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**Project Management Effectiveness in relation to Post Merger
Integration: The case of Ethiopian Construction Design and
Supervision Works Corporation**

By: Ejigayehu Zewdie

**A Research Project Submitted to Graduate Studies Program of
Addis Ababa University School of Commerce
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Advisor: Teklegiorgis Assefa (Asst. Prof.)

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Addis Ababa University
School of Commerce
Department of Project Management

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By: Ejigayehu Zewdie

Approved Board Committee:

Fesseha Afework (Asst. Prof.)
Internal Examiner

Signature & Date

Dr. Tesfaye Debella
External Examiner

Signature & Date

Teklegiorgis Assefa (Asst. Prof.)
Advisor

Signature & Date

Statements of Declaration

I hereby declare that the study which is being presented in this project work entitled as **“Project Management Effectiveness in relation to Post Merger Integration: The case of Ethiopian Construction Design and Supervision Works Corporation”** was conducted by Ejigayehu Zewdie for partial fulfillment of the requirements for the award of Master of Arts Degree in Project Management; is to the best of my knowledge an original work conducted by her, had not been presented for a partial fulfillment for any educational qualification at this university or any other.

Teklegiorgis Assefa (Asst. professor)

Advisor

Date

I, the undersigned, declare that the study which is being presented in this project work entitled as **“Project Management Effectiveness in relation to Post Merger Integration: The case of Ethiopian Construction Design and Supervision Works Corporation”**, had not been presented for a partial fulfillment for any educational qualification at this university or any other, all the sources used are also duly acknowledged.

Ejigayehu Zewdie (GSR/2720/09)

Researcher

Date

ABSTRACT

In an increasingly competitive market, public enterprises in developing countries adopt a number of strategies to deal with raising efficiency and productivity. One of such strategies is to enter into mergers or acquisitions (M&A). However, it has been reported that many companies fail to meet the expected synergy value and it takes longer time to achieve better performances. It is also known that integration processes during the post-merger integration period are critical to synergistic effects and performance of the merged companies over time. The Ethiopian Construction Design and Supervision Works Corporation (ECDSWCo) is the result of the amalgamation of three formerly independent public enterprises. As a project-driven professional service giving organization, its business is structured around the delivery of projects; and project management (PM) is the business itself. An extensive review of M&A and PM literatures conducted and the key factors for successful integration and project management effectiveness identified. Then the post-merger integration (PMI) and project management (PM) practices of the company examined for the possible correlation between the PMI success and its effect in the project management effectiveness of the company; with the hope to developing a usable framework that can be adopted. Concurrent mixed methods, which involve collecting analyzing and interpreting data using both quantitative and qualitative methods, are applied to draw empirical data from 36 project management staff of ECDSWCo. The results are statistically analyzed for reliability and correlation using SPSS, Cronbach's alpha reliability test and Bi-variate correlation tests. The results showed statistically significant positive correlations between PMI and a positive influence of PMI and its contributing variables on PME.

Key Words: *Ethiopia, Public Enterprise, Project Driven, Merger/Acquisition, Integration, Project Management,*

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This gives me not only a sense of accomplishment but also excitement for what will be a very special day when three family members, my husband, Taye Alemayehu (PhD in Water Resources Management and Engineering) my daughter Ruby Taye (Bachelor of Science in Architecture) and myself (Master of Arts in Project Management) get to graduate from Addis Ababa University.

Acronyms and Abbreviations

ECDSWCo: Ethiopian Construction Design and Supervision Works Corporation

WWDSEG: Water Works Design and Supervision Enterprise

CDSCo: Construction Design Share Company

TCDSCo: Transport Construction Design Share Company

MoPE: Ministry of Public Enterprise

PE: Public Enterprise

SOE: State Owned Enterprise

M&A: Merger and Accusations

PMI: Post Merger Integration

PM: Project Management

PME: Project Management Effectiveness

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CHAPTER ONE

Introduction

1.1. Background of the Study

Since the 1930s and particularly after World War II, numerous State Owned Enterprises (SOEs), also called Public Enterprises (PEs), were created in both developed and developing countries to address market deficits & capital shortfalls, promote economic development, reduce mass unemployment and/or ensure national control over the overall direction of the economy. By providing capital and technology to strategic areas where the private sector either shied away from or lacked the capacity to invest (such as heavy industries, infrastructure etc.), most governments resorted to PEs to increase capital formation, produce essential goods at lower costs, create employment and generally contribute to the economic development of the nation state. This trend continued till the early eighties (UN, 2005).

However, rising corruption, management inefficiencies, overstaffing (without due regard to their economic viability, many governments treated PEs as easy conduits for job creation and a convenient vehicle for patronage distribution), inflation and rising current account deficits of the 1980s, exposed serious “government failures” and the limits of PEs as major players in economic development. In addition to management deficits many PEs also suffered from technological shortcomings. Imported through either foreign aid or soft loans from abroad, many of the PEs were either equipped with low or second grade machineries contributing to low capital/output ratio, or were established without due regard to their economic and financial sustainability. As a result of these failures, large-scale privatization of PEs was undertaken in the 80s and 90s (*Ibid*).

Although reduced significantly, PEs continue to have a major presence in many national economies. In high- income countries, PE’s share of GDP and investment constitute 8%, and 13% respectively. For middle-income countries

the corresponding shares are 9% and 17%, while in the so-called Least Developed Countries (LDCs) they are 14% and 28%. In terms of employment, SOEs are still very important to numerous developing countries (*Ibid*).

The emergence of public enterprise sector in Ethiopia is contemporaneous with the modernization attempts of the state itself in the early twentieth century. During Haileselesie's regime many public enterprises were formed by the state as a sole owner and as joint ventures with private persons, mostly foreigners, for domestic private capital were almost non-existent. With the adoption of the socialist precepts, the Derg regime was characterized by state ownership and control of the major means of production. The gradually flourishing private sector was a victim of nationalization and sidelined to petty areas, and so there was a dramatic increase in the number of public enterprises. The regulation of numerous public enterprises was undertaken by executive organ entrusted with this power and established for this purpose. Nonetheless, it proved to be an ineffective body, and consequently it failed to carry out its legal obligations. Realizing this so lately, public enterprises having more or less similar output or input as the case may be were merged together to form a corporation (Dagnachew & Addissie, 2009).

Towards the end of 1980's and early 1990s their situation has deteriorated as did the overall economy. Public enterprises were generally constrained by lack of management autonomy, foreign exchange shortage, and lack of inputs. These have seriously constrained capacity utilization of enterprises. Likewise, their budgetary contribution in terms of residual surplus has continuously declined (Mekonnen Manyazewal, 1993).

The post 1991 economic period is a mixed system where governmental undertaking and venturing by private capital owners coexist. The economic reform during the period aims to revitalize the economy and create conducive macroeconomic and sectoral policy environment for development, and create market-based economy (*Ibid*).

The new policy stipulates that public enterprise will have full autonomy and their performance will be judged by profitability. They are expected to compete with the private sector and they will not be awarded special privileges. To implement the policy, “The Federal Democratic Republic of Ethiopia, Public Enterprises law proclamation no 25/1992 has been issued. The law has established a Supervising Authority and Management Boards for Public Enterprises to increase their autonomy. The law highlights the need for public enterprises to create an organizational structure whereby they can enjoy management autonomy and thus enable them to be efficient, productive and profitable as well as to strengthen their capability to operate by competing with private enterprises (*Ibid*).

The development of infrastructure in Ethiopia has so far been given due emphasis along with the provision of utilities to the public. Increasing the road network of the country, provision of water and electricity to the public, construction of irrigation canals were among the priority areas in the government’s investment decision making during the last two decades or so. The government of Ethiopia has taken the initiative to establish developmental public enterprises to meet the growing demand and thereby fostering the socio-economic development of the country. To meet their purpose of establishment, these enterprises need to be competent. With a growing number of domestic contractors and competitiveness in the industry, it has become difficult for many public enterprises to deliver what they were intended for. Thus it is necessary as well as compulsory to strengthen and enhance the competitiveness of some of the strategic developmental enterprises through different means(Worldfolio, n.d.).

The Ethiopian Construction Design and Supervision Works Corporation (ECDSWCo) was founded in 17 Dec 2015 through the merger of Water Works Design and Supervision Enterprise (WWDSE), Construction Design Share Company (CDSCo) and Transport Construction Design Share Company (TCDSCo), which is to operate as a Federal Government Public Enterprise under the authority of the Ministry of Public Enterprises (MoPE). The Corporation was established for unlimited period with an authorized capital of Birr 1,301,515,785 (ECDSWCo, 2017).

1.2. Background of the Organization

ECDSWCo is a multi-disciplined engineering committed to provide professional services in Study, Design, Construction Supervision and Project Management of Water, Energy and Transport Infrastructures, and Building and Urban Development. In addition, the Company offers surveying, geo-technical investigation and geo-technical engineering, and laboratory services (ECDSWCo, 2017).

The effort exerted by the corporation is appealing as it is actively involving in major mega projects with strategic benefits to the nation. The construction of dam in Tanzania as well as road construction in Nigeria and Djibouti is earning the nation foreign currency. Most of the nation's construction and consultancy firms are owned and run by foreign companies and the Corporation strives to change these scenario strengthening ties with Higher Education and other pertinent stakeholders in capitalizing human development efforts and technology transfer (Meseret, 2018) .

The Corporation is working to realize the Second Growth and Transformation Plan (GTP II) by engaging in strategic projects. Apart from irrigation, road and hydro-dam as well as other facilities construction design efforts the Corporation has commenced Awash Basin design to preempt the risk of flood that could be caused by river Awash (*Ibid*).

ECDSWCo has a vision to becoming knowledge based, dependable, innovative and world class consulting firm by 2025 with a mission to provide Study, Design, Supervision and Contract Administration services in Transport, Water, Building and related engineering works with efficient and effective professional services in accordance with local and international standards that ensure the highest satisfaction of stakeholders/customers, to undertake Consultancy services with a focus on becoming cost leadership while excellence in every aspect to meet customers' stringent requirements regarding quality, on-time delivery, safety and environmental aspects, to develop and maintain sets of knowledge, skills and expertise and state-of-the-art-technologies to provide solutions to

the challenges of the nation in the construction consultancy services, to play key roles, in supporting the government's socio economic transformation endeavors by Closing market gaps in the infrastructure sector development. ECDSWCo values ethical and professional practice, customer focused, committed for quality, culture of team work and creativity, Integrity and honesty, excellence and sustainability and intolerance to corruption (ECDSWCo, 2017).

Organization

ECDSWCo is organized from a combination of the following six business units: Water and energy Design and Supervision Works Sector, Transport Design and Supervision Works Sector, Building and Urban Planning Supervision Works Sector, Geotechnical Investigation, Geotechnical Engineering and Underground Design and Supervision Works Sector, Research, Laboratory and Training Centre, Surveying, Geospatial, and Civil Informatics Center

Human Resource

Currently, the Corporation runs about 1745 staff, including freelance professionals. The staff includes engineers (civil, structural, mechanical, geotechnical, electrical, highway, hydraulic, irrigation & dam), architects and urban planners, environmentalists, hydrologists, hydro geologists, geologists, socio economists, agronomists, sociologists, financial analysts, accountant, economists, biologist, surveyors, and drafting technician.

Material Resource

The Corporation owns office buildings with required facilities at four different locations in Addis Ababa including the headquarters.

The Corporation has:

- Three laboratories specialized in material testing (e.g. soil mechanics, asphalt, concrete, rock and aggregate, reinforcement bar, chemical tests), water quality and soil fertility tests. The laboratories render services to in-house projects and external customers.

- Skid and truck mounted rigs and all ranges of drilling accessories, crane trucks, cranes, and water vessel trucks used for geotechnical core drilling. Furthermore, it is equipped with state-of-the-art geophysical survey equipment, namely Tetrameters, Transient Electro-Magnetic (TEM), Magnetic and borehole camera, which are utilized for indirect investigation of sub-surface geological conditions at engineering structures foundation sites and assessment of groundwater potentials.
- Topographic surveying equipment as fixed differential GPS, Total Stations, theodolites, Levels, Handheld GPS, and Radios (walky-talky) that are used to provide the required services to its customers. The Corporation also provides GIS services such as creating, managing, analyzing, and visualizing wide ranges of data in the areas of topography, surface/subsurface geology mapping, satellite images, soil surveys, etc. Moreover, GIS technology help to manage and share civil engineering data from various sources that can be easily analyzed and communicated to others.

1.3. Statement of the Problem

The construction industry plays a central role in national welfare, including the development of residential housing, office buildings and industrial plants, and the restoration of the nation's infrastructure and other public facilities. Projects such as roads, dams, irrigation works, schools, houses, hospitals, factories and others are the physical foundations on which development efforts and improved living standards are established. The application of project management concepts is an essential tool for planning, organizing, managing and control of work, which leads to better performance and increased productivity (Hendrickson, 2008).

Companies merge or acquire to achieve economies of scale, to expand their market and internationalize, to spread their risk, to respond to radical changes in the industry and to improve efficiency and flexibility. However, the literature on the impact of M&As on organizational performance provides mixed results. These findings notwithstanding, the level of mergers and acquisitions has not decreased, which suggests that these studies have not been “looking at the right

set of variables as predictors of post-acquisition performance” (Correia et al., 2013)

Public sector mergers have the potential of being viable alternative to other public sector reforms in the striving toward making public service provision more equipped to confront some of the challenges faced today. Previous research point to the importance of post-merger integrating processes for realizing the synergies expected from mergers. However, so far these studies have focused on what occurs inside organizations and less on the interplay between different levels (Thomasson, 2018).

Nowadays, the performance of mergers is a subject of great debates, being quite difficult to establish if these transactions will end as predicted. There are numerous cases in which studies made prior the merger, based only on financial data, show great chances of success, but, in the end, those transactions fail to accomplish the expected results. This frequently happens because some non-financial factors are overlooked, compromising the entire merger process. Some of these elements are the organizational culture and the internal policies of the merging companies, the human resources involved, and the managing or leadership style (Hromei, 2014).

