ST. MARY'S UNIVERSITY

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CRITICAL SUCCESS FACTORS FOR PROJECTS FINANCED BY DEVELOPMENT BANK OF ETHIOPIA

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DECLARATION

I hereby that the work which is being presented in this entitled "CRITICAL SUCCESS FACTORS FOR PROJECTS FINANCED BY DEVELOPMENT BANK OF ETHIOPIA" is original work of my Owen, had not been presented for a degree of masters in any other university, in any projects by any means, and all the source materials used for this thesis has been accordingly acknowledged..

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Surafel Gashaw Date

This is to certify that the above declaration made by the candidate is correct to the best of my knowledge.

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Dr. Abebaw Kassie (Advisor) Date

St. MARY'S UNIVERSITY SCHOOL OF GRADUATE STUDIES -MBA PROGRAM

CRITICAL SUCCESS FACTORS FOR PROJECTS FINANCED BY DEVELOPMENT BANK OF ETHIOPIA

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ABBREVIATIONS AND ACRONYMS

DBE - Development Bank of Ethiopia

SPSS - Statistical package for social science

CSFs: Critical success factors

PFDBE- Projects financed by development bank of Ethiopia

PRSF – Project-related success factors

PCRSF – procurement and contract related success factors

PMRSF - Project management related success factors

ORSF- Organization related success factors

CRSF - Client related success factors

PMRRSF - Project manager related success factors

CSRSF - Contractor/ supplier related success factors

EWERSF - External and work environment success factors

ABSTRACT

The present work attempts to identify critical success factors that have an impact on the successes of projects financed by Development Bank of Ethiopia. Several literatures have been reviewed and 34 variables have been identified to develop the conceptual framework of the study. The study employed a descriptive and explanatory research design. The study used a quantitative research approach where a stratified sampling technique is used to gather information from selected directorate staff in the Bank. A total of 81 questionnaires were distributed to directors, team managers, engineers, and loan officers who work at various levels in the bank's headquarters. Secondary data was used to contextualize and discuss the theoretical aspect of the study. Whereas Principal Component Analysis (PCA) statistical estimation technique, as well as its related data testing tools (*Bartlett's test of sphericity and the Kaiser-Meyer-Olkin (KMO)), were used. The exploratory factor analysis was demonstrated and eight major principal components (dimensions) of CSFs were extracted for this particular project work, these are already labeled as project-related factors, procurement and contract, project management related factors, organizational Related Factors, project owner related factors, contractor and supplier-related factors, and project manager related factors and business & work environment-related factors. According to the research findings, external and work environment factors are the most important, followed by project manager-related factors, and contractor-related factors are the least important in order of importance. Hence, the bank should allocate adequate resources to identify more critical success factor since each critical success factors while contributing to project success they influence other input parameters (success factors) as well.*

Keywords: - Projects financed by Development Bank of Ethiopia, critical success factors,

Chapter one

INTRODUCTION

1.1 Background of the Study

Development banks are intended to provide medium to long-term funding for productive investment in developing countries, frequently supplemented by technical assistance. Since the 1950s, the number of development banks has risen rapidly; the International Bank for Reconstruction and Development and its affiliates have supported them. The Inter-American Development Bank, founded in 1959; the Asian Development Bank, which started operations in 1966; and the African Development Bank, established in 1964, are among the main regional development banks. They may make loans to private or public bodies for particular national or regional ventures or may work in collaboration with other financial institutions. The recognition and promotion of private investment opportunities have been one of the key activities of development banks. While most development banks' activities are geared towards the industrial sector, some are also concerned with agriculture. (Chris Hmphery (2015) & Nicholas Bruck (1998))

The Development Bank of Ethiopia (DBE) is the main strategic government bank starting from 1902 E.C specialized to spur the national development agenda through project and lease financing. The distinctive feature of DBE is its lending culture, focused on "project". Bank-funded projects are carefully chosen and ready, thoroughly assessed, closely monitored, and systematically evaluated. The Bank provides loans to loan-worthy borrowers and projects that have earned a detailed evaluation and are financially and economically viable and socially beneficial in terms of the conservation of the environment, the capacity to generate jobs, and other social benefits that may be included in the Government's Development Regulation Act. The Bank’s focal point is the provision of customers focused on financing projects through loans endorsing the priority areas of government-Commercial Agriculture, Agro-Processing, Manufacturing, and mining Industries, preferably export focused-by mobilizing funds from domestic and foreign sources while ensuring its organizational sustainability. (DBE annual report 2020).

