost	3.3452	.55470
Impact - ERP at JICA improves the level of impact that the projects have had in the community where the projects are based	3.1429	.66299
Sustainability - ERP has enhanced sustainability of JICA projects.	4.0852	0.4237
Overall Mean	3.777	

The findings from table 4.5 above shows that adoption of ERP is relevant to the projects undertaken in the sense that it meets the needs of the beneficiaries (mean=4.2545) and that implementation of ERP on JICA projects has enabled the organization to achieve its

objectives (mean=4.0571). This means that implementation of an effective ERP system can bring both strategic and operational benefits to the organization even in a changing and competitive environment. This supports the findings of Nicolaou (2004) since core business processes are integrated throughout the organization through incorporation of the best practices that will facilitate rapid decision making, cost reduction, and better management control.

However, the finding was not conclusive to find an effective assessment method of overall organizational performance to measure ERP system impact. In previous studies the organizational performance has been measured by looking at both the financial and nonfinancial benefits. Financial benefits include cost savings, employee productivity, return on investment, and return on sales (Hunton et al., 2007) but supports the nonfinancial benefits that include accuracy, timeliness, efficiency, and effectiveness (Chand, et al., 2005).

4.5 Just-In-Time and Supply Chain Management Operational Strategies

The other operational strategies that are applied by JICA in its projects are the management of the supply chain as well as just-in-time process. The researcher also sought to establish the impact that the two strategies has had on the project performance. The result findings are provided in table 4.6 below. The aim was to establish the extent to which the strategies are relevant, effective, efficiency and impact it has on the projects undertaken.

4.6: Effect of Just-In-Time and Supply Chain Management Project Performance

Just-In-Time	Mean	Std. Deviation
Delivery of services and goods has been enhanced due to the adoption of JIT system in the organizations operations	3.9254	.63332
Relevance – quality delivery of services and goods to customers satisfaction has been enhanced due to the adoption of JIT system in the projects operations.	4.1750	.51355
Effectiveness - Our objective realization has been enhanced due to employment of the JIT system at JICA.	3.9286	.47463
Efficiency - The benefit-cost-ratio has been improved with the adoption of the JIT strategy in our operations	3.9286	.47463
Impact - The projects being undertaken have had great change to the beneficiaries due to the employment of JIT strategies	4.2143	.89258
Overall Mean	4.0344	

Employment of J.I.T. in the project has increased the sustainability of the projects (4.2143). Realization of the objectives is also high because of the promptness of response created by J.I.T. in all the interconnected departments of a project. Relevance or achievement of objectives (3.2954); Efficiency or benefit/cost ration (3.2986); and impact (3.2986) have recorded impressive means. This underscores the importance of J.I.T. strategy in performance of JICA projects in Kenya.

4.4.6: Supply Chain Management (SCM)

4.9: Effect of Supply Chain Management to Project Performance

Supply Chain Management		
Relevance - The linkages of JICA with the suppliers in the value chain has enhanced the relevant of the projects we undertake	3.3571	.49725
Effectiveness - strategic linkage with the suppliers and customers through SCM.	4.1000	.51887
Efficiency - Supply chain has improved the efficiency level of the projects being undertaken through effective cost management.	3.9286	.61573
Impact - SCM has enhance impact of JICA operational strategies to the society as well as to the donors	3.0714	.61573
Sustainability - The supply chain linkages are cubical project sustainability.	2.1429	.77033
Overall Mean	3.321	

SCM has minimal effect to the project sustainability (3.357). Effectiveness (4.100) and efficiency (3.2986) have impressive mean scores implying that SCM is a major determinant in project cost management and achievement of objectives. Ireland and Webb (2007) that SCM continues to be adopted by organizations as the medium for creating and sustaining a competitive advantage. These benefits attributed to supply chain management include inventory reduction, improved delivery service, and shorter product development cycles. SCM affect on relevance (3.3571) and input (3.0714) are moderate and would give an reliable analytical relationship.

Generally, it was found that all the respondents appreciated the role of operations strategies and that effective adoption of the strategies identified in the study positively affects the performance of the organizations projects.