The paper published on Science Direct proved that the project-based, service-enhanced forms of enterprise are not adequately addressed in the innovation literature. The paper argues that these firms are only able to effectively harness and reproduce their technological capabilities by integrating project and business processes within the firm and suggested the need for a better conceptual understanding and new management practices to link project and business processes. It also added that The literature on project-based organizations downplays broader organizational issues (such as organizational strategy, incentive schemes and performance management systems) while emphasizing research agenda inherited from research on single project management (Maxim Miterev et al., 2017).

A significant majority of M&A studies are related to developed countries. There are many examples in Economics that not all results for developed countries can be 100% transposed to the developing ones. Consequently, there is an important need in this field's literature to assess this issue from the point of view of the less developed part (Achim, 2015).

Post-merger integration (PMI) plays a critical role in M&A success, yet many questions about M&A implementation remain unanswered. In light of the lack of consistent results from prior research, scholars have called for greater focus on the events that unfold during post-deal implementation. These calls have led to a substantial and growing body of work on PMI. However, while PMI has received significant attention from scholars, the resulting literature has remained fragmented (Graebner et al., 2014). An analysis of 101 articles on M&A performance highlighted that 169 indicators for M&A illustrated considerable inconsistency in research findings. The explanation for multiple ways to measure performance is that performance, like most organizational constructs, lacks universality. The variety of measures reflects the variety of the scholars' constructions of performance and of the measurement techniques adopted. The problem is not the variety of measure, but the comparison of different measures as if they were measuring the same feature of the organization (Meglio & Risberg, 2010).

Taken all these findings into consideration this study would claim that there is a gap in the literature about how M&As effect might look like for the situation of a project-driven organizations and their effectiveness in project management.

The purpose of this paper is to analyze prior literature on mergers and acquisitions (M&A) and project management and investigate the factors that enhance process to the effectiveness of project management in ECDSWCo in relation to the recent merger integration performance.

1.4. Objective of the Study

1.4.1. General Objective

The general objective of the study was to investigate the possibility of post-merger integration (PMI) giving positive influence on project management effectiveness and to examine the critical factors that sought to link the (PMI) and (PME) of the Ethiopian Construction Design and Supervision Works Corporation (ECDSWCo)

1.4.2. Specific Objectives

- To identify the main factors leading to the successful implementation of PMI
- To identify the main factors leading to the effectiveness of project management
- To see if any, relationship exists between PMI success and PME
- To ascertain the relevance of these factors to ECDSWCo

1.5. Research Questions and Hypothesis

A positive relationship between post merger integration and project management effectiveness is sought. So, it is proposed that:

Proposition1. There is a positive influence of post merger Integration (PMI) success on project management effectiveness (PME)

Hypothesis1. H_1

There is a positive statistical relationship between PMI success and PME.

Adopting the conceptual framework, the second proposition of this study explores the relationships of PMI success variables with PME.

Proposition2. The variables of the PMI success have a positive influence on PME factors

The following hypotheses will be tested to test the relevance of this proposition;

Hypothesis2. H_2

There is a statistically significant positive relationship between PMI- synergy and PME

Hypothesis3. H₃

There is a statistically significant positive relationship between PMI-speed in integration and PME.

Hypothesis4. H₄

There is a statistically significant relationship positive between PMI- culture and people issues and PME.

Hypothesis5. H₅

There is a statistically significant positive relationship between PMI-communication and PME.

Hypothesis6. H₆

There is a statistically significant positive relationship between PMI- governance and PME.

Based on Propositions1and2, this study considers Proposition3 which is:

Proposition3. The individual PMI variables have a positive influence on individual PME elements.

These five PMI success dimensions are believed to link project management to effectiveness.

1.6. Definition of Terms

To avoid possible confusion related to definitions, we will choose our definitions and use them consistently in this paper.

Public Enterprises

Although there is no consensus on the international definition of public enterprises, the generally accepted definition is: “A Public Enterprise” is an organization established by the government under public or private law as a legal personality which is autonomous or semi-autonomous and produces/ provides

goods and services on a full or partial self-financing basis, and in which the Government or a public body/agency participates by way of having shares or representation in its decision-making structure (UN, 2005).

(Dagnachew & Addissie, 2009) defined public enterprise as a corporate economic entity with the personality of its own established by legislative enactment or decision of governmental organ to engage in the production of goods and/or provision of services for gain up on which is simultaneously imposed a significant governmental ownership and control to serve a specific societal objective

Project

Project is defined as a temporary endeavor undertaken to create a unique product or service, temporary means that the project has a definite ending point, and unique means that the product or service differs in some distinguishing way from all similar products or services (PMI, 2013, p. 4).

A project is a unique, transient endeavor, undertaken to achieve planned objectives, which could be defined in terms of outputs, outcomes or benefits. A project is usually deemed to be a success if it achieves the objectives according to their acceptance criteria, within an agreed timescale and budget (APM, 2018).

Project Management

“Project management” (PM) is the application of skills, tools, and techniques to project activities to meet a project objective. The goals are to maximize the return on project investment so that the project is completed on time, within budget, and within scope and to achieve suitable measures of quality. At its core, project management is about creating a structure to manage a process to achieve a project objective (Hazel & Jacobson, 2014).

Project Manager

The project manager is the person responsible for leading, directing, and managing the project and project team to deliver the project deliverables to an agreed time, cost, and quality/performance (Wideman, 2017)

Project Driven Organization

Project-driven organizations according to (Mathew, 2007) are businesses structured around the pursuit, planning, and delivery of projects. Many professional services firms are project-driven, including architecture and engineering design firms, as well as management and technology consultancies. Project-driven organizations can also be embedded within larger companies, such as the information technology departments, engineering groups, and research and development centers that exist as part of their parent company's overall operations.

Construction Industry

The construction industry is a sector of the economy that transforms various resources into constructed physical economic and social infrastructure necessary for socio-economic development. It embraces the process by which the said physical infrastructure are planned, designed, procured, constructed or produced, altered, repaired, maintained, and demolished (MUDC, 2012).

Merger and Acquisition (M&A)

With the argument that the distinction between " mergers " and " acquisitions " is only juridical, the existing literatures use the terms "merger", "acquisition" and "M&A" interchangeably to refer to organizational combinations, as the distinction between mergers and acquisitions may be rather elusive. A merger is the combination of two firms into a single entity, combining debt and equity. An acquisition, on the other hand, is the taking over of one firm by another either in a friendly or a hostile manner. Distinction between acquisition and merger is not relevant to this work and the terms Merger, Acquisition, Merger & Acquisition and M&A will be used interchangeably

Post-Merger Integration (PMI)

"The definition from the Institute for Mergers, Acquisitions and Alliances reads as follows: "To capitalize on the latent synergies of the newly merged or 'transition' organization, the transition process itself must reflect the principles of – and provide the conditions for – synergy throughout its design and execution. This

means promptly involving people from both organizations in core business tasks (selling, planning, decision making), as well as on merger project teams. It also means visibly demonstrating a commitment to learning and to creating together something greater than either party could create on its own.”

Project Management Effectiveness (PME)

Project Management Effectiveness (PME) is a measure of the quality of attainment in meeting objectives. It is the extent to which the goals of a project are attained, or the degree to which a system can be expected to achieve a set of specific requirements (Hyva^ori, 2006). Project manager (PM) effectiveness hinges on the “right” combination of experience, knowledge, leadership, and soft skills. Team effectiveness is an outgrowth of PM effectiveness. How well a PM creates and develops his team, and leads the project to successful execution, directly relates to this “right” combination (Banister-Hazama et al., 2012).

1.7. Significance of the Study

- To initiate further, detailed and comprehensive study on post-merger performances of similar organizations
- Lessons for future acquisitions and for management of them.
- To benchmark current PMI and project management practices against sound best practices.
- To identify areas that may need development in order to enhance the effectiveness of project management.
- To add to the project management and M&A literature, from the dual perspectives of practice and research.

1.8. Scope of the Study

This study focused on the link between PMI success and PME. The emphasis will be on the post-merger project management practices of the corporation. The inclusion criteria is applied to survey participants to consider only the project staff who have a minimum of five years working experience in the company before and after the amalgamation.

1.9. Organization of the Research Report

This research is organized into five chapters taking the following structure:

Chapter one – Introduction: introduces the reader with background information to justify the selection of the topic of the thesis; overview of the organization under study; problem statement to illustrate the gap identified in the literature in relation to merger and project management followed by the overall objective of the study which outlines what is expected of the research findings. Also, the research questions assumptions, significance, scope, definition of terms, will be given in addition to the chapter structure.

Chapter two – the literature review: examines the relevant theoretical and empirical literature in the research topic comprising two parts. Part one will be dedicated to the M&A and post M&A integration (PMI) review while Part two will be dedicated for project management effectiveness related literature.

Chapter three – research methodology: the chapter will demonstrate the appropriateness of mixed methods, which involve collecting analyzing and interpreting data using both quantitative and qualitative methods leading to the development of a questionnaire for a survey and subsequent to it a sample structure table accompanied with an explanation of how the data will be analyzed.

Chapter four – results and discussion: this chapter will articulate the findings of the research by showing how the collected data were used and analyzed.

Chapter five –summary of findings, recommendations and conclusions: in this chapter the key results of the survey are presented and discussed. The results are also compared with previous results presented in the literature review. Finally, the paper concludes with a brief summary of the main findings and some of their implications

CHAPTER TWO

Literature Review

This review of literature is organized in three main parts: the theoretical review, empirical review and conceptual framework. The theoretical review presents perspectives of some researchers on the theories of M&E and PM. The empirical review emphasizes the research methodology, findings and recommendations of the researchers in relation to PMI and PME factors. Finally the conceptual perspectives of the researchers will be discussed and from which a framework for the study will be generated.

In this research no distinction will be made between merger and acquisition. Literature in both processes will be used.

2.1 Theoretical Review

2.1.1. Types of Merger

There are four types of mergers which serve different purposes for which they are made. The various factors which compel any company to acquire or to be acquired decide the type of merger required for the particular company (Arora & Kumar, 2012) described them as follows:

Horizontal merger: a merger of two or more companies that compete in the same industry. It is a merger with a direct competitor and hence expands as the firm's operations in the same industry. Horizontal mergers are designed to produce substantial economies of scale and result in decrease in the number of competitors in the industry.

Vertical merger: a merger which takes place upon the combination of two companies which are operating in the same industry but at different stages of production or distribution system. If a company takes over its supplier/producers of raw material, then it may result in backward integration of its activities. On the other hand, Forward integration may result if a company decides to take over the retailer or Customer Company. Vertical merger may result in many operating and

financial economies. The transferee firm will get a stronger position in the market as its production/distribution chain will be more integrated than that of the competitors. Vertical merger provides a way for total integration to those firms which are striving for owning of all phases of the production schedule together with the marketing network (i.e., from the acquisition of raw material to the relating of final products).

Co generic Merger: In these, mergers the acquirer and target companies are related through basic technologies, production processes or markets. The acquired company represents an extension of product line, market participants or technologies of the acquiring companies. These mergers represent an outward movement by the acquiring company from its current set of business to adjoining business. The acquiring company derives benefits by exploitation of strategic resources and from entry into a related market having higher return than it enjoyed earlier. The potential benefit from these mergers is high because these transactions offer opportunities to diversify around a common case of strategic resources.

Conglomerate merger: These mergers involve firms engaged in unrelated type of business activities i.e. the business of two companies are not related to each other horizontally (in the sense of producing the same or competing products), nor vertically (in the sense of standing towards each other in the relationship of buyer and supplier or potential buyer and supplier). In a pure conglomerate, there are no important common factors between the companies in production, marketing, research and development and technology. In practice, however, there is some degree of overlap in one or more of these common factors.

2.1.2. Motives of Merger

A broad list of different merger motives has been proposed in the literature. According to (Aziz, 2013) any merger stems from a strategic directive identified by the acquirer. The typical decision-making process starts with research and due diligence leading to a detailed business case that proves that the acquirer would gain benefits they would not be able to realize through organic growth

(investment in internal resources and capability). The following strategic directives are not mutually exclusive, meaning that the acquirer may be motivated by one or more of them:

Creation of Synergies: synergy refers to the ability of two or more units or companies to generate greater value working together than they could working apart. There are five sources of synergy, namely reducing threats, increased market power, cost savings, increased financial strength, and leveraging capabilities. Along very similar lines six forms of synergy are identified as: shared know-how, shared tangible resources, and pooled negotiating.

Growth: (inorganic growth), which is normally faster than organic growth. Many organizations are having difficulty growing at an acceptable rate by internal means alone. They simply can't capture market share, introduce new products, acquire new customers, conquer new geographies, or eliminate the competition quickly enough without joining forces. Also a form of mitigation of risks related to unfamiliarity with new markets, experimentation, and learning curves.

Increase of Power: when markets are (or close to becoming) saturated, horizontal mergers occur to eliminate or limit competition and expand market share within the non-expandable demographic, thus enabling the influence of prices, and so forth. In its extreme form, this may lead to monopolies. Vertical integration can also considerably reduce competition and increase power through domination of critical supplies or creation of captive markets.

Acquisition of Unique Capacities and/or Resources: companies engage in M&As to gain technologies, resources, tools, intellectual property, or other resources that it would either take too long to develop internally or would need to make substantial incentives to achieve.

Unlocking Value: acquirers may identify one or more uncompetitive targets that it believes it can transform into a profitable business through availing resources, organizational restructuring, process reengineering, or other operational enhancements.

Incentives presented through International Expansion: common among acquirers seeking to extend their market reach, acquire new manufacturing facilities, develop new sources of raw materials, and access new capital markets, take advantage of lower labor costs, overcome barriers to trade, introduce new technologies to otherwise deprived markets, follow clients as they expand internationally and/or product differentiation and leverage.

Diversification: for companies to be seen and managed as a portfolio of investments and to reduce vulnerability to cash flow issues.