Effective project management relies on the identification of critical project success determinants, typically referred to as CSFs (Ika, Diallo, & Thuillier, 2012; Nauman, Mansur Khan, & Ehsan, 2010; Söderlund, 2011). Knowing the critical factors influencing project success helps to predict project sustainability, diagnose challenges, and prioritize resource allocation (Khang & Moe, 2008). Therefore, to systematically and quantitatively analyze these variables, predict possible effects, and then choose suitable approaches to deal with them, the company must have an understanding of what the critical success factors are (Kwak & Anbari, 2009). Hence, DBE needs to understand the critical factors that influence project success. This is not only vital for monitoring purposes or assessment of the project status, but also in guiding project managers and policymakers in identifying potential problems and allocating the necessary resources to guarantee project completion and success.

This study is, therefore, aimed at providing a model to help improve project success rates in DBE. It seeks to realize that by identifying and analyzing the Critical Success Factors (CSFs) that are specific to projects in DBE, which might inform project planners in project formulation, guide in planning, and improve project implementation efficiency that could lead to cost reduction. Moreover, the study examined the empirical relationship between success factors that affect the success of DBE financed projects.

1.2 Statement of the problem

It has been observed that DBE financed projects frequently fail to achieve their goals due to several problems that could be imperfect project design, poor stakeholder management, delays between project identification and start-up, delays during project implementation, cost overruns, coordination failure, etc. (Belay Teferra (2017) and Ifa Shiferaw (2018). (Belay Teferra (2017) and Ifa Shiferaw (2018). In addition to this, currently, it is common to watch foreclosure advertisements of DBE Bank on its advertising board and this simply indicates the failure of many projects.

According to Mobey and Parker (2002), in order to increase the chances of a project's success, the organization must first understand what the critical success factors are, then systematically and quantitatively assess these critical factors, anticipating potential effects, and finally choose appropriate methods of dealing with them.

Another research Kuen (2004) concluded that projects have a specialized set of critical success factors that, if addressed and prioritized, increase the likelihood of successful implementation. Therefore, this research study tried to identify those critical factorsthat affect the success of projects financed by the Development Bank of Ethiopia.

In 2018, Biniam Alem has attempted to provide conceptual sets of critical success factors (CSFs) for projects financed by DBE. The Reacher used Most, if not all, of the list of success factors related to the project manager and to the organization (DBE) the project belongs to, and seem to ignore project characteristics, factors related to other stakeholders such as project owner, contractors & suppliers and factors external to the project. Therefore, this study has focused on those factors.

1.3 Objective of the Study

1.3.1 General objective:

The general objective of this study is to determine CSFs that have an impact on the successes of projects financed by DBE

1.3.2 Specific objective

1. To identify the success factors from literature and grouped them into eight categories namely project-related factors, project management factors, organization-related factors, procurement and contract related factors, project owner/client-related factors, project manager related factors, contractor/ supplier related factors, and external and work environment factors.".
2. To determine critical success factors in the order of their importance.
3. To explore the inter-relationships between factors affecting the success of DBE financed projects.

1.4 Research Question

The survey attempts to resolve the research problem by representing the accompanying fundamental research questions.

1. What are the critical success factors that influence the success of projects financed by DBE?
2. How many groups of Variables (CSFs) or components that have considerable joint influence the success of projects financed by DBE?
3. What is the inter-relationship between these factors the success of projects financed by DBE?

1.5 Scope of the Study

The scope of this study is to find out critical success factors that are specific to DBE Financed Projects and was examines the empirical relationship between a specific set of DBE financed project CSFs as regarded from the attitude of DBE employees (Contact Officers or Team Leaders. To do so, the research focused mainly on a literature review and questionnaire survey. Moreover, the research participant was from the core process of the Bank at the Corporate level i.e.1) Customer relation and management directorate, 2) Project appraisal

directorate, 3) Project Rehabilitation and loan recovery directorate, and 4) Engineering Services directorate selected from the head office of the Development Bank of Ethiopia, as these process units are the core process units that are responsible for all DBE financed projects form planning up to implementation and also until the debt is fully covered by the project owner. However, the study has excluded Regional and Branch office data as large-scale projects mostly financed by head office. A Questionnaire survey was conducted from April 26– May 26, 2021.