4.7 Regression Analysis

The determinants of a projects performance as a result of adopting the operational strategies was investigated from the results of the respondents. From Table 4.7 below, the established multiple linear regression equation becomes:

$$Y = 11.231 + 1.32X_1 + 0.049X_2 + 0.126X_3 + 1.008X_4 + 0.776X_5$$

The results of the regression equation are generated from the table below. It shows that there is a positive relationship between the adoption of operational strategy and the performance of the projects in term of their relevance, impact to the society, sustainability, cost management and timeliness of project delivery. It is evident from the results that implementation of the ERP in the organization was found to have greater impact on the performance of the projects because of the higher coefficient value.

Table 10: Results of General Least Square

Model		Un-standardized Coefficients		Standardized Coefficients	t-values
		B	Std. Error	Beta	
1	(Constant)	11.231	.218		1.236
	X ₁	1.32	.026	-.349	-1.049
	X ₂	0.049	.012	-.585	0.266
	X ₃	0.126	.5	-.017	-.061
	X ₄	1.008	.006	.568	1.349
	X ₅	0.776	0.127	.035	0.457

The coefficient of intercept C has a value (11.231) and is significant. The coefficient of all the independent variables are positive at $\alpha = 5\%$, and implies that the increase in the independent variables results in an increase in the organizations projects performance. This finding did not come as a surprise because it was thought that the adoption of

operational strategies by an organization will have positive effects on an organization performance and that based on the previous studies that have been carried on the subject area in the developed countries, a positive relationship has been found in most of the projects and that such strategies are a source of competitiveness.

Table 11: Model Summary for NOP with Control Variables

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	F -statistic
1	.763	.582	.392	.2296886	49.4

Source: Researchers' computation

This R^2 of 58.2 % means 58.2 % of the changes in the performance of the organizations project is explained by the operations strategies employed by the organization. The remaining 41.8% of the changes in the Y is explained by other factors not in the model. These factors include those not include in variables like government, community and human resources in the JICA Kenya projects. The F statistic is used to test the significance of R. Overall; the model is significant as F-statistics is 49.4.

CHAPTER FIVE:

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary

The study found that as organizations develop their core competencies and included them in their business processes, the tools and concepts of operation strategies were becoming more and more important in the successful completion of projects. The application of lean operations, kaizen, and enterprise resource planning, just-in-time and supply chain management has become key ingredients of a project. Generally, the organization first incorporated JIT between suppliers and project units, then moved to optimized logistics between producers and distributors, then to customer relationship management (CRM) with the community to make the project sustainable.

The findings from the research were that JICA has been employing modern operation strategies on its projects that include Kaizen, lean operations, ERP, JIT and supply chain management. The adoption of appropriate operational strategies is no longer a source of competitiveness but rather it is necessary for realization of the organizational objectives and realization of project sustainability after its completion. However, it was also found that the operational strategies adopted by a firm should be market led, meet government requirements as well be based on capabilities and the resources of the projects. It was found that in the case of JICA, the operational strategies of were compliant to the government requirements as well as being based on the capabilities and resources of the organization.

The organization adopted the Kaizen strategy to achieve the objective of continuous utilization of positive learning and experience gained in similar projects that were done elsewhere under different experiences and that employment of ERP was meant to achieve improved sharing of information in all sections of the project to enable planning and optimum use of resources. The lean operations strategy facilitated enhanced ability of the firms to respond or conform to new situations which are unpredictable. Flexibility associated with such operations strategy includes expansion, distribution, routing, labour

and equipment flexibility. Expansion flexibility is concerned with the ease with which capacity can be added when needed.

Another finding of the study was that the operations strategy adopted by an organization should take into consideration project strategy so that it is a success and contribute to the prosperity of the organization. In contrast, without good strategic management, a project may be completed successfully and yet may make a relatively insignificant contribution to the development of an organization. This goal is able to be achieved through the adoption of the ERP strategy. The financial benefits associated with operation strategies included cost savings, employee productivity, and benefits on cost. Nonfinancial benefits include accuracy, timeliness, efficiency, and effectiveness. In summary, the study found that adoption of operational strategies has a positive effect on the operational performance of the task at hand.

5.2 Conclusion

The research findings presented show the positive effects of operations strategies on project performance and with successful implementation of such projects, it there is high chance of the projects sustenance. Combining the strengths of kaizen strategy, ERP and supply chain management has the potential to improve the sustainability and successful realization of organizations projects. Development of appropriate strategies is no longer limited to the overall organization but rather even at individual project level and there is need to ensure the project achieves a high benefit-cost-ratio especially for projects with social responsible base.