2.1.3. Post-Merger Integration (PMI)

Companies make acquisitions for a variety of motives, and not every one involves integration. The degree of integration necessary after an acquisition depends in part on which goals are to be met. (Heier, 2016) noted that Integration doesn't mean a hundred percent fusion of two companies. Managers rather have to determine if and to what extent the companies should grow together in order for the merger to lead to the desired results. What kind of integration is appropriate mainly depends on the strategic reason behind the transaction. A strategy to strengthen the core business can be achieved by expanding and improving the skills and resources on which the company's competitive position is based. Alternatively a strategy for an extension of the core business can be pursued, either by using existing company capabilities in related business segments or by applying new capabilities in the existing business segments. In the case of a strategy to unlock new business areas, the company enters into completely new business segments where entirely new capabilities are needed as well. The strategic direction that has been chosen influences what level of integration will be necessary after the transaction (Reed et al., 2007).

2.1.4. The four Integration Types

The model of Haspeslagh/Jemison offers two dimensions for determining the integration type: Strategic interdependence and Need for organizational autonomy. Strategic interdependence relates to value creation from sharing of

resources, from transfer of functional skills or management skills and from combination benefits. The need for organizational autonomy describes the reasoning behind leaving the targets or parts of the target organization autonomous. So companies have to answer questions like:

"Is autonomy preservation essential to reach acquisition goals and objectives?"

"How much autonomy should the target still have post integration?"

"What are the specific areas of autonomy of the target?"

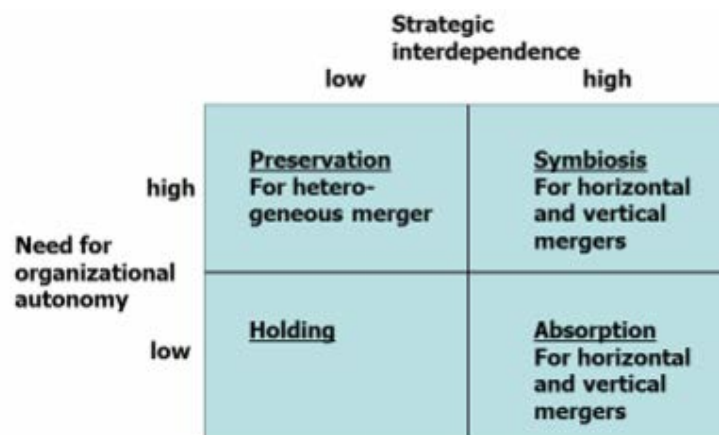
The four Integration types are:

Preservation: The target company is preserved meaning the target company remains autonomous. Nevertheless, integration of financial reporting and financial processes might make sense.

Holding: The acquiring company just keeps the ownership of the target company, but does not integrate the target company.

Symbiosis: In this merger type, companies decide where integration is needed to reach the objectives of the merger integration.

Absorption: the acquiring company fully absorbs the target company. All organizations and processes of the target company are to be fully integrated into the acquiring company. The following illustration helps to choose the right integration type.



Source: Haspeslagh/Jemison

Figure 1 Choosing the integration type

Post-merger integrations are conducted subsequent to merger transactions and generally present long-term processes that can last over several years (Heier, 2016). Regarding the window of time for implementing a post-merger plan (Reed et al., 2007) noted that, no one has ever suggested a minimum, but a number of consulting companies have suggested maximums. Realistically, the integration can take up to a year, but the more successful initiatives are completed in six months, with the most critical phases completed in three months or, more poetically, “100 days.”

2.1.5. The Construction Industry and Project Management

Project management has been developed primarily in sectors such as construction and information technology which contract and sell their services through projects. It is increasingly being used beyond traditional areas to achieve strategic objectives. Large functional organizations are realizing that project management provides a systematic, phased approach which enables them to implement strategic initiatives that are outside the scope of their on-going business (Makesh et al., 2017).

(Hendrickson, 2008) in his book discusses the participants, the processes and the techniques of project management for construction as follows: The construction industry is a conglomeration of diverse fields and participants that have been loosely lumped together as a sector of the economy. The importance of the construction industry lies in the function of its products which provide the foundation for industrial production, and its impacts on the national economy cannot be measured by the value of its output or the number of persons employed in its activities alone.

He argued that, Architects and Engineers might specialize in planning, in construction field management, or in operation, but as project managers, they must have some familiarity with all such aspects in order to understand properly their role and be able to make competent decisions.

Regarding numerous participants in the process of planning, designing, financing, constructing and operating physical facilities he added that each

participant has a different perspective on project management for construction. Specialized knowledge can be very beneficial, particularly in large and complicated projects, since experts in various specialties can provide valuable services. However, it is advantageous to understand how the different parts of the process fit together. Waste, excessive cost and delays can result from poor coordination and communication among specialists. It is particularly in the interest of owners/sponsors to insure that such problems do not occur.

He also suggested that by adopting the viewpoint of the owners/sponsors, we can focus our attention on the complete process of project management for constructed facilities rather than the historical roles of various specialists such as planners, architects, engineering designers, constructors, fabricators, material suppliers, financial analysts and others. To be sure, each specialty has made important advances in developing new techniques and tools for efficient implementation of construction projects. However, it is through the understanding of the entire process of project management that these specialists can respond more effectively to the owner's/sponsor's desire for their services, in marketing their specialties, and in improving the productivity and quality of their work.

In conclusion he stated that Improvement of project management not only can aid the construction industry, but may also be the engine for the national and world economy. However, if we are to make meaningful improvements, we must first understand the construction industry, its operating environment and the institutional constraints affecting its activities as well as the nature of project management.

2.1.6. Project Management in Project-Driven Organizations

Most project-driven organizations are highly collaborative and intellectually-oriented businesses, whose main value proposition is the expertise and knowledge they can provide their clients. A key asset of a professional services firm is the intellectual capital, or knowledge and expertise of its staff, which it leverages to sell and deliver services to clients (Mathew, 2007).

About the culture in many such firms Mathew added that, as a byproduct, the culture is technically-focused and collegial as the cultivation and dissemination of intellectual capital contributes to competitive advantage and success in the marketplace. This type of culture, while well-founded and well-intentioned, leads to challenges for many project-driven organizations as they look to develop their project management discipline and ensure that projects are managed not only to standards of technical quality but also to meet business considerations. As members of the consulting staff are placed into project management roles, they are often operating in an environment that prioritizes technical innovation and excellence over adherence to project scope, schedule and budget commitments.

Regarding the project management practices Mathew noted that, many professional services firms continue to struggle and strive for a more holistic perspective and approach to project management, one that effectively addresses the balancing act between scope, schedule, budget and quality. Part of this struggle stems from placing technically-focused personnel in project management roles without properly developing their project management knowledge and skill-set. What results is a team of project managers who view the transactional elements of project management to be outside of their job responsibilities, which in turn impedes a firm's ability to effectively monitor and control schedule and financial performance across its project portfolio.

Project-driven professional services firms rely on their project management and accounting functions to jointly facilitate several key processes including project initiation, revenue recognition, billing and collections. For many firms, these processes are marked by inefficient, unstructured collaboration between project managers and project accountants due to misaligned roles, responsibilities and tools. Some firms look to address these challenges with new business systems, but those firms that view technology as a solution unto itself often find their improvement efforts to be futile – they fail to understand that technology is only one component of the overall solution, which encompasses people, process and technology (Mathew, 2007).

2.1.7. Project Oriented Organization Structure

Project Oriented Organization is an organization in which a considerable part of its processes and activities take place in the form of projects. In the project-oriented organization projects are a natural part of its operation and the project manager has full authority to set priorities and manage the work of the people assigned to the project (Jurgens-Kowal, 2015).

The following four types of organizational structure are identified:

Matrix Organizational Structure (also project structure) - The basis of the organizational structure is a classic vertical linear structure, which is combined with a horizontal structure showing ad-hoc generated teams dedicated to special projects. The matrix organizational structure is necessary in project-oriented organizations. For different projects, different project teams are created with different managers and different roles for the individual workers nominated into individual teams.

Functional Organizational Structure- The basis of this structure is an arrangement where a worker has different managers for different areas of the organization operation. The problem of this structure is the situation known as the “martyr stake” in which the worker receives from different superiors different commands.

Linear Organizational Structure- It is one of the basic organizational arrangements. The position and relations of superiority and inferiority are arranged and oriented vertically. Each superior has clearly assigned subordinates and each subordinate has clearly assigned superior.

Strategic Business Units (SBUs) - they are usually used for large enterprises operating in various fields - such as corporations operating in many markets in many countries. To avoid any decision making concentrated only in the central management, there are created separate strategic business units - SBUs. They have quite a considerable flexibility in management and decision making, only at the level of global strategy the corporation must coordinate its activities with the

top management. Arrangement of large corporations into SBUs is an example of decentralization.

2.2 Empirical Review

2.2.1. PMI Success Factors

The common goal of all M&As is the pursuit of synergy gains. Synergy is achieved when the value of the resulting firm is greater than the sum of the acquired stand-alone values unfortunately, a great majority of mergers and acquisitions fail to achieve their hoped-for benefits (Maheshwari, 2017)..

(Heier, 2016) It is commonly known that the main problems for the responsible managers arise in the so-called post-merger integration (PMI). This is particularly significant as this is the phase where the value creation associated with the merger takes place. However, the importance of PMI often is underestimated. (Maheshwari, 2017) companies tend to treat PMI as a mechanical process that occurs after the deal is done and mistakes that influence the whole outcome of the merger are predestined.

Also, PMIs are often treated as a one-size-fits-all process. Yet each PMI have its own speed, style, focus, and rhythm (*ibid*) which makes it practically impossible for managers to derive an exact instruction manual from books or study findings on how to handle and conduct their own merger integration (Heier, 2016). The PMI process must be tailored to account for those differences.

Taking place under severe time pressure and in parallel to running the core business the post deal phase is highly complex (PwC, 2011). Despite the best intentions, deals often fall short when the time comes to begin translating carefully developed strategy into the right mix of people, process and technology. The transaction instead of generating synergies ends up reducing enterprise value.

Eventhough many scientific works as well as consulting and auditing companies have examined this issue and have elaborately described success factors and best practices of outperforming companies, the average M&A failure rate has not

significantly improved in the last decade. Existing conceptual and empirical literature, however, provides general hints and guidance on how to approach the integration project in regard to those aspects that usually matter in every merger (Heier, 2016).

In this section, the factors that enhance PMI process will be discussed. After an extensive review of an M&A literature the studies with findings of a series of PMI success factors have been selected to be used as a foundation in finding the relevant PMI factors. The outcomes of the studies will be described respectively and after that, each factor will be analyzed. The factors that will be further used in this research will be highlighted at the end of this section.

PMI Challenges and Stakes from (Vancea, 2011)

The high rate of the failure of the PMI operations is a result of unsuccessful integration of the entities due to an inappropriate management, human factors and cultural incompatibility. The findings of the research bases review of 41 relevant scientific papers and books on post M&A Integration, covering the period 1986-2009.

PMI Management

The condition for M&A to be successful is represented by the control of the integration process so that there will be a possible connection with the results of the operation. The mode to analyze and understand the management of the integration process indeed consists in the players' capability to manage, according to the objectives of the acquisition, the strategic interdependences and the needs for organizational autonomy between the units. The post-acquisition integration is a complex process whose management is centered on a necessary change.

Human Factors

The human side of the M&A operations issues are related to the organizational matching and the organizational integration problems. The creation of a reliable and morally support climate for the individuals in managing the inherent stress

occurred as a result of the changes generated by the M&A operations. This support allows the limitation of the negative effects on labor productivity.

The human factor plays a main role in the success of the integration phase and this success is perceptible on two levels which are:

- The success implies a new psychological and organizational environment after destructing the one the employees of the units belonged to.
- The success of the integration requires the rapid adaptation of the employees to the new requirements of the enterprise.

The success of the integration phase requires the setting up of continuity between the two levels and the management of the interdependencies of their elements. These two levels, when well-managed, create a solid support for the transformation of synergies into value. The lack of focus on one or another leads to frustrations, deviates resources, reduces the competitiveness of the key activities and affects the global efficiency of the transaction. The main stake of this phase consists in combining these two levels' own successful factors so that they can reach the profitable growth objectives.

The human and organizational factors may have a stronger impact on the post-acquisition performance than the external strategic factors. The acquiring firms underestimating the importance of human factors in the integration phase might face high obstacles in managing the post-acquisition operations.

Cultural Factors

Corporate culture can be defined as the assembly of attributes and values shared by the employees and which dictate the latter's professional and moral attitudes. The component elements of the corporate culture are represented by its history, its activity, brand, the organization mode, and its ethical norms. These aspects represent the values around which the identity of the enterprise is built. The values define what is important and the norms define the appropriate behaviors of the organizational members.

Lacking a well-defined integration policy and a cultural homogenization, any cultural difference between the enterprises may create antagonisms and create dysfunctions affecting the performance of the new group. The cultural diagnosis may represent a means to perceive the culture of an enterprise and to identify the risks related to the confrontation between different origin cultures.

A double strategy regarding the corporate culture must be applied. First, a formal culture” must be defined and applied, mainly, destined to the internal and external communication. This is defined by the members of the company management. Second, an “operational culture” must be defined and applied, destined to the internal structuring. Its drawing up process is much more open, implying both the management and the players involved. The combination of the two cultures and their application requires the assurance of the integration of the two units and thus, the accomplishment of the merger and acquisition operation.

Communication

An appropriate change management within an organization can be carried out only by an appropriate communication at the organizational level. Communication is very important to make the employees less resistant to change.

The initiative of the communication must come from the top management and that it must be continuous for the entire period of change. Moreover it is vital there is no any discrepancy between words and deeds. Communication represents a central pillar of the pre and post-acquisition processes, from the beginning of the operation to its end. Therefore even from the first contacts and to the end of the integration period, the management must, first of all, apply the communication strategy and different tactics especially chosen for this purpose. Communication requires in the same time the broadcasting of insertions, the psychological approach of employees in order to adapt them to the new context and also an influence strategy to mobilize and co-interest the employees in order to achieve the objectives (Vancea, 2011) .

Capabilities Needed for Successful Integration from (Bourke et al., 2018)

Bourke pointed out that following a merger or acquisition successful companies had common capabilities of “benefits realization”, “change capability” and “risk management. Seven criteria for evaluating integration success are drawn from this research.