1.6 Limitations of the Study

This study was carried out on the development bank of Ethiopia. The findings out of this study might be generalized and might not apply to other banks in Ethiopia because of the uniqueness of projects. Larger research would be more appropriate for the generalization of the findings to the entire Banking Sector Projects in Ethiopia.

1.7 Significance of the Study

Identifying the critical success factors that are specific to projects in the bank (DBE) have great Significance to help to recognize critical success factors that the bank must pay closer attention to so that DBE financed project projects can be completed within budget and schedule, to an acceptable level of quality, and the satisfaction of end-users. And also the study has significance in addressing the crucial problem to the bank as it has not been studied by others before. Lastly, the study has also provided some relevant information to the academicians, researchers, corporate managers, policymakers; and generally for business practitioners who are willing to conduct a study on this topic.

1.8 Organization of the Project Work

The project is divided into five major chapters. The first chapter provides a general background or highlights of the problem, as well as its concerns or approach. The second chapter provided a detailed review of related literature to the study. The third chapter contains a detailed research methodology used for this project work. The fourth chapter consists of Data Presentation, Analysis and Result Interpretations. The final chapter of this study concluded the study by providing a summary of the results summaries, conclusions, and recommendations.

Chapter two

LITERATURE REVIEW

2.1. Introduction to Literature Review

The purpose of this research paper is to identify the critical factors (CSFs) that have impact on the successes of projects financed by DBE. Therefore, this section presents some ideas regarding what defines a project, what project management is and briefly reviews of the project success. Following this overview, an introduction to critical factors for project success shall be discussed.

2.2 Theoretical Review

2.2.1 Project

In different pieces of literature, a project can be defined in different ways, and varieties of definitions provide a more complete image of what a project is.

According to Cooke-Davies (2002), a project is "a complex effort to accomplish a particular goal within a timeframe and budget target, which normally cuts across organizational boundaries, is special and is not typically repeated within the organization.

Project is an endeavor in which human, material, and financial resources are coordinated in a novel way to carry out a particular scope of work, according to a set of specifications, within budget and time constraints, to achieve positive change specified by quantitative and qualitative goals (Turner and Müller, 2003).

In the 3rd edition of the PMBOK (Project Management Body of Knowledge, project is defined as a "temporary endeavor with a beginning and an end that must be used to produce a specific product, service, or result," according to this description, are activities that cannot be continued indefinitely and must have a defined purpose.

Nevertheless, Despite the different project definitions, the literature review revealed that 'defined start and end,' 'common objective,' and 'complex set of activities' are the three most common features shared among all projects and hence found in almost every project definition.

2.1.2 Project management

(Munns & Bjeirmi, 1996) described project management as "the process of monitoring the achievement of project goals using established organizational frameworks and resources and managing the project using a set of tools and techniques without interfering with a company's or organization's routine operations."

Furthermore, Gardiner (2005, p.5) suggests a more (success) based definition for project management, which is more applicable to this study's research context. Project management, according to Gardiner, is the planning, monitoring, and control of all aspects of a project, as well as the motivation of all those involved in it, to achieve the project objectives on time and within specified cost, quality, and time constraints. Gardiner (2005, p. 5) simplifies this definition into two main points: "managing" and "successfully". According to Gardiner (2005), ‘managing' entails ‘planning, monitoring, controlling, and motivation,' while ‘successfully' entails ‘on time, within budget, in terms of quality, and in terms of results' (Gardiner, 2005, p.5).

Kerzner (2013), on the other hand, prefers to make a distinction between project management and successful project management. According to Kerzner (2013), project management entails project planning and monitoring, while effective project management entails achieving project goals within time and budgetary constraints while still delivering the desired performance level together with effective and efficient use of resources.