From the findings of the study, it can also be concluded that the project success is no longer found on the products and services an organization is offering alone but instead it is those inimitable characteristics of an organization has such as policies and operational strategies that will differentiate and give an organization the required competitiveness. The benefits accruing to the companies as a result of the adoption of operational strategies have been found to include, reduction in operational cost and also increasing

the acceptance of such projects by the communities where they are initiated. They should however be wary of the challenges which inhibit them from obtaining economies of scale and significantly reduces the economic value from the adoption of the appropriate operational strategies.

5.3 Recommendations

The study found out that not all the operational strategies are being employed by the organization in the projects being undertaken and consequently the benefits resulting from the adoption of the same operational strategy are not being realized. This was more evident with supply chain management. As a result, it is recommended that the management consider training the project managers to effectively manage their supply chain since efficient management of suppliers of materials and services will improve the success rate of the projects

However, because of time constraints, present research was not able to examine longitudinally the effect of operation strategies on different projects undertaken by other organizations outside JICA. It is therefore recommended that a study be undertaken to implement operational strategies in other countries and organizations over a period of time.

5.4 Limitations of the study

The study focused on JICA funded projects in Kenya only. Being a localized study there is need to undertake similar studies in JICA projects outside Kenya for the conclusions arrives at and the study to be generalized about all JICA projects.

Similarly, the findings may not necessary be appropriately applied to other projects being undertaken by similar organizations whose orientation could be different from that of JICA.

Community involvement as role in operations strategy was not captured. This is because the projects are meant to benefit of the communities. There is need therefore to study the influence of the community to the operations. The community provides human resources, inputs, acceptable, conducive environment and provision of sustainability all which are important for the success of projects.

Time constraints limited the study to JICA projects only. The study needs to be broadened to include a determined analysis of government and donors influence to the operations of JICA

5.5 Suggestions for further research

Longitudinal effect of operations strategies on different projects undertaken by other organizations outside JICA need to be undertaken. Such a study shall lead to a generalization on applicability of such operational strategies leading to development of principles and theories with a universal application. An exchange of learning experiences between project based organizations would be possible where such universal application is found to be applicable.

JICA Kenya being a herb of JICA projects in Somalia, Djibouti and other African countries is a factor that requires to be considered. Its influence to operations of JICA Kenya projects requires an in-depth analysis because such coordinating roles call for attention, care and diligence that may have an effect on JICA projects in Kenya.

Other factors that explain performance of JICA projects in Kenya account for 41.8%. The proportion is significant and requires to be researched on. The factors include government donors, community, Japan government, physical factors of weather, literacy etc.

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APPENDIX I: QUESTIONNAIRE

Dear participant,

I am currently undertaking an academic research project on the operation strategies and performance of Japan International Cooperation Agency funded projects in Kenya. Your response is extremely important to the success of this study. I would like to assure you that your response will be treated as "Strictly Confidential" and it will be used for research purposes only. Please answer the questionnaire from the perspective that defines your Project's operations strategy from the thematic segment within which your project operate. Thank you very much for your help and cooperation.

Section A: About the respondent

1. **Gender:** Male: Female:
2. Please specify your job title -----
3. Please specify how many years of working experience you have in the project? _____
4. Name of the project
5. Thematic area of the Project

(E.g. Agriculture, Health, Economic Infrastructure, Human Resource Development or Water and Sanitation/Environment)

Section B: Operations strategies at JICA- (Lean operations, Kaizen operation strategy, Enterprise Resource Planning (ERP), Just- I n- time (JIT), Supply Chain Management (SCM))

1.Does the project have written operation strategies?

Yes [] No. []

2.If yes how is your operations strategy developed?

a) Aligned with JICA's corporate strategy e.g. mission & vision (top down) Yes [] No. []

b) By copying good practices in other projects and from JICA's own experiences (bottom up) Yes [] No. []

c) Response to government requirements (market led) Yes [] No. []

d) Based on the capabilities and the resources of the project (operations led) Yes [] No. []

3. On a scale of 1-5 please indicate in the table below the degrees to which each operation strategy meets its objective at the project that you work in performance of each strategy in meeting its performance indicator as described.