Realizing M&A Benefits

The organizations most successful in achieving the anticipated benefits of the merger or acquisition, had all placed a high value on project a management and performance measurement.

■ *Project Management.*

The stronger performers set and adhered to a tight time frame, understood that speed was critical and recognized the danger of being internally focused for too long. They also knew the importance of aligning project approach with the degree of integration necessary. Thus, a large, complex integration required very substantial planning before implementation. The larger projects typically entailed a formal phase of intensive analysis and design.

■ *Performance Measurement.*

The companies that accomplished the smoothest integrations had developed detailed pictures of desired end states (i.e., what the organization would look like after six months, 12 months and two years). They had clear conceptions of the organization’s structure, product range, systems and distribution channels at key intervals. This is particularly important when there are large numbers of employees who need to buy into these goals. The end state pictures were typically outputs from the design and analysis effort.

Managing the Change Process

The companies that achieved the most efficient transitions had found ways to manage the M&A process while maintaining business as usual. They exercised the appropriate amount of management control, or “grip”, and had the ability to learn from experience.

■ *Management Grip*

Getting the post-merger management team to work together effectively is crucial to achieving the required degree of management grip. Divisions among management can undermine the whole exercise. Because leadership is so vital, the CEO must ascertain whether managers are truly committed to the goals or are merely paying lip service. Ground rules on acceptable behavior are needed and must be enforced. The leaders have to make decisions quickly and adhere to them.

■ *Learning From Experience*

Most organizations have been through some form of major change in their histories. The more successful ones try to learn from their experiences and apply the lessons appropriately. A post-project review should always conclude such a process, as well as specific means of capturing and disseminating the learning.

Managing the Risks

The best organizations had identified and managed the most important risks inherent in the merger or acquisition. They paid careful attention to key areas of business performance, employee perceptions and expectations, and other people issues.

■ *Attention to Critical Business Areas*

Not all corporate functions are affected similarly or are subject to the same risk of destabilization. Weak implementation has a greater impact on business performance for some functions than for others. Therefore, management must identify high-risk areas and make sure they receive the necessary attention. Some areas are obvious (e.g., distribution channels). Others are less so (e.g. management information systems, which can experience extreme stress if two product ranges are being merged).

■ *Management of Perceptions and Expectations*

Site closings emerged as a particularly thorny issue. Most companies had overestimated how many employees would voluntarily relocate as a result of the

closure. The loss of a site and of large numbers of personnel can have major consequences. For example, when one of two sites is closed, the culture of the open site will prevail. Also, if the organization's aim is to have a "best-of-both" merger or a "merger of equals", large staff losses can compromise the plan in many mergers or acquisitions

■ *Management of People Issues*

Staff generally regards a merger or an acquisition as a threat, initiating a period of uncertainty. Under-estimating the stress people experience is easy to do and risks poor morale. Management must reduce the uncertainty with strong, clear communications from the outset. Even if the news is bad, it is better to relay it than to delay it (Bourke et al., 2018).

Success Factors in PMI according to (Fuhrer et al., 2017)

PwC has conducted a survey in 2017 among top managers and M&A experts in order to understand the value drivers in a PMI process. Respondents included both successful deal makers and less successful acquirers. The results reflect the experiences from over 260 deals and reported that successful deal makers excel in four areas: achieving synergies, completing the integration within an ambitious time frame, successfully managing culture and change, and implementing strong project governance. Strong performance in these four areas is what differentiates successful deal makers from unsuccessful ones.

The four dimensions are strongly interlinked: companies who perform well in one dimension also tend to excel in the other three. This holds especially true for companies boasting strong project governance. They are able to achieve their set timelines, synergy targets and expectations regarding culture and change significantly more often.

Synergies

Synergy refers to the concept of two companies with complementary strengths and weaknesses combining their respective value and performance, resulting in total value and performance that is greater than the sum of the two companies. It

has also been defined as the increase in competitiveness and cash flows beyond what the two companies are expected to accomplish if they maintain standalone operations. If we are going to talk about something more quantifiable, we can say that synergy is that extra value that can be created from a takeover or business combination (Martin, 2016).

The PwC survey finding confirms that, synergies are a key to success and a necessary precondition to creating value with M&A through:

- Designing the target operating model (TOM) of the combined business as early as possible guides all functional integration activities as well as maximizes the benefits of the acquisition.
- Creating value through a deep integration of businesses, especially in core functions. Deal makers who integrate deeper, are more likely to realize synergies to the fullest.
- Keeping focus on synergies. Actively managing and tracking them is essential. Setting up separate dedicated work streams and keeping the organization, as well as senior management, engaged until the set targets are reached.

Speed of integration

Deal makers who manage a speedy integration benefit from the positive effects of a merger much sooner, enabling them to quickly return to managing the daily business. If the integration process drags on too long, employees can easily feel frustrated.

The research shows that successful deal makers complete most of the integration within one year after closing. Among the first business functions to be integrated are Finance and HR, as well as customer-facing functions promising quick-wins and early synergies. The challenge lies with finding the optimum balance between the speed and quality of the integration.

- Planning integration early, translating the deal rationales into a focused integration strategy and operating model, and ramping up the team, ideally before signing will save valuable time after closing.
- Being ambitious with the integration timeline. Six months are usually enough time to integrate support functions. Only in a few cases the integration of functions, as for example complex heterogeneous core functions, takes longer than one year.
- Determining the optimum speed of the integration process depending on the type and scope of the deal as there is a trade-off between quality and speed.

Culture and change management

Culture and change management are among the most unpredictable factors of deal success. If integration fails, poor culture and change management are often to blame as a majority of deal makers struggle with this area. Unlike financial and operational aspects of a deal, culture and change are more difficult to measure and control effectively.

- Aware of cultural differences and carefully assessing which change interventions will be required to foster the aspired working culture. Companies might consider active planning and systematic tracking of culture and change management measures. However, they do not necessarily need a formal process to be successful if change-experienced leadership is in place.
- Driving company's culture and change management through top and senior management to engage and motivate employees throughout the entire integration process. Being sensitive about the timing of change measures, and ensuring frequent and consistent communication.
- Always paying attention to identifying key stakeholders and critical talents within the acquired business. Offering monetary and non-monetary retention packages according to each individual's needs and create meaningful roles.

Project governance

Implementing strong project governance is essential for deal success. It strongly correlates with integration speed as well as successful culture and change management. Companies who reach their synergy targets and achieve their expectations regarding culture and change management are very likely to have robust project governance in place.

- Making sure to set up the project governance and organization well in advance. Thoroughly considering and decide as early as possible within the acquiring company how to involve leadership and employees from the target company within the project organization.
- To establish effective governance, paying sufficient attention to achieving the right balance in steering and decision-making committees.
- Defining pragmatic guidelines for decision-making and on how to assign the right resources to the right activities at the right times (Fuhrer et al., 2017).

2.2.2. PME Factors

As referenced in (Ibrahim, 2015) the subject of project management effectiveness is one of the areas that, despite extensive research, still remain controversial due to the lack of an agreed upon construct and the existence of the multi-dimensional perspectives debating this area of research. When studying effective, or successful, project management, the problem seems to be rooted in the very definition of the term which has been subjective to individual research point of view since the 1960's (Morrison, 2005).

The scholars' preference to use terms such as project effectiveness, project success, project productivity and project performance depended on their research background belonging to either project management or organizational theories and that the term 'effectiveness' is more inclusive of the objectives sought after in both sides of research (Ibrahim, A. M. 2015) Despite the broad usage of PM tools and practices across different industries, organizations are

often confused, uncertain, and have difficulties locating their current application of PM (*Ibid*).

In this section, three articles will be used to demonstrate different approaches to defining the concept of project management effectiveness.

PME factors according to (Hyväri, 2006)

Hyväri explained project management effectiveness from four perspectives: a) organizational structures, b) technical competency, i.e. project management tools and methods, c) leadership ability, and d) the characteristics of an effective project manager. This paper presents the results of a survey made in organizations among modern progressive companies

Through a survey conducted among modern project-oriented business companies, the results indicate that all the four factors are associated with project management effectiveness. The researcher asserted that the study provides empirical evidence on project management effectiveness with the intent of contributing to a better understanding and improvement of project management practices.

The survey focused on the perspective of the project client/owner/sponsor. The characteristics of an effective project manager were measured by means of leadership behavior in 14 managerial practices in the leadership behavior of project managers.

Organizational Structure/Design

(Ibrahim, 2015) elected the term “organizational design” (OD) to describe the relationship between the distinctive organizational characteristics and their substantiated behaviors due to its sociological implications in organizational theory. According to him “Organizational Design is a modal description of the interactive characteristics, of the organization’s hierarchical and social structures, responsible for its current state of effectiveness, which can be studied by analyzing its active ‘structural dimensions’ and their ‘substantiated attitudes and

behaviors' coalescing to either promote or impair organizational processes and overall ability to function effectively”

The above definition explicitly dictates the following:

- Organizational design reflects the status of organizational effectiveness.
- This status (of effectiveness) changes continuously due to the ongoing interaction between the organizational mechanistic and social structures, thus requiring continuous attention and redirection in order to maintain the desired state of effectiveness for, otherwise, the result could be the decline of the organization. The status of organizational effectiveness is therefore temporal depending on the '*mode*' the organizational design is at.
- A desired mode of 'organizational control and effectiveness' can be achieved and endured by continuously reviewing and analyzing the organizational processes and operations within which the structural and behavioral characteristics of the organizational status are reflected.
- The organizational process review shall cover both the organizational outcomes (process outputs) and human behaviors, noting that the 'process review' principally entails the pre-existing of a sufficient knowledge base about the function being performed by the organization and the theoretical background it comes from.
- The reviewed data can then be analyzed based on integrated theoretical perspectives combining organizational theory with theories of the practiced function

Technical Competency i.e. Project Management Tools and Methods,

(Zdanyté & Neverauskas, 2012) debate are going on what to choose in modern organization that has traditional project management tools or for today's constantly changing environment suitable project management tools and methods which help become advanced organization. New targets for projects were added to the common triple objective: cost, time and quality. Therefore, it is necessary to develop new techniques and tools that will allow environmental, social and economic obligations would be met. Today project management

around the world becomes the established methodology for project activities. Project organizations are using different techniques and methods, tools and principles which can achieve the highest level of quality, save resources and time, reduce risk and improve the quality of products under development and service reliability.

Leadership Ability

(Novo et al., 2017) noted the research results that a succinct list of eight core traits linked to successful project managers was identified, as well support for the non-existence of a universal method of project management capable of leading to success in all cases. He emphasized that the importance of a project manager's leadership ability. Strong effective leadership creates a cooperative team environment in which employees are encouraged to participate, grow, learn, and work together to reach the ultimate goal of organizational success. Novo's review of the researches on the topic noted that a determination of the individual qualities or traits consistent with the leadership profiles of successful managers can be assessed based upon the results of a wide body of research. Various researchers determined that qualities present in the leadership profiles of successful project managers primarily focused on sets of intellectual competencies (IQ), emotional competencies (EQ), and managerial competencies (MQ). Although traits of leadership profiles of successful project managers as a whole and those of successful project managers relevant to project type provide slightly different conclusions, the conclusive body of evidence from these studies seems to regard factors that can be processed under those of emotional competencies as the most important leadership traits found in successful project managers, and factors of managerial competencies are also important, even when broken down by project type.

Not only are leadership traits correlated with successful project managers but leadership traits are a contributing factor towards success in projects, of course leading to successful project managers. He added that studies found managerial and emotional competencies (as factors of leadership) to have important

causative effects in determining the success of a project; although it is important to note that this success can be negatively affected if the wrong leadership style is chosen and/or if the project manager is inexperienced with the project type. *(Ibid)*

The Characteristics of an Effective Project Manager

According to (Barmayehvar, 2013), the definition of effectiveness, as an elusive concern for project managers within project-oriented organizations, can be presented in terms of accomplishing the project through the high quantity and quality standards of performance, and accomplishing the project through the individuals whose satisfaction and commitment are vital. Hence, leadership, communication, and human resource management can greatly contribute to the effectiveness of project managers.

Project managers are more likely to perform better if their personal characteristics fulfill the requirements of their projects. Accordingly, it is essential to profile the personality of effective project managers in order to identify their characteristics. Effective project managers are eager to lead and do things proactively rather than reactively

Characteristics of an effective project manager: 1) Leads by example 2) Visionary 3) Technically competent 4) Decisive 5) A good communicator 6) A good motivator 7) Stands up to top management when necessary 8) Supports team members' 9) Encourages new ideas. There are some key characteristics for becoming an effective project manager such as: systems thinker, personal integrity, proactive, high emotional intelligence, general business perspective, effective time management, skilful politician, and optimist *(Ibid)*.

PME factors according to (Smith, 2008)

The study by Smith expands the initial project management effectiveness construct work of Morrison and Brown (2004). The Project Management Effectiveness Construct (PMEC) evaluates project success factors from a broad, multiple goal-oriented perspective. The PMEC contains 13 factors that measures

project management success and 82 statements about activities relevant to project planning and execution and the assessment of compliance to project management objectives.

With the aim to evaluate the effectiveness of current project management practices in project driven organizations, Smith applied the Project Management Effectiveness Construct (PMEC) questionnaire to capture a holistic view of the processes and capabilities of managing projects. Data were collected from 140 usable responses and analyzed for all 82 statements. The study reports the cumulative statistics for the 13 factors.

Smith stated that, project management is multi-dimensional; therefore, research would benefit from the use of the questionnaire based on organizational effectiveness theory to capture a holistic view of the processes and capabilities of managing projects. The PMEC is associated with the process and capability of managing project objectives. Concerned with measuring an organization's ability to consistently deliver projects, the PMEC extends beyond project selection and implementation. It was designed to measure compliance to project objectives during the project planning and execution phases. The PMEC uses a multi-dimensional approach to measure the effectiveness of success predictors, process variables, and outcome measures of a project. The PMEC incorporates multiple internal and external variables, considers variant levels of goal setting, emphasizes process and resource factors, focuses on stakeholder interests, and recognizes the open-systems nature of project management. Smith added that (PMEC) evaluates project success factors from a broad, multiple goal-oriented prospective

Smith pointed out that previous research has been directed toward producing a project success factor model. However, Morrison and Brow, argued that, due to the dynamic nature of the project culture and difficulties with best practices, most of the research has produced competing and incomplete models that have identified and measured a limited number of project success factors. As a result, existing literature is extraneous.