2.1.3 Project success

While project success is a core concept of project management, a review of the literature on project management shows that there is no consistent definition of project success in the literature on project management. Different success appraisers view the success of a project differently (Shenhar et al., 2001). As Prabhakar (2008, p. 3) noted, therefore, the only consensus seems to be the disagreement on what constitutes project success.

According to Pinto & Slevin (1988), the 'project success' not only meets cost, schedule, and performance requirements based on their research conducted with over 650 project managers but also includes fulfillment of more complicated requirements, such as customer satisfaction. (Prabhakar, 2008 and Cooke-Davies, 2002) address the achievement of customer satisfaction along with the end result that has a critical effect on the perceived success or failure of projects (Prabhakar, 2008). On the other hand, De Wit (1988) describes project

success as the measurement of project outcomes against costs, time and quality. He points, however, to a distinction between the project success and the project management, success.

In an effort to measure success properly, De Wit (1988) believes that a distinction should be made between project management success and project success. These are two closely related terms, but they may show major distinctions. Project management success is calculated on the basis of fundamental criteria/restrictions for success, while project success refers to the overall achievement of a project's goals and objectives. This means "Good project management can lead to project success, but it is unlikely to prevent project failure" (De Wit, 1988, p.165).The relationship between project success and project management success is less dependent than originally thought, according to Munns and Bjeirmi (1996), as these terms should be explicitly differentiated in order to determine project success. Both principles focus on a project's successful execution, but they represent entirely different goals and character. For example, there are projects that have not been completed within the predetermined restriction (poor project management) which appear to be great success over time and vice versa (Munns and Bjeirmi, 1996).

In addition, Baccarini (1999), who attempts to contribute to this gap in the literature through his logical framework method, also attempts to establish a viable basis for project success definition (LFM). Like some of his colleagues, Baccarini(1999) based his work on ten-year-old research by De Wit (1988).).). Baccarini (1999) distinguishes project success in two aspects: project management success (focusing on the project process and predetermined restrictions) and product success (focusing on the effects of project outcomes). Product success is linked to objectives and goals, according to Baccarini (1999), while project management success is linked to project outputs and inputs (On the opposite hand, another stream of researchers, including Pinto and Slevin (1987), Belassi and Tukel (1996) Lim and Mohamed (1999) prefer to not distinguish between project management success and project success as two distinct concepts rather consider project management success as being a part of and contributing to ‘project success’.

Furthermore, According to Müller and Turner, (2012), determining success criteria and critical success factors (CSFs) are constituents of project success. Project success criteria are the dependent variables (principles, measures, standards) that assess and evaluate a project's successful outcome, while project success factors are the independent elements of a project (set of conditions, facts, elements, and influences) that can increase the likelihood of success.

In other words, to measure success, success criteria are used while success factors promote the achievement of success.

According to Mobey and Parker (2002), to increase the possibilities of a project succeeding it is necessary for the organization to possess an understanding of what are the critical success factors, to systematically and quantitatively assess these critical factors, anticipating possible effects, and then choose appropriate methods of handling them. Once identified, the successes of the project are often achieved.

According to my review of the literature on project success, and in agreement with other scholars, project success is a complex and subjective issue that varies based on the perspectives of the parties involved. Therefore, in the scope of this study, project success is defined as meeting project objectives within specific time, cost, and quality constraints while also satisfying end beneficiaries and key stakeholders, as defined by the Project Management Institute (2013).

2.1.4 Introduction in to Critical success factors (CSFs)

The term "critical" means "to work with creating joint pictures of where you are going, what goals and visions you have, as well as creating an ability to think together, regardless of your background or personal goals" (David, 2006, 38). According to Fang(2005)., the best success refers to the best results that an organization can achieve with enterprise systems in relation to its business situation, as measured against a portfolio of project, early operational, and long-term business metrics. And optimal success can be dynamic, in the sense that what an organization is capable of achieving may change over time as business conditions change.

The term "critical success factor" has been adapted for a variety of purposes (Caralli, 2004,). And CSFs will most likely differ from one company to the next, as well as from one business unit to the next. People in the business unit most likely identified the (CSFs) when gendering business strategy for their units. Many researchers have investigated CSFs with the goal of defining CSFs, and the consensus is that there is no single definition of CSFs Hwang and Lim (2012). Table 00 depicts the various definitions of CSFs held by various researchers.