Tick (√) as appropriate where:

- (1) To a very large extent, (2) To a large extent, (3) To some extent, (4) To a small extent
 (5) Not at all

OPERATION STRATEGY	1	2	3	4	5
LEAN OPERATIONS Meets the <u>objective</u> of waste reduction, quality delivery and customer satisfaction.					
KAIZEN Meets the <u>objective</u> of continuous utilization of positive learning and experiences gained from similar project inside and outside Kenya to improve current project performance					
ENTERPRISE RESOURCE PLANNING (ERP) Meets the <u>objective</u> of enhancing sharing of information in all sections of the project to enable planning and optimum use of resources.					
JUST-IN-TIME (JIT) Meets the <u>objective</u> of timely delivery of products or services as and when required.					
SUPPLY CHAIN MANAGEMENT Meets the <u>objective</u> of enhancing strategic linkage or vertical integration with suppliers, customers and other stakeholders					
Others (specify)					

Section C. Operation Strategies and project Performance

4. On a scale of 1-5 indicate on the table below the extent to which the project operations strategies influence project performance. Project performance is measured in terms of relevance, effectiveness, efficiency, impact and sustainability.

Tick (√) as appropriate where:

(1) To a very large extent, (2) To a large extent, (3) To some extent, (4) To a small extent
(5) Not at all

		5	4	3	2	1
	Lean Operation Strategies					
1	The companies projects are initiated only when they are expected to meet stakeholders need					
2	The projects undertaken by JICA are structured in a way that meets its objectives					
3	The benefit cots ratio of the organizations projects is high					
4	The projects undertaken by JICA are analyzed to determine their positive and negative impacts of the undertaking					
5	The projects are undertaken in such a way that they will be able to continue even after the handing offer of the same					
	Kaizen Strategy					
1	The adoption of Kaizen strategy has enabled the firm to identify projects that are relevant to the community and society in which the project is based.					
2	Kaizen strategy has enable the organization to identify projects that are will achieve the objectives of JICA in setting up the projects					

3	The strategy has enabled JICA incur much lower cost for a high returns in a project					
4	Most of the projects undertaken by JICA under Kaizen strategy has had higher impact than under any other project that does not involve Kaizen					
5	Kaizen oriented projects have been registering higher sustainability					
	Enterprise Resource Planning					
1	The enterprise resource planning system that has been installed by JICA relevant to the projects undertaken in the sense that it meets the needs of the beneficiaries					
2	The ERP system applied is effective in the sense that we are able to achieve our objectives					
3	The ERP system is efficient in the sense that we are able to realize our desired objectives at a minimal cost					
4	Adoption of ERP at JICA improves the level of impact that the projects have had in the community where the projects are based.					
5	The sustainability of the projects has been enhanced with the adoption of the ERP					
	JUST – IN -TIME					
1	Delivery of services and goods has been enhanced due to the adoption of JIT system in the organizations operations					
2	Our objective realization has been enhanced due to employment of the JIT system at JICA.					

3	The benefit-cost-ratio has been improved with the adoption of the JIT strategy in our operations					
4	The projects being undertaken have had great impact to the beneficiaries due to the employment of JIT strategies					
5	Adoption of the JIT strategies has increased project sustainability undertaken by JICA					
	Supply Chain Management					
1	The linkages of JICA with the suppliers in the value chain has enhanced the relevant of the projects we undertake					
2	The strategic linkage with the suppliers and customers has improved the projects effectiveness					
3	The management of the organizations Supply chain has improved the efficiency level of the projects being undertaken					
4	The impact of JICA operational strategies is presently being felt by the society as well as the donors					
5	The supply chain linkages is sustainable					

5. Briefly describe your view on the role of operations strategies on performance of your project by answering following questions?

(a) Operations strategies are critical to project performance

YES

NO

(b) Operations strategies play an insignificant role to project performance

YES

NO

Thank you for your cooperation.

APPENDIX II: JICA PROJECTS (2004-2013)

A) AGRICULTURE

- 1 The Smallholder Horticulture Empowerment and Promotion Unit Project (SHEP UP)
- 2 Mwea Irrigation Development Project
- 3 Enhancing Community Resilience against Drought in Northern Kenya (ECORAD)
- 4 Small Holder Horticulture Empowerment Project (SHEP)
- 5 Sustainable Smallholder Irrigation Development and Management project (SIDEMAN)
- 6 Sustainable Smallholder Irrigation Development and Management in Semi-Arid Lands project (SIDEMAN SAL)
- 7 Horticulture Produce Handling Facilities (HPHF)
- 8 Tana Delta Irrigation Project
- 9 Mwea Irrigation Agricultural Development Project
- 11 Community Agriculture Development for Semi-Arid Lands (CADSAL) Project
- 12 The project on rice research for tailor-made breeding and cultivation technology development in Kenya (SATREPS)
- 13 Grant Assistance for Underprivileged Farmers (2KR) 2008
- 14 KR Food Assistance
- 15 Rice-based and Market-oriented Agriculture Promotion Project (RICEMAP)