The 13 PMEC factors are:

- Successful project management outcomes
- Organizational goals for project management
- Project goal clarity and alignment
- Appropriate project management methodology
- Effectiveness project organization and authority structure
- Effective project organization and authority structure
- Access to the resources needed to execute projects
- Supportive organization
- Sound Communications
- Effective consultation with the client or end-user
- Quality of project leadership
- Project human resource adequacy
- Consideration for stakeholders

PME factors according to (Kwak & Ibbs, 2002)

The author presented the project management process maturity (PM)² model that determines and positions an organization's relative project management level with other organizations. The comprehensive model follows a systematic approach to establish an organization's current project management level. Each maturity level consists of major project management characteristics, factors, and processes. The model evolves from functionally driven organizational practices to project driven organization that incorporates continuous project learning. The (PM)² model provides an orderly, disciplined process to achieve higher levels of project management maturity. The (PM)² model aims to integrate previous PM practices, processes, and maturity models to improve PM effectiveness in the organization. The (PM)² model is developed by integrating previous maturity models that measure the PM levels of different companies and industries. The model becomes the basis to evaluate and position an organization's current PM maturity level. It illustrates a series of steps to help an organization incrementally improve its overall PM effectiveness.

How the distinct areas of the model can be treated as a collective indicator of the organization's PM effectiveness is explained by (Ibrahim, 2015) as follows:

- Project management maturity was defined as “a level of sophistication that indicates organization's current PM practices, processes and its performance’. The interesting word, to this author, was “performance” especially that it was mentioned in the article that the model was used on 43 organizations to identify “the relationships between levels of organizational effectiveness and actual project performance data” (note: the study was done back in 1997 through PMI's Educational Foundation).
- The relationship between PM effectiveness and PM maturity level was studied during the model application by measuring (i) PM financial effectiveness, (ii) PM return of investment (ROI) measuring and forecasting the potential benefits of investment in project management (by investing in training for example), and as would be predicted, (iii) the relationship between “PM effectiveness and project performance” in terms of achieving the performance requirements of cost, time, quality ...etc.

Ibrahim concluded that (1) the level of organizational PM maturity can be expected to be indicative of its PM project performance, and that (2) the project performance can be expected to be consistent.

Based on a review of the three articles on the factors of project management effectiveness the findings show that, the article by (Hyväri, 2006) with the intent of contributing to a better understanding and improvement of project management practices, the subject companies that bases the study are project-oriented in the sense that their main mode of operation builds on developing and selling large-scale business-to-business products and services (for example, engineering and construction projects) tailored to fit customer. Besides the attempt to investigate the effectiveness of project management is from the point of view of non-financial factors.

The PMEC factors by **(Smith, S. M. 2008)** treated the organizational project management concept from a project perspective furthermore the developed

construct was linked to business organizations applying project management more than the project-based organizations targeted in this study.

The article by **Kwak and Ibbs 2002**) listed a verifiable set of criteria describing the process maturity level for each knowledge area and project process which, upon assessment, can guide the practicing organization into achieving more PM effectiveness by incrementally progressing in the different maturity levels. However it gives an emphasis to financial effectiveness of organizations which is out of the scope of this study.

2.3 Conceptual Framework

(Correia et al., 2013) pointed out that, however, the literature on the impact of M&As on organizational performance provides mixed results. These findings notwithstanding, the level of mergers and acquisitions has not decreased, which suggests that these studies have not been “looking at the right set of variables as predictors of post-acquisition performance”. In the management literature, research has shown that M&As impact on organizational performance fails to live up to expectations, for reasons associated with HRM and employment issues being poorly handled.

The above researches on PMI and PME based their founding on literature, case studies and empirical findings, all of the authors have tested their findings in companies that have been engaged in M&A. The factors that occur twice or more are regarded as important factors that enhance the PMI process. Accordingly the following five factors are identified as the factors for PMI success: .1) Synergy 2) Speed in integration 3) Culture and people issues 4) Communications 5) Governance.

As a preferred option to measure the project management effectiveness of ECDSWCo and thereby to check the sought relationship between PMI and PME: the following four factors 1) Organizational structures 2) Technical competency i.e. project management tools and methods 3) Leadership ability, and 4) The characteristics of an effective project manager are applied.

CHAPTER THREE

Research Methodology

This research aimed at examining the factors that enhance the PMI success in relation to PME. It attempts to show that by using the proper PMI factors, and the proper PME factors, M&A may enhance PME.

The following methodology was adopted:

- Specific best practices for PMI success and PME was identified by means of a literature survey which focuses on generally accepted practices and processes.
- An assessment tool (questionnaire) was developed by the researcher based on the best practices identified to explore the possibility of PMI success giving positive influence on project management effectiveness. The assessment tool was used to evaluate the success of PMI and effectiveness of project management practices in ECDSWCo

Five factors were found as being important to enhancing the performance of PMI process and determine the PMI success: 1) *synergy* 2) *speed in integration* 3) *culture and people issues* 4) *communications* and 5) *governance*.

Four factors were identified as being important to determine PME in the project based organizations: 1) *organizational structures* 2) *technical competency, i.e. project management tools and methods* 3) *leadership ability* and 4) *the characteristics of an effective project manager*.

3.1. Research Design

A quantitative survey design was used to examine the relationship between post-merger integration and project management effectiveness. Employing a quantitative survey design was appropriate for this study, which sought to examine the correlation between post-merger integration and project management effectiveness. This study involved the measurement of post-merger integration (i.e., independent variable) and project management effectiveness

(i.e., dependent variable) correlation between these variables was assessed using the Pearson correlation statistic. The Pearson correlation statistic requires quantitative data in the form of variables measured on a continuous measurement scale. Other reasons for a survey research design were its uniqueness, which involves gathering information not available from other sources, and its standardization of measurement, which describes the same information collected from every respondent. Consistent standardized measurement across all respondents ensures that comparable information was obtained about everyone who participated in the study (Nwagbogwu, D. C. 2011).

The survey questionnaire was devised from several models and adapted by the researcher to address the research questions.

The research questionnaire was divided into the following three parts:

- *Part 1: Personal details of the respondent: - such as Gender, Age, Educational level, Years of experience and the Business Unit they are working in*
- *Part 2: Post merger integration process: - questions relating to evaluating the success or failure of the post-merger integration*
- *Part 3: Project Management Effectiveness: - questions concerning project management effectiveness practices of ECDSWCo.*

The questions included in parts 2 helps to (a) identify whether the PMI to be a success or failure; and (b) also identify the factors that contributed to the success or failure of the PMI. The questions included in part 3 provided the opportunity to assess the standard practices in the organization on project management effectiveness, measured against the identified best practices.

The questionnaire (see Appendix 1) contains a total of 30 5 demographic and 25 close ended measurement questions. The closed ended questions used in the survey sought to answer the research question and elicit information from the sample that would allow generalizations to be made. Using closed-ended questions facilitated simplicity in statistical analysis.

3.2. Data Sources and Data Collection Techniques

Both primary and secondary data source techniques were employed. A structured questionnaire survey method was selected to collect primary data. The survey design was used to understand the sample being studied or observed and to examine the relationship among the variables. A 5-point Likert-type response scale ranging from 5 (strongly disagree), 4 (disagree), 3 (undecided) 2 (agree), and 1 (strongly agree), was used to measure the dependent variable of PMI and the independent variable of PME. Using likert scale increased the ease with which participants could respond and simplified analysis. The use of the scale also provided reliability and eliminated bias.

The target population comprised project staff of ECDSWCo who witnessed the merger and who can make comparisons between pre and post project management practices. A total of 36 project staff attempted to complete the survey. However during the initial data screening process checking for extreme scores (outliers) were conducted and two scores were identified from PMI success variable. It was checked and confirmed that the outlier's score is genuine, not just an error and they are not within the range of possible scores so it was important removing the two extreme outliers from the data file therefore the completed questionnaire reduced down to 34.

3.3. Sampling Procedure

The target population for this study defined to include the corporation's project staff who witnessed the amalgamation and its effect in the project management practices of ECDSWCo. Taking into account all the departments that constituted the core business of ECDSWCo a total of 36 participants were targeted to participate in the survey. The inclusion criteria applied is a minimum of five years working experience with the company including before and after the amalgamation.

A number of standard practices from various authors were identified, which could be considered to be the best practices of PMI success and project management

effectiveness. These standards were thus used for the development of an assessment tool to investigate the link between PMI and PME in ECDSWCo

3.4. Validity and Reliability

To ensure the validity of the findings, the design of the PMI success factors and PME elements were based upon the variables described in the literature review. These researches based their founding on literature, case studies and empirical findings, and have tested their findings in companies that have been engaged in M&A. The factors that occur twice or more are regarded as important factors. A pilot questionnaire test was undertaken. Three potential participants were requested to complete a questionnaire and to present a critique of the questions. Some of the changes suggested by the participants in the pilot survey were incorporated in the final questionnaire.

Reliability was investigated for each construct using Cronbach's alpha. The alpha coefficient for all PMI scales, PME scales and overall factors was above the acceptable threshold level of 0.7 (Pallant, 2005). These results confirmed the appropriateness of further analysis of the data without any further deletion of items.

Table 1. *PME Factor - Reliability Statistics*

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Organizational Structure	6.97	8.030	.738	.880
Technical Competency	6.91	7.023	.827	.848
Leadership	7.15	7.445	.788	.862
Effective Project Manager	6.88	8.547	.754	.878

Cronbach's Alpha	N of Items
.898	4

The alpha coefficient for the four PME factors is (89.8%).

Table 2. *PMI Success - Reliability Statistics*

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Cronbach's Alpha if Item Deleted
PMI Synergy	28.79	53.735	.412	.858
PMI Speed	27.79	40.735	.739	.777
PMI Culture	26.97	38.718	.627	.818
PMI Communication	28.00	40.375	.773	.768
PMI Governance	28.21	42.422	.691	.792

Cronbach's Alpha	N of Items
.838	5

The alpha coefficient for the five PMI factors is (83.8%).

Table 3. *The over all Factors - Reliability Statistics*

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Cronbach's Alpha if Item Deleted
Organizational Structure	41.97	103.451	.749	.863
Technical Competency	41.91	104.217	.622	.868
Leadership	42.19	104.222	.661	.867
Effective Project Manager	41.88	106.500	.687	.869
PMI Synergy	38.16	101.620	.541	.871
PMI Speed	37.13	86.371	.748	.853
PMI Culture	36.38	84.435	.621	.875
PMI Communication	37.34	87.846	.718	.856
PMI Governance	37.56	89.738	.672	.861

Cronbach's Alpha	N of Items
.878	9

The alpha coefficient for the overall factors is (87.8%).

A missing value analysis is done, normality is assessed and possible outliers are checked for both PMI and PME factor variables using SPSS descriptive explore analysis (See Table 4-7 & Fig 2-9). Normality is described as a symmetrical, bell-shaped curve, which has the greatest frequency of scores in the middle, with smaller frequencies towards the extremes. Outliers describe cases with values well above or well below the majority of other cases (Pallant, 2005).

Table 4 *Descriptive Statistics*

		Statistic	Std. Error	
PMI Success	Mean	34.94	1.402	
	95% Confidence Interval for Mean	Lower Bound	32.08	
		Upper Bound	37.80	
	5% Trimmed Mean	34.77		
	Median	34.00		
	Variance	64.871		
	Std. Deviation	8.054		
	Minimum	20		
	Maximum	53		
	Range	33		
	Interquartile Range	9		
	Skewness	.405	.409	
	Kurtosis	.259	.798	
	Project Management Effectiveness	Mean	9.30	.636
95% Confidence Interval for Mean		Lower Bound	8.01	
		Upper Bound	10.60	
5% Trimmed Mean		9.19		
Median		9.00		
Variance		13.343		
Std. Deviation		3.653		
Minimum		4		
Maximum		17		
Range		13		
Interquartile Range		6		
Skewness		.331	.409	
Kurtosis		-.825	.798	

The table provided with descriptive statistics and other information concerning the variables. These include mean, median, std deviation, minimum, maximum etc. To obtain the 5% Trimmed Mean value SPSS removes the top and bottom 5 per cent of the cases and recalculates a new mean value (Pallant, 2005). If we compare the original mean and this new trimmed mean for both PMI success and PME we can see the differences are insignificant for having a strong influence on the mean. Skewness and kurtosis values are giving information about the distribution of scores. The skewness value provides an indication of the

symmetry of the distribution. Kurtosis, on the other hand, provides information about the ‘peakedness’ of the distribution. If the distribution is perfectly normal we would obtain a skewness and kurtosis value of 0.

Table 5 *Missing Values*

	Valid		Cases Missing		Total	
	N	Percent	N	Percent	N	Percent
PMI Success	33	97.1%	1	2.9%	34	100.0%
Project Management Effectiveness	33	97.1%	1	2.9%	34	100.0%

Missing Value Analysis helps to find patterns in missing values and consider how to deal with them. There is only one missing value from PMI success and PME.

Table 6 *Extreme Values PMI&PME*

		Case Number		Value
PMI Success	Highest	1	2	53
		2	7	52
		3	11	48
		4	30	48
		5	8	45
	Lowest	1	32	20
		2	31	21
		3	33	22
		4	34	25
		5	17	27
Project Management Effectiveness	Highest	1	28	17
		2	30	16
		3	9	15
		4	2	14
		5	4	13 ^a
	Lowest	1	34	4
		2	32	4
		3	21	4
		4	33	5
		5	31	5 ^b

a. Only a partial list of cases with the value 13 are shown in the table of upper extremes.

b. Only a partial list of cases with the value 5 are shown in the table of lower extremes.