Researcher	CSFs definition
Belassi and Tukel's (1996)	Factors from the outside environment over which management has no control that can

	determine the success or failure of a project
Vu Nga(2007)	the set of circumstances, facts, or influences which contribute to the project outcomes
Chen (2011)	Input factor to the management system that leads to the success of a project or business, either directly or indirectly.
The Dictionary of business (2008)	An element of organizational activity which is central to its future success.

The benefits of defining CSFs are that they are easy to understand; they help concentrate attention on major issues; they are easy to talk to colleagues; they are easy to monitor; and they are often used in combination with methodologies of strategic planning. In order to achieve success, critical success factors are used significantly to present or identify a few primary factors that companies can specialize in.

Instead, critical success factor requirements were discussed during the 1970s-1980s as a response to project success indicators at the implementation level, focusing on time, cost, and quality, as well as stakeholder satisfaction (Jugdev and Müller, 2005). It was Pinto and Slevin (1987), who first attempted to develop a comprehensive set of CSFs linked to the success of project implementation. Pinto and Slevin (1987) propose a project implementation profile (PIP) model in their work consisting of 10 CSFs. The ten factors were:

Project Mission: Initial clarity of goals and general directions;

Top Management Support: Willingness of top management to provide the necessary resources and authority/power for project success;

Project Schedule/Plans: A detailed specification of the individual action steps required for project implementation;

Client Consultation: Communication, consultation, and active listening to all impacted parties;

Personnel: Recruitment, selection, and training of the necessary personnel for the project team;

Technical Tasks: Availability of the required technology and expertise to accomplish the specific technical action steps;

Client Acceptance: The act of "selling" the final project to its ultimate intended users;

Monitoring and Feedback: Timely provision of comprehensive control information at each stage in the implementation process;

Communication: The provision of an appropriate network and necessary data to all key actors in the implementation;

The PIP model of 10 CSFs, was claimed to be suitable as an instrument for project managers to measure those factors (Pinto and Slevin, 1987).

2.2 Empirical study

In several studies, the 10CSFs of Project Implementation System (PIP) has also been used as a model for many types of projects (Pinto and Prescott, 1988, Finch 2003, and Hyvari, 2006). However, not every factor involved in project management is probably going to be covered by the variables defined by Pinto and Slevin. Finch (2003) suggests that a variety of critical external factors influencing the success of a project aren't taken under consideration within the PIP model like the political activities within the organization, competence of the project manager, external organizational and environmental factors, and responsiveness to the perceived need of project implementation. Subsequent studies conducted during the 1990s-2000s, however, integrate the difficulty of stakeholders also as interactions between internal and receiving organizations as factors crucial to the success of a project (Jugdev and Müller, 2005).

In their research conducted in 1996, Belassi and Tukel critique previous studies, whose critical success factors focus primarily on the project manager and project organization. In their context, they integrate characteristics of the project and team members as well as external factors. Therefore, their framework classifies project CSFs into four group areas: factors related to the project, factors related to the project manager and the team members, factors related to the organization and factors related to the external environment. In addition, Belassi and Tukel's (1996) framework offers an explicit and systematic way to analyze the intra-relationships between factors in different classes. This system involves the grouping of success indicators for the project, but it is standardized rather than unique to the industry.

Steinfort and Walker (2011, pp.11-12), like Belassi and Tukel (1996), regrouped project critical success factors into four different groups. The suggested groups are: 1) factors related to leadership (project mission, top management support, communication), 2) factors related to stakeholder involvement (client consultation, communication, client acceptance)3) technical expertise factors (personnel, technical task, trouble-shooting), and 4) operational planning and control factors (project schedule/plans, monitoring and feedback, trouble-shooting).

Another researchers Christopher Christopher and Debadyuti (2015) used a similar approach of grouping critical success factor into six to study Critical Success Factors influencing the Performance of Development Projects in Kenya. They suggested that the success of development projects depends on project related, client related, consultant related, contractor related, supply chain related and external environment related factors. The empirical findings of the study and the subsequent analyses reveal that the project related factor is the most important one followed by client related factor while contractor related factor turns out to be the least in order of importance.