B) WATER AND SANITATION/ENVIRONMENT

- 16 Project for Management of Non-Revenue Water in Kenya
- 17 Project for Augmentation of Water Supply System in Kapsabet Town

- 18 Project for Development of Drought Tolerant Trees for Adaptation to Climate Change in Dry lands of Kenya
- 19 Project for Capacity Development for Effective Flood Management in prone Areas
- 20 Project for Capacity Development of Solid Waste Management of Nairobi City
- 21 Project for Rural Water Supply Phase II (Machakos, Makueni)
- 22 Project on the Development of the National Water Master Plan

C) ECONOMIC INFRASTRUCTURE

- 23 Strengthening of Capacity for Supervision and Operation on Road Maintenance Works through Contracting
- 24 The Project for Dualling of Nairobi-Dagoreti Corner Road C60/C6
- 25 Construction of Nairobi Missing Links No. 3, 6 & 7
- 26 Mombasa Port Container Terminal Expansion Project
- 27 Mombasa Port Area Road Development Project
- 28 Olkaria I Unit 4&5 Geothermal Power
- 29 Sondu/Miriu Hydropower Project (Sang'oro Power Plant)
- 30 Olkaria-Lessos- Kisumu Transmission Line Construction
- 31 Establishment of Rural Electrification Model using Renewable Energy
- 32 Capacity Development for Rural Electrification using Renewable Energy
- 33 Project for Capacity Building of Child Care and Protection Officers in Juvenile Justice System
- 34 Mombasa Airport Project
- 35 New Nyali Bridge Project
- 36 New Mtwapa Bridge Construction Project
- 37 The Telecommunication Modernization Project
- 38 Grain Silo Construction Project
- 39 Kilifi Bridge Construction Project

- 40 Greater Nakuru Water Supply Project
- 41 Tana Delta irrigation Project (1)
- 42 Horticultural Produce Handling Facilities Project
- 43 Trade Training Program for SME exporters (Phase 2)
- 44 Project for Improving OVOP Services
- 45 Project on Productivity Improvement
- 46 Capacity Building for the Customs Administration of the Eastern African Region
- 47 Project for Capacity Building of Child Care and Protection Officers in Juvenile Justice System
- 48 Technical Cooperation Project on the Strengthening of the Fiscal and Monetary System in Kenya
- 49 Master Plan Study for Kenya's Industrial Development (MAPSKID)
- 50 Master Plan for Development of Dongo Kundu, Mombasa Special Economic Zone
- 51 Public Financial Management Reforms (PFMR)
- 52 Third Country Training on Geographic Information System (GIS)
- D) HUMAN RESOURCE DEVELOPMENT**
- 53 Strengthening Mathematics and Science Education (SMASE)
- 54 Project for the Upgrading and Refurbishment of the Centre for Mathematics, Science and Technology Education in Africa
- 55 Incubating grassroots women capacity for sustainable socio-economic empowerment and Livelihoods transformation
- E) HEALTH**
- 56 Strengthening of People Empowerment against HIV/AIDS in Kenya (SPEAK) Project Phase 2
- 57 Technical Advisor for Tuberculosis Control for Kenya

- 58 Strengthening Management for Health in Nyanza Province
- 59 Strengthening Community Health Strategy
- 60 Partnership for Health System Strengthening in Africa
- 61 Project for Reinforcement of Vaccine Storage in Kenya
- 62 Project for Development of Rapid Diagnostics and Establishment of an Alert System for Outbreaks of Yellow Fever and Rift Valley Fever in Kenya
- 63 Project for improvement of District Hospital in the Western Region of the Republic of Kenya (Phase II)
- 64 The project for HIV/AIDS Control
- 65 Supporting Health from School to Community in Mbita District
- 66 The Improvement of Maternal and Child Health Service in Remote Locations in Kericho District
- 67 Community Participatory HIV Prevention of Mother to Child Transmission Projects in Ukwala Division, Ugenya District

SOURCE: COMPILED FROM ANNUAL REPORTS (2004-2013)