This Extreme value table gives the highest and lowest values recorded for each variable, and gives the ID number of the person with that score

Table 7 Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
PMI Success	.145	33	.078	.957	33	.215
Project Management Effectiveness	.124	33	.200 [*]	.955	33	.191

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

In this Tests of Normality we are given the results of the Kolmogorov-Smirnov statistic. This assesses the normality of the distribution of scores. A non-significant result (Sig value of more than .05) indicates normality. In our case the Sig. value for PMI is .078 and for PME.200 is suggesting normality.

The actual shape of the distribution for each group can be seen in the Histograms provided (see Appendix 1). For both PMI and PME, scores appear to be reasonably normally distributed. This is also supported by an inspection of the normal probability plots (labelled Normal Q-Q Plots). In these plots the observed value for each score is plotted against the expected value from the normal distribution. A reasonably straight line suggests a normal distribution. Appendix 2 shows normal probability plots for PMI and for PME.

The Detrended Normal Q-Q Plots (Appendix 3) displayed in the output are obtained by plotting the actual deviation of the scores from the straight line. There should be no real clustering of points, with most collecting around the zero line.

In the boxplot of the distribution of scores for PMI success and PME (see Appendix 4), the rectangle represents 50 per cent of the cases, with the whiskers (the lines protruding from the box) going out to the smallest and largest values. Sometimes additional circles outside this range are shown; these are classified by SPSS as outliers. The line inside the rectangle is the median value. The distribution of scores for both PMI success and PME was reasonably 'normal'.

Often scores that are skewed, either positively or negatively do not necessarily indicate a problem with the scale, but rather reflects the underlying nature of the construct being measured.

Regarding the checking for outliers, first in the Histogram (Appendix 1), the tails of the distribution the data points sitting on their own, out on the extremes are potential outliers. If the scores drop away in a reasonably even slope then there is probably not too much to worry about.

Second in the Boxplot (Appendix 4), any scores that SPSS considers are outliers appear as little circles with a number attached (the ID number of the case). SPSS defines points as outliers if they extend more than 1.5 box-lengths from the edge of the box. Extreme points (indicated with an asterisk *) are those that extend more than 3 box-lengths from the edge of the box. In this study in the case of PMI success there are no extreme points, but there are two outliers: ID numbers 2 and 7.

From the scatterplot (Appendix 5), there appears to be a moderate, positive correlation between the two variables (PME and PMI success) for the sample as a whole. There is no indication of a curvilinear relationship, so it would be appropriate to calculate a Pearson product-moment correlation for these two variables.

3.5. Data Analysis Methods

A five Likert scale survey design (Appendix 6) was used to examine the relationship among the variables. All statistical analyses were performed using PASS v.25.0. Reliability was investigated for each construct using Cronbach's alpha (Table 1-3). A missing value analysis is done (Table 5), normality is assessed (Table 5) and outliers are checked (Appendix 1 & 4) for both PMI and PME factor variables using SPSS descriptive explore analysis (Table 5 & Fig 2-8).

The Pearson correlation coefficient was employed to examine the relationship between PMI success and PME and to identify and analyze the main findings of

the study. The relationships between the dependent variables and independent variables as well as the strength and direction of the relationship between PMI success factors and PME elements are investigated using correlation analysis.

3.6. Ethical Considerations

Ethical considerations to consider before beginning any primary research include: Informed consent, privacy and confidentiality, fabrication and falsification of data, non-publication of data and fault data-gathering methods (write.com 2018). In this study due ethical consideration is given to all activities. Although participation in this study did not pose any risks to the participants, all survey respondents gave their consent voluntarily. The survey questionnaire is free of personal identification information and to which the participants respond anonymously and independently from each other. Information retrieved from literature sources are acknowledged and correctly referenced.

CHAPTER FOUR

Results and Discussions

The purpose of this study was to evaluate the correlation between post-merger integration success and project management effectiveness as determined by the survey responses from a sample of 36 project staff from ECDSWCo. Post-merger integration success was examined from each of the following five perspectives including 1) synergy 2) speed in integration 3) culture and people issues 4) communications and 5).governance. The project management effectiveness was measured on the basis of four factors namely 1) organizational structures 2) technical competency, i.e. project management tools and methods 3) leadership ability and 4) characteristics of an effective project manager.

All statistical analyses were performed using PASS v.25.0. The variables were summarized using descriptive statistics the mean, standard deviation, minimum, maximum, for continuous scaled variables, and frequency minimum and maximum for categorical scaled variables. The correlation between post-merger integration success (the independent variable) and project management effectiveness (the dependent variable) were evaluated using a Pearson product-moment correlation coefficient.

4.1. Demographic Statistics

The demographic survey covered variables including gender, age, levels of education, number of years with current employer and the business unit they are working in. The tables 8- 12 show detail descriptions.

Table 8 *Participants by Gender Category*

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	27	77.1	79.4	79.4
	Female	7	20.0	20.6	100.0
	Total	34	97.1	100.0	
Missing	System	1	2.9		
Total		35	100.0		

Table 9 *Participants by Age Category*

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	21-30	3	8.8	8.8	8.8
	31-40	10	29.4	29.4	38.2
	41-50	15	44.1	44.1	82.4
	50 and above	6	17.6	17.6	100.0
	Total	34	100.0	100.0	

Table 10 *Participants by Educational Level*

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Bachelor degree	7	20.0	20.6	20.6
	Master's degree	26	74.3	76.5	97.1
	Doctorate degree	1	2.9	2.9	100.0
	Total	34	97.1	100.0	
Missing	System	1	2.9		
Total		35	100.0		

Table 11 *Participants by Year of Service*

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than 5 years	7	20.6	20.6	20.6
	5 - 10 years	13	38.2	38.2	58.8
	11-15 years	7	20.6	20.6	79.4
	16-20 years	4	11.8	11.8	91.2
	Above 20 years	3	8.8	8.8	100.0
	Total	34	100.0	100.0	

Table 12 *Participants by Business Unit*

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Water and Energy	14	40.0	41.2	41.2
	Transport	5	14.3	14.7	55.9
	Building and Urban Planning	4	11.4	11.8	67.6
	Geotechnical Investigation, Engineering & Underground	5	14.3	14.7	82.4
	Corporation, RLT,SGCI,	6	17.1	17.6	100.0
	Total	34	97.1	100.0	
Missing	System	1	2.9		
Total		35	100.0		

Of the 34 participants who responded to the survey, (80%) were male. Most, (91%) were 30 years of age or above. Most, (93%) have 5 years or above years of service. All (100%) of them had a bachelor's degree or a higher level of education. The three core business units, water and energy, transport and Building and urban planning had the majority (82%) participation in the survey.

4.2. Merger Motives

Companies enter into merger or acquisition for a variety of motives. The degree of integration necessary after M&E depends in part on which goals are to be met. What kind of integration is appropriate mainly depends on the strategic reason behind the transaction. The results for the six variables of motives were summarized using descriptive statistics (Table 13-18).

Table 13 Merger Motives-Synergy

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly agree	9	25.7	26.5	26.5
	agree	20	57.1	58.8	85.3
	undecided	3	8.6	8.8	94.1
	disagree	1	2.9	2.9	97.1
	strongly disagree	1	2.9	2.9	100.0
	Total	34	97.1	100.0	
Missing	System	1	2.9		
Total		35	100.0		

Table 14 Merger Motives-Growth

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly agree	13	37.1	38.2	38.2
	agree	17	48.6	50.0	88.2
	undecided	1	2.9	2.9	91.2
	disagree	3	8.6	8.8	100.0
	Total	34	97.1	100.0	
Missing	System	1	2.9		
Total		35	100.0		

Table 15 *Merger Motives-Power*

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly agree	6	17.1	18.8	18.8
	agree	16	45.7	50.0	68.8
	undecided	6	17.1	18.8	87.5
	disagree	3	8.6	9.4	96.9
	strongly disagree	1	2.9	3.1	100.0
	Total		32	91.4	100.0
Missing	System	3	8.6		
Total		35	100.0		

Table 16 *Merger Motives-Diversity*

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly agree	11	31.4	33.3	33.3
	agree	21	60.0	63.6	97.0
	undecided	1	2.9	3.0	100.0
	Total	33	94.3	100.0	
Missing	System	2	5.7		
Total		35	100.0		

Table 17 *Merger Motives- Cost Saving*

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly agree	9	25.7	26.5	26.5
	agree	15	42.9	44.1	70.6
	undecided	6	17.1	17.6	88.2
	disagree	3	8.6	8.8	97.1
	strongly disagree	1	2.9	2.9	100.0
	Total		34	97.1	100.0
Missing	System	1	2.9		
Total		35	100.0		

Table 18 *Merger Motives Competiveness*

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly agree	8	22.9	24.2	24.2
	agree	21	60.0	63.6	87.9
	undecided	4	11.4	12.1	100.0
	Total	33	94.3	100.0	
Missing	System	2	5.7		
Total		35	100.0		

From the output shown above all of the variables are considered as major motives of the merger with a response range between (69%-97%) by the majority of respondents: Synergies (85%), Growth (88%), Increase of power (69%), Diversity (97%), Cost Saving (71%), and Competitiveness (88%)

4.3. Pearson's r Correlation

A positive relationship between post merger integration and project management effectiveness is sought. So, it is proposed that:

Proposition1. There is a positive influence of post merger Integration (PMI) success on project management effectiveness (PME)

Hypothesis1. H_1

There is a positive statistical relationship between PMI success and PME.

Adopting the conceptual framework, the second proposition of this study explores the relationships of PMI success variables with PME.

Proposition2. The variables of the PMI success have a positive influence on PME factors

The following hypotheses will be tested to test the relevance of this proposition;

Hypothesis2. H_2

There is a statistically significant positive relationship between PMI- synergy and PME

Hypothesis3. H_3

There is a statistically significant positive relationship between PMI-speed in integration and PME.

Hypothesis4. H_4

There is a statistically significant relationship positive between PMI- culture and people issues and PME.

Hypothesis5. H_5

There is a statistically significant positive relationship between PMI-communication and PME.

Hypothesis6. H₆

There is a statistically significant positive relationship between PMI- governance and PME.

Based on Propositions1and2,this study considers Proposition3 which is:

Proposition3. The individual PMI variables have a positive influence on individual PME elements.

These five PMI success dimensions are believed to link project management to effectiveness.

Cronbach's Alphas were between 0.85 and 0.88 for the post-merger integration and project management effectiveness scores; (see Table 1-3). Thus, each of the independent and dependent variables had acceptable internal consistency reliability.

The scatter plot (Fig 10) shows a moderate, positive correlation between the two variables (PME and PMI success) and for the sample as a whole. There is no indication of a curvilinear relationship, so it would be appropriate to calculate a Pearson product-moment correlation.

The relationships between the dependent variables and independent variables were investigated using bi-variate correlation analysis. Results are given in (table 11). Correlation provides with Pearson r correlation coefficients between each pair of variables listed. For each pair of variables the r value, the significance level and the number of cases given. According to (Pallant, 2005) the output from correlation allows:

- Checking the information about the sample. The N (number of cases) shows if there are a lot of missing data
- Determining the direction of the relationship. A negative sign in front of the r value means there is a negative correlation between the two variables (i.e. high scores on one are associated with low scores on the other). The interpretation of this depends on the way the variables are scored.
- Determining the strength of the relationship. The size of the value of Pearson correlation (r). (This can range from -1.00 to 1.00) will indicate the strength of

the relationship between the two variables. A correlation of 0 indicates no relationship at all, a correlation of 1.0 indicates a perfect positive correlation, and a value of -1.0 indicates a perfect negative correlation. Different authors suggest different interpretations; however, Cohen (1988) suggests the following guidelines:

$r = .10$ to $.29$ or $r = -.10$ to $-.29$ small

$r = .30$ to $.49$ or $r = -.30$ to $-.49$ medium

$r = .50$ to 1.0 or $r = -.50$ to -1.0 large

The negative sign refers only to the direction of the relationship, not the strength. The strength of correlation of $r = .5$ and $r = -.5$ is the same. It is only in a different *direction*.

Table 19 Correlation between PMI Success and PME

		Organizational Structure	Technical Competency	Leadership	Effective Project Manager	Project Management Effectiveness
PMI Synergy	Pearson Correlation	.516**	.452**	.564**	.612**	.606**
	Sig. (2-tailed)	.002	.008	.001	.000	.000
	N	33	33	34	34	33
PMI Speed	Pearson Correlation	.611**	.409*	.437**	.601**	.577**
	Sig. (2-tailed)	.000	.018	.010	.000	.000
	N	33	33	34	34	33
PMI Culture	Pearson Correlation	.403*	.371*	.405*	.408*	.454**
	Sig. (2-tailed)	.020	.033	.017	.017	.008
	N	33	33	34	34	33
PMI Communication	Pearson Correlation	.513**	.392*	.424*	.317	.468**
	Sig. (2-tailed)	.003	.027	.014	.073	.007
	N	32	32	33	33	32
PMI Governance	Pearson Correlation	.587**	.343	.399*	.391*	.486**
	Sig. (2-tailed)	.000	.051	.019	.022	.004
	N	33	33	34	34	33
PMI Success	Pearson Correlation	.671**	.503**	.553**	.593**	.654**
	Sig. (2-tailed)	.000	.003	.001	.000	.000
	N	32	32	33	33	32

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

* . Correlation is significant at the 0.05 level (2-tailed).

Reading the Pearson's correlation matrix, it was observed that there is a large correlation between the two variables suggesting quite a strong relationship between PMI Success and PME. The results showed that PMI success factor was significantly correlated with the PME factors construct and with each of its variables.