Khang and Moe (2008) proposed a project life-cycle-based framework model for international development projects from another approach that addresses critical success factors corresponding to the different stages of the life cycle phases of the project, namely conceptualizing, planning, implementing and closing. Khang and Moe (2008) proposed 18 critical success factors in their analysis that are expected to influence project success.

Ofori (2013) carried out its research in Ghana through an exploratory approach to identify and analyze the quality of project management practices and the critical success factors for projects. He divided the critical success factors into two categories when analyzing the results of the study: factors that hinder project success and factors that promote project success. The factors hindering the success of the project have been described as:: lack of support/finance; lack of communication; lack of coordination and commitment; lack of experienced and competent personnel; high bureaucracy in government institutions; and lack of consultation with stakeholders. While factors that facilitate project success were found to be effective communication, coordination and commitment; top management support; effective planning; having experienced and competent project personnel; teamwork; and good leadership.

In their study, Lavagnon, Amadou and Denis adopted an interpretive approach to examine project success factors for projects sponsored by the World Bank through a questionnaire and unstructured data collection interviews. The research also aimed to clarify the correlation

between the critical success factors (CSFs) and the success of the project as viewed by the Task Team Leaders (project supervisors). The statistical findings of the study indicate that there is a positive relationship between five identified CSFs and project success. Monitoring, teamwork, architecture, preparation, and the institutional environment are the five CSFs listed. According to the research, design and monitoring are the most prominent CSFs for project supervisors (avagnon, Amadou and Denis (2011).

Dr. Richard and Andrew have conducted recent research on crucial success factors in 2016. In order to collect data from 95 project practitioners in the Ghanaian banking sector, the study followed a quantitative research methodology and used survey methods. Results from the analysis showed that seven (7) factors out of eighteen (18) critical factors associated negatively with project success. According to the study, the five (5) most critical success factors that affected banking sector projects in Ghana were improper feasibility studies, inadequately specified tasks, ineffective monitoring and control, improper description of requirements and lack of user participation.

A research conducted by BETHLEHEM (2019) is one of the recent Ethiopian studies focused on CSFs. Her studies have indicated that: six were considered to be critical success factors in the context of real estate development projects in Addis Ababa i.e. client objectives, client core competency, project team leader's performance, project management actions, economic environment and physical environment. From the critical success factors, project management actions, project team leader's performance and client core competency were found to have a strong positive relationship with real estate development project success.

Similarly, Mamaru, Dr. Ing-Esayas & Sintayehu Assefa's (2016) study sought to research Major Success Factors on Building Construction: the Case of Bole Sub City, Addis Ababa. the study identified leadership skills of a project manager; project clear objective; adequacy of funding; decision-making effectiveness; project monitoring; project manager's commitment to satisfy quality, cost &time; project manager's early & continued involvement within the project; contractor's cash flow; Site management; coordinating ability and rapport of project manager with contractors/ subcontractors; project manager's authority to form a financial decision, selecting key team members; organizing skills of a project manager are the highest ten major success factors consistent with their significant on a building project in Bole Sub City so as to accomplished projects successfully.

The Stefani (2017) thesis is another Ethiopian study focused on CSFs. The research was carried out to determine critical success criteria for the cargo terminal expansion projects of Ethiopian airlines. Results from this study showed that the main CSFs impact of project success are:' Project objective,' Top management support,' Project scheduling and planning',' Resource',' Monitoring, evaluation and feedback', 'Technical competency and Communication.

2.2.1. Research gaps

The researcher has reached up on a conclusion, based on a review of the literature, that there is no coherent CSF structure. Instead, depending on project type, how the researchers describe and define them, there are distinct views on what constitutes CSFs. According to Yang, Shen& Ho 2009, the unique nature of projects dictates that critical success factors identified in one project cannot be directly transferred to other project. In addition, the success factors are usually listed as either very general factors or very specific factors affecting only a particular project. However, lacking a comprehensive list makes it difficult not only for project managers but also for researchers to evaluate projects based on these factors (Belassi, W., Tukel, O.I., (1996). Therefore, after conducting a thorough review of previous literature in order to identify a number of factors that influence the success of various projects, the researcher classified CSFs into eight distinct categories in this study. These include project related factors, procurement and contract, project management related factors, organizational Related Factors, project owner related factors, contractor and supplier related factors, and project manager related factors and business & work environment related factors. The identification of the groups to which the critical factors belong would be sufficient for better evaluation of different projects Since DBE already financed different projects such as Commercial Agriculture, Agro Processing, Manufacturing, and mining.