- a. All of the research hypotheses are supported. There is a statistically significant relationship ($p < 0.01$) between the independent variables and PME. The final row of Table 11 shows the corresponding r values.
- b. The highest value is for PMI success showing the strongest correlation (0.645) between the independent and dependent factors.
- c. Correlation associations for PMI synergy and PMI speed have the highest coefficient values (0.606, 0.577 respectively) and hence are highly associated with the PME.
- d. The remaining three variables (PMI culture, PMI communication and PMI governance) also have statistically significant relationships ($p < 0.01$) though correlation coefficient values are between 0.4 and 0.5.
- e. There are high correlation coefficients between the individual variables of PMI success and the individual variables of PME.
 - i. PMI Synergy, PMI speed, PMI communication and PMI governance are showing correlation value of 0.5 and above with Impact on Effective Project Manager and Organizational Structure. The highest correlation value is observed for PMI Synergy Impact on Effective Project Manager (0.612) and PMI Speed Impact on Organizational Structure.
 - ii. PMI Synergy shows a considerably higher correlation coefficient values (all r values (4.5 to 6.1) for all PME variables

CHAPTER FIVE

Summary of Findings, Conclusion and Recommendations

5.1. Summary of Findings

This research aimed at examining the factors that enhance the PMI success in relation to PME. Before engaging in an empirical research, the study presents an extensive literature review of M&A and project management. The literature on M&A has been used to find the factors that enhance the PMI success while the PM literature has been analyzed to find the factors that enhance PME. Specific best practices for PMI success and PME was identified based on generally accepted practices and processes. An assessment tool (questionnaire) was developed based on the variables identified to explore the possibility of PMI success giving positive influence on project management effectiveness.

A quantitative survey design was used to examine the relationship between post-merger integration and project management effectiveness. The survey questionnaire was devised from several models and adapted by the researcher to address the research questions. The participants in the survey were 34 project staff of ECDSWCo who witnessed the merger and who can make comparisons between pre and post project management practices of the corporation. This study involved the measurement of post-merger integration (i.e., independent variable) and project management effectiveness (i.e., dependent variable) correlation between these variables was assessed using the Pearson correlation statistics.

This study provides empirical evidence of the relationship between PMI success and PME and explains how factors of PMI success can enhance the PME among project staff within ECDSWCo. The statistical findings reported in chapter 4 indicated statistically significant positive correlation between PMI success and PME, $r(34) = 0.65$; $p < .001$. Among the 34 study participants, those with higher PMI synergy and PMI speed scores tended to have higher PME scores.

The results also showed there is high correlation coefficients between measures of the five PMI success and the four measures of PME. PMI Synergy, PMI speed, PMI communication and PMI governance are showing correlation value of 0.5 and above with Impact on Effective Project Manager and Organizational Structure. The highest correlation value is observed for PMI Synergy Impact on Effective Project Manager (0.612) and PMI Speed Impact on Organizational Structure. PMI Synergy shows a considerably higher correlation coefficient values (all r values between 4.5 and 6.1) for all PME variables

5.2. Conclusions

The findings of this study supported the research hypothesis and demonstrated that a significant, positive relationship does exist between post merger Integration success and project management effectiveness. Although this study did not identify a cause-and-effect relationship between PMI success and PME, the findings do imply that the PME might be improved by successfully implementing the PMI process.

Based upon the findings of this research by paying greater attention to the positive relationship between PMI success factors and organizations performances, project based organizations that enter into merger or acquisition can increase their rate of project management effectiveness

5.1. Recommendations

For companies that plan to enter into merger or acquisition, it is important to be aware of that the post-merger integration phase is the most important in that, the success in this stage leads eventually to a better organizational performance. The degree of integration necessary after the merger depends in part on which goals or motives of the merger are to be met. Merger doesn't require a hundred percent integration. The emphasis here needs to be to what extent the companies should grow together in order for the merger to achieve its intended objective and increase effectiveness in its overall performance.

Due to time constraints this study is limited to the context of the ECDSWCo and the sampling of data involved only a small sample of project staff. Therefore the results may only be considered valid in this particular context.

The statistical techniques used in the analysis are only a small sample of all the different approaches that can be applied. Majority of these statistical techniques to data analysis are not to use on small samples. That is, with small samples we may obtain a result that does not generalize (cannot be repeated) with other samples.

Future research can collect data from larger population and from other project based organizations. A cross-sectional research over many organizations would be beneficial to see whether the findings are replicated.

This study also explored the validity of the variables/factors that were proposed by the literature in the context of ECDSWCo. However it is recommended that other factors that can influence PME be explored further, to be used for larger scale research.

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APPENDIX

Appendix 1: Histogram for PMI and Histogram for PME

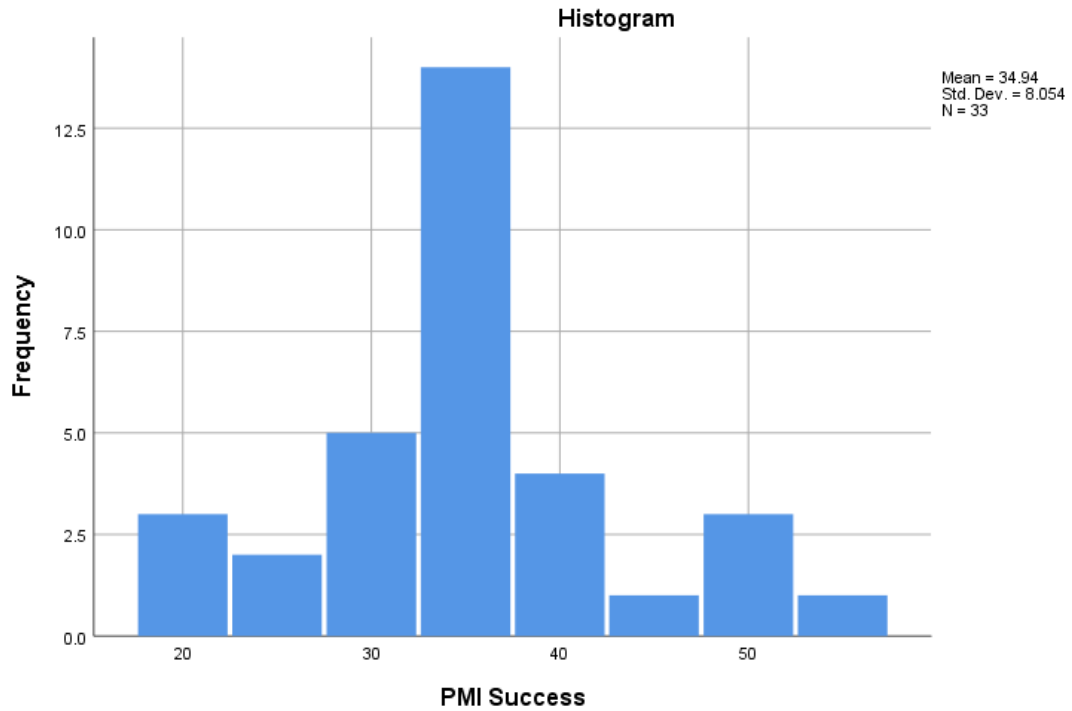


Figure 2 Histogram for PMI success

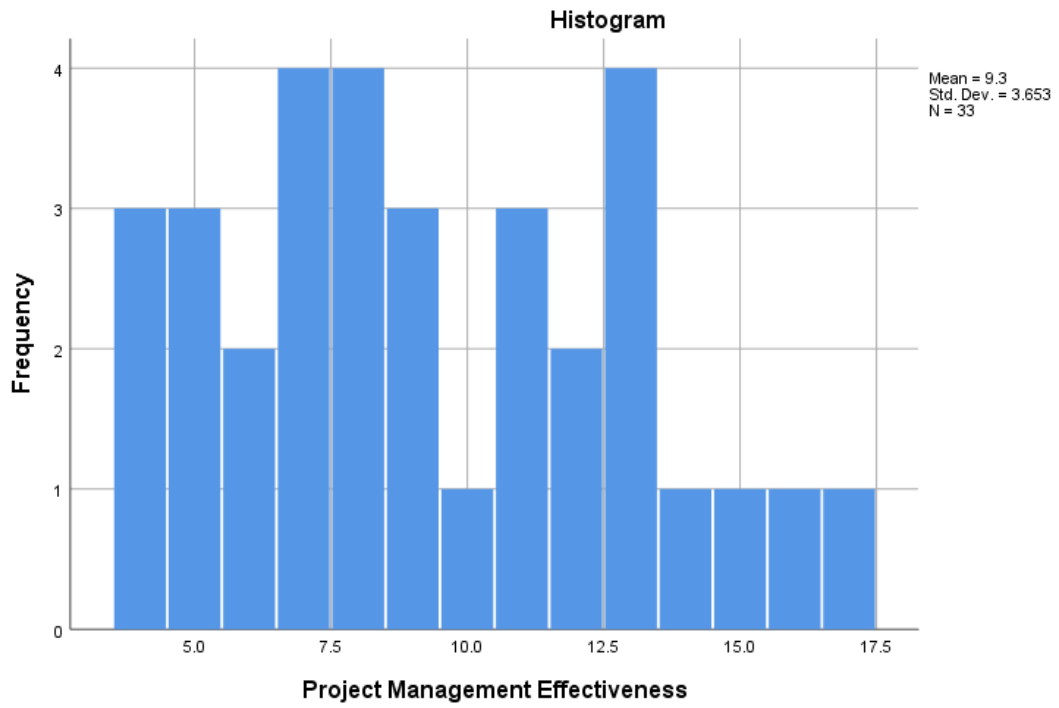


Figure 3 Histogram for PME

Appendix 2: normal probability plots for PMI and for PME.

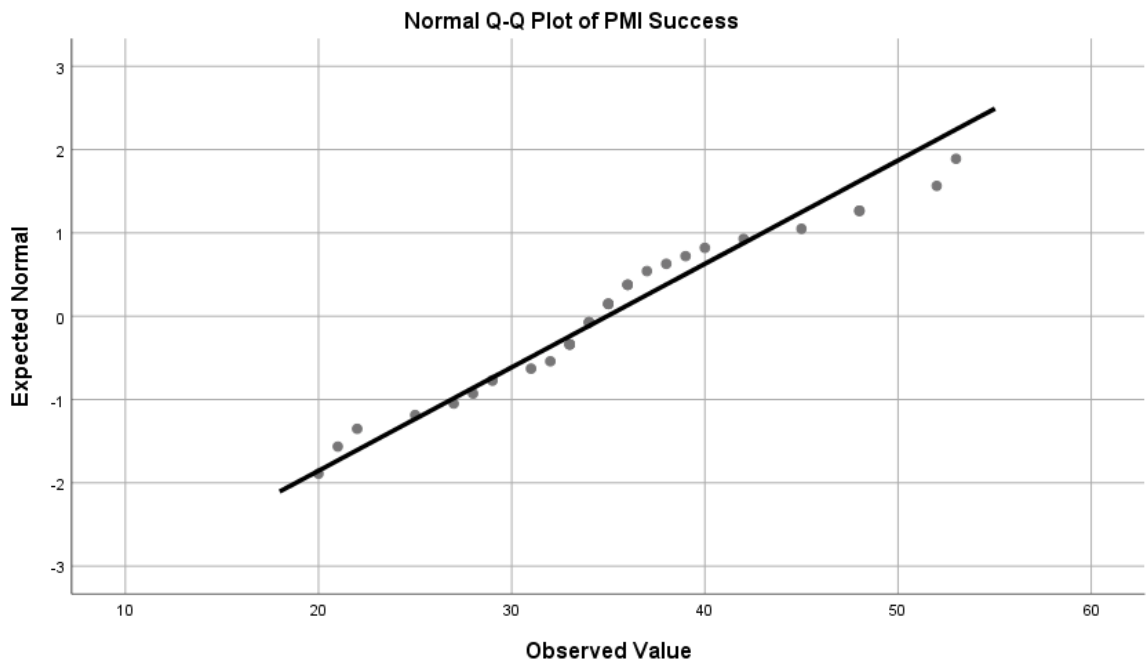


Figure 4 *Normal Q-Q Plot for PMI success*

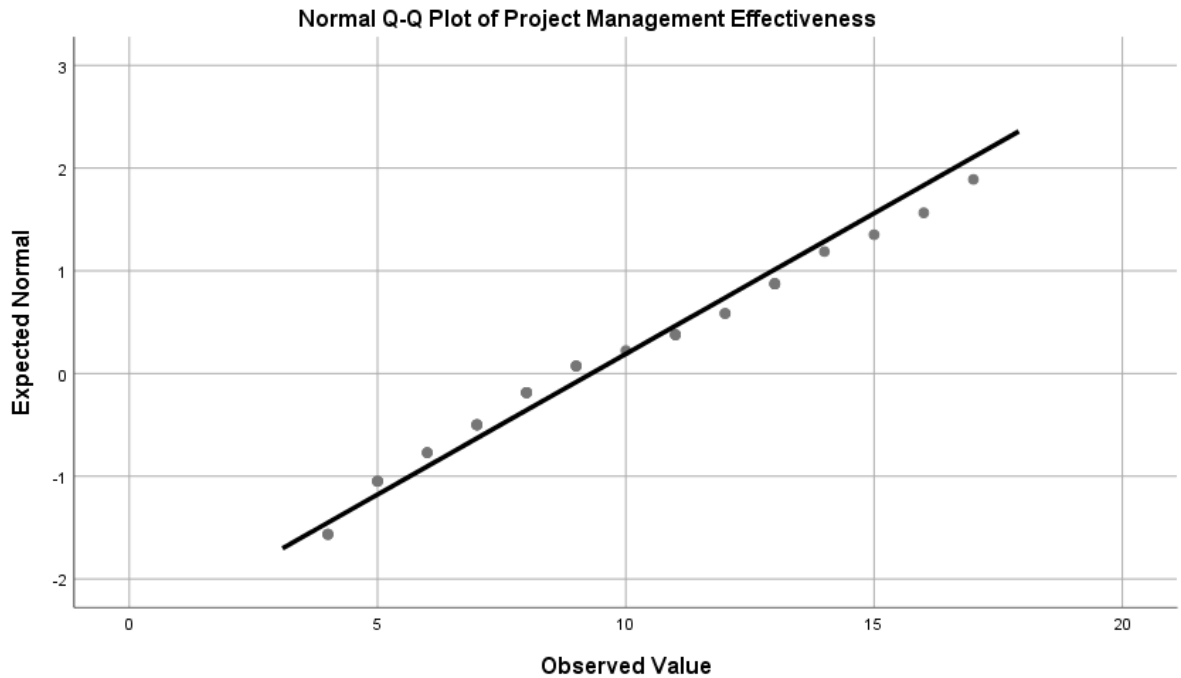


Figure 5 *Normal Q-Q Plot for PME*

Appendix 3: Detrended normal probability plots for PMI and for PME.

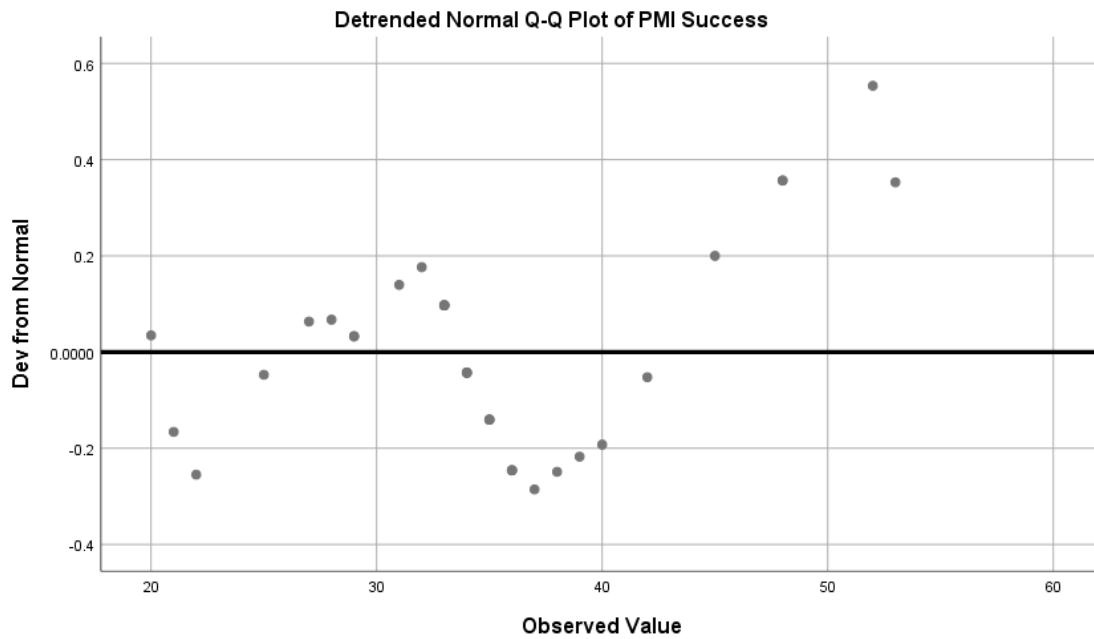


Figure 6 Detrended Q-Q Plot of PMI success

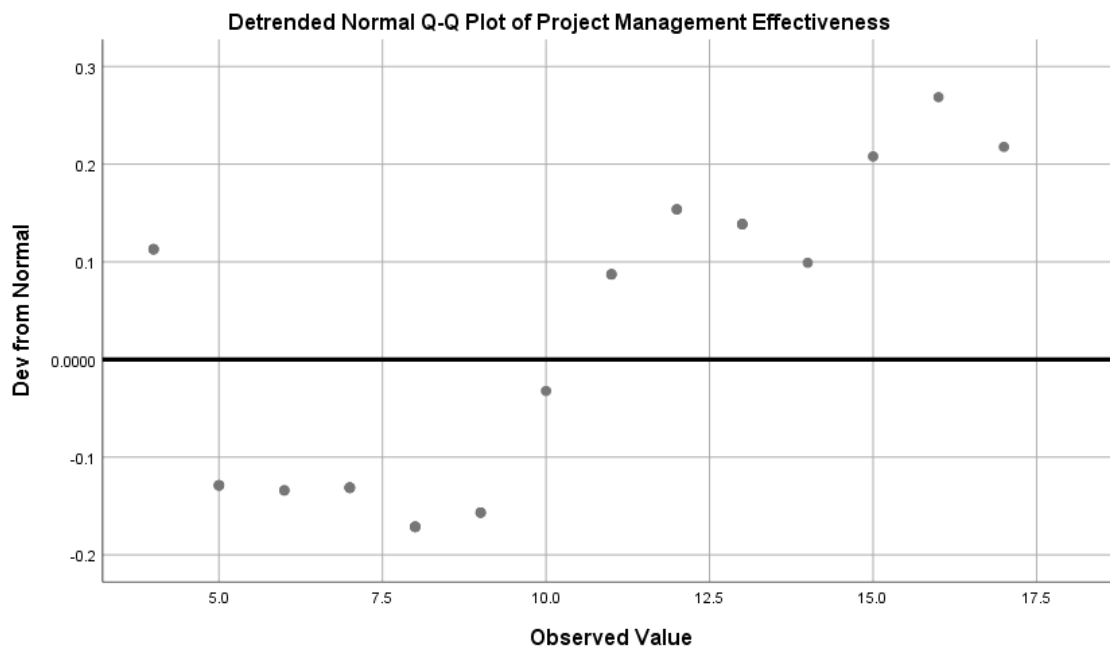


Figure 7 Detrended Normal Q-Q Plot for PME

Appendix 4: Boxplots for PMI and for PME.

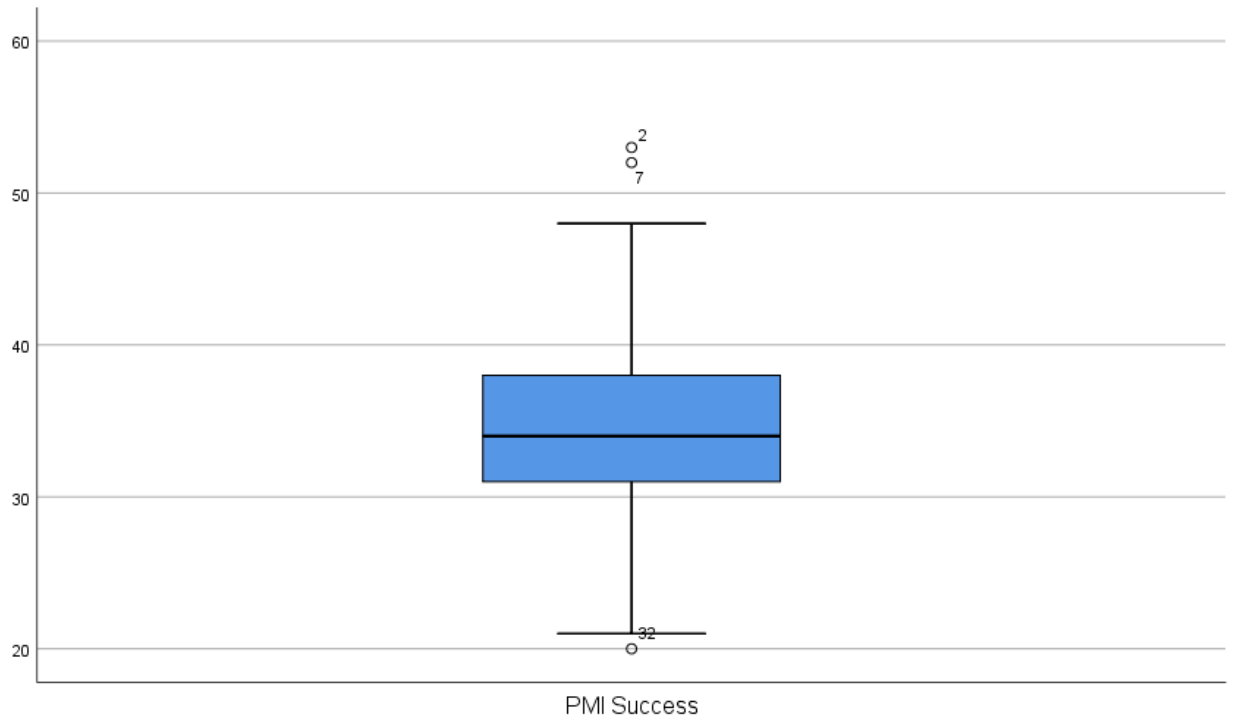


Figure 8 *Boxplot for PMI success*

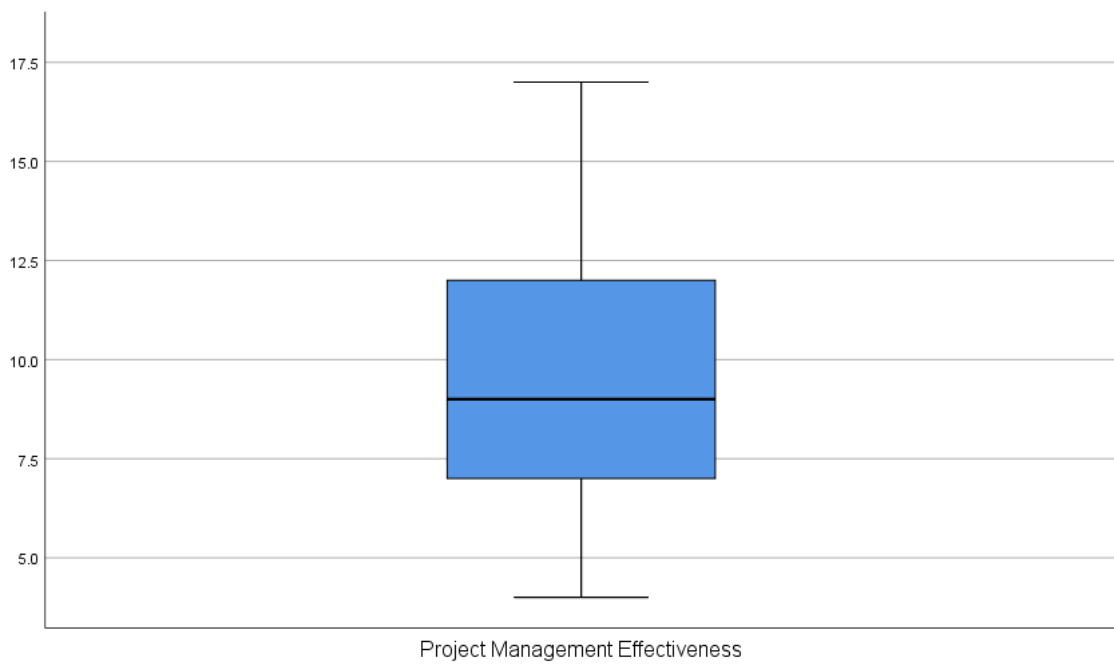


Figure 9 *Boxplot for PME*

Appendix 6: Survey Questionnaire.



Seek Wisdom, Elevate your Intellect and Serve Humanity



Research on Amalgamation of Design and Supervision Works Public Enterprises in Ethiopia: Factors that Enhance the Project Management Effectiveness in relation to Post Merger Integration Success

Dear Respondent,

I am currently conducting research for my Master's Degree in Project Management at Addis Ababa University School of Commerce.

I have chosen to conduct a research on the factors that enhance the project management effectiveness following post-merger Integration. The main objective of my study is to investigate the possibility of the post-merger integration giving positive influence on project management effectiveness of ECDSWCo.

I hereby request your consent and support in conducting this research by completing the attached questionnaire. Your responses are highly confidential and will be treated as such.

Thank you for your co-operation and assistance.

Best regards,

Ejigayehu Zewdie

f. SBU6 Surveying, Geospatial, and Civil Informatics Center ()

Part 2: Post Merger Integration (PMI) Capability Assessment Questionnaire

Please evaluate each of the following 25 statements and indicate to what extent you agree or disagree that the statement is a true reflection of the situation in ECDSWCo.

Make your choice by clicking in the appropriate box.

This category identifies the major motives of the merger and assesses how the post-merger integration performs in terms of 1. Synergy 2.Speed in integration, 3.Culture and people issues 4. Communications and 5.Governance



		5 Strongly Disagree	4 Disagree	3 Undecided	2 Agree	1 Strongly Agree
i. Merger Motives –Looking back over the past two and half years of the merger activity in ECDSWCo, how important have the following different motives been?						
1	Creation of synergies: the ability to generate greater value by working together	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2	Growth: enlarge the product line or complement the products or services	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3	Increase of power: enabling the influence of prices through domination of critical supplies or creation of captive markets.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4	Diversify offerings and benefit from areas of shared expertise, unique capacities and/or resources	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

5	Cost saving through consolidation/ economies of scale and through eliminating redundant functions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6	Gain competitive advantage and avoid competitive disadvantage	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
II. Post-Merger Integration capability						
Synergy						
7	Synergies to be achieved planned in advance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8	The most important business functions promising a high level of synergies identified	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9	Key performance indicators (KPIs) identified to be able to track progress in achieving synergies	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Speed in Integration						
10	Integration planned early in the process	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11	Realistic schedule developed	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12	The optimum speed of the integration process determined	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Culture and People Issues						
13	Cultural differences acknowledged	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

14	The critical culture gaps determined	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
15	A detailed picture of the future culture defined	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Communication						
16	Communication strategy and different tactics especially chosen for the purpose applied	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
17	Systematic, frequent and consistent communication continuous for the entire period of change ensured	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
18	Transparency and two-way interaction encouraged	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Governance						
19	The target operating model (TOM) or a blueprint of the combined business designed	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
20	The project organization established well before closing.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
21	The project Organization Included employees from all organizations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Part 3. This category concerned with the degree to which the project management practices in ECDSWCo reflect effectiveness. This will be judged according to the four key factors identified in the literature: 1.Organizational structures 2.Technical competency, i.e. project management tools and methods 3.Leadership ability, and 4.The characteristics of an effective project manager

		5 Strongly Disagree	4 Disagree	3 Undecided	2 Agree	1 Strongly Agree
Organizational Structure						
22	The structure fosters cross functional cooperation, effective communication and effective project planning with a minimum amount of disruptions, overlaps and conflict.	○	○	○	○	○
Technical competency, i.e. project management tools and methods						
23	Different techniques and methods, tools and principles are used which can achieve the highest level of quality, save resources and time, reduce risk and improve the quality of products under development and service reliability	○	○	○	○	○
Leadership						

24	<p>The leadership creates a cooperative team environment in which employees are encouraged to participate, grow, learn, and work together to reach the ultimate goal of organizational success</p>	
<p>The characteristics of an effective project manager</p>		
25	<p>The project managers accomplished projects through the high quantity and quality standards of performance, and accomplishing the project through the individuals whose satisfaction and commitment are vital</p>	

Thank You!