I. Success Factors related to the project

The nature of a project highlights some critical success factors. For example, if a project is urgent, time is a critical factor. The size, value, and uniqueness of a project's activities can be difficulty to a project manager who is used to planning and coordinating common and simple activities (Belassi & Tukel, 1996, p144). So, the researchers identified three (3) project related factors from different literatures and are summarized on table.

Table 1 Success Factors related to the project

	Project related factors	Reference Literature
1	Size of the project	Belassi and Tukel (1996), Finch (2003) , Potti, Shiva and Gopalkrishna (2014) , Christopher and Debadyuti (2015), Murat & Mohammed (2019), Mamaru Ing-Esayas, & Sintayehu (2016), Zakar, Michael & Alan(2016)
2	Location of the project	
3	Uniqueness of the project activities	

II. Success Factors related to procurement and contract

Procurement and contract-related factors are essential in determining project success. Leading to problems in providing necessary equipment and equipment delivered with incorrect specifications, the project's acquisition method is critical to project success (Imran Mehmood, 2017). Hence, Two (2) widely recognized procurement and contract related success factors from different literature have been identified by the researcher listed in the table below.

Table 2 Success Factors related to procurement and contract

	Procurement and contract related factors	Reference Literature
1	Effective procurement and tendering methods	Belassi and Tukel (1996), Finch (2003) , Potti, Shiva and Gopalkrishna (2014) , Christopher and Debadyuti (2015), Murat & Mohammed (2019), Mamaru Ing-Esayas, & Sintayehu (2016), Zakar, Michael & Alan(2016)
2	Effective contract formulation and contract Administration	

III. Success Factors Related to the Project Management

Project management techniques, along with a number of other factors, have an impact on project success, AL-Hajj & M. Zraunig (2018). So, seven widely recognized project management related factors from different literature have been identified by the researcher and are summarized in Table below.

Table 3 Success Factors related to procurement and contract

	Project management related success factors	Reference Literature
1	Effective communication among all project participants	Pinto and Slevin (1987), Belassi and Tukel (1996), , IRJA HYVÄRI(2006), Khang and Moe (2008) Steinfort and Walker (2011) Finch (2003), Ngcho(2015) Mamaru, Dr. Ing-Esayas & Sintayehu Assefa's (2016), and Neringa, Audrius, Valentinas & Nerija (2014). IRJA HYVÄRI(2006)
2	Adequate project control and change management	
3	Project performance monitoring and feedback	
4	Effective quality assurance program	
5	Adequate use of project management tools and methodology	
6	Decision making effectiveness	
7	Risk identification and allocation	

IV. Success Factors related to organization

These are the factors that influence the project's organizational support, according to Belassi and Tukel (1996). Tukel and Rom (1995) agreed in this context that top management support is one of the most important factors for project success, regardless of industry. So, Four (4) widely recognized organization related success factors from different literature have been identified by the researcher and are summarized in the Table below.

Table 4 Success Factors Related to organization

	Organization related success factors	Reference Literature
1	Top management support and commitment	Pinto and Slevin (1987), Belassi and Tukel (1996), IRJA HYVÄRI(2006) , Khang and Moe (2008) Steinfort and Walker (2011) Finch (2003), Ngcho(2015) Stefani (2017) and Neringa, Audrius,Valentinas & Nerija(2014)
2	Organizational /corporate Culture	
3	Adequate project funding/ budget to completion	
4	Appropriate organizational structure	
5	Training (TR)	

V. Success Factors Related to Project owners/clients

The client related factors concerned with client characteristics, client type and experience. The researchers identified three (3) project owner /client's related factors from different literatures and are summarized on table.

Table 5 Success Factors Related to clients

	Project owners/Clients Related Factors	Reference Literature
1	Adequate experience on similar projects	Pinto and Slevin (1987), Belassi and Tukel (1996), Potti, Shiva And Gopalkrishna(2014) Christopher and Debadyuti (2015), Murat & Mohammed (2019), Mamaru Ing-Esayas, & Sintayehu (2016) and Neringa, Audrius,Valentinas
2	ability to make timely decision	
3	Client's risk attitude (willingness to take risk)	

		& Nerija(2014)

VI. Success Factors related to project manager

According to Belassi and Tukel (1996), these are the factors that are directly related to the project manager's skills and characteristics. In a previous study, Pinto and Slevin (1989) discovered that appointing project managers with appropriate administrative and technical skills is an important factor for successful project completion. Hence, the researchers identified five (5) project owner /client's related factors from different literatures and are summarized on table.

Table 6 Success Factors Related to project manager

	Project manager related factors	Reference Literature
1	PM's competence and experience	Belassi and Tukel (1996), IRJA HYVÄRI(2006), Khang and Moe (2008), potti, shiva andgopalkrishna (2014) Christopher and Debadyuti (2015), Murat & Mohammed (2019), Mamaru Ing-Esayas, & Sintayehu (2016), and Neringa, Audrius,Valentinas & Nerija(2014)
2	Project Manager's authority to take decisions	
3	Project Manager's managerial, Coordinating and leadership skills.	
4	Adaptability to changes, management of RISK	

VII. Success Factors Related to Contractor and Supplier

Client experience, knowledge, client confidence in the team, and client project management are all client-related factors. These factors, according to Potti Srinivasa Rao, Shiva Prasad H C, and Gopalkrishna B (2014), have a significant impact on project success. As a result, the researchers sourced six (6) Contractor and Supplier-related factors from various literatures and listed on table below.

Table 7 Success Factors Related to Contractor and Supplier

	Contractor/ Supplier related factors	Reference Literature
1	Contractor's/ supplier's competence and commitment	Pinto and Slevin (1987), Belassi and Tukel (1996), Potti, Shiva And Gopalkrishna(2014) Christopher and Debadyuti (2015), Murat & Mohammed (2019), Mamaru Ing-Esayas, & Sintayehu (2016), and Neringa, Audrius,Valentinas & Nerija(2014)
2	Contractor experience	
3	Site management	
4		
5	Use of advance technology & equipment's	
6	Economic and financial situation	

VIII. Success Factors related to business & work environment

Business and work environment factors are outside of the organization but still have an impact on project success or failure. These factors, according to Morris and Hough (1987), have an impact on projects at all stages of their life cycle. As an example, they stated that natural disasters and Political conflicts could have an impact on a project at any stage of its life cycle. Hence, the researchers identified seven (7) project related factors from different literatures and are summarize on table.

Table 8 Success Factors Related to business & work environment

	Business & work environment related factors	Reference Literature
1	Economic related factors (e.g. exchange rate, inflation, Price escalation etc.).	Belassi and Tukel (1996), Finch (2003) , IRJA HYVÄRI(2006), Potti, Shiva and Gopalkrishna (2014) Christopher and Debadyuti (2015), Murat &
2	Political related factors (e.g. political interference, Political conflicts, vandalism etc.).	
3	Socio-cultural related factors (e.g. customs, norms,	

	values, languages, educational level, attitude towards Social responsibility etc.).	Mohammed (2019), Mamaru Ing-Esayas, & Sintayehu (2016), and Neringa, Audrius,Valentinas & Nerija(2014)
4	Technical and technological environment	
5	Physical environmental factors	
6	Site related factors (access road, ground conditions)	
7	X-Factor (fraudulent practices, corruption, favoritism, Lack of ethics, etc.)	

2.4 Summary

To summarize, a success factor is a situation that requires special attention in terms of project management due to the importance of achieving project success. There are numerous factors that influence project success. Based on the data from the literature review, it is possible to conclude that the research variables in this study can be divided into eight main category factors, which are as follows: project related factors, procurement and contract, project management related factors, organizational Related Factors, and project owner related factors. Project owner related factors, contractor and supplier related factors, and project manager related factors and business & work environment related factors.

Chapter Three

METHODOLOGY

3.1 Introduction

The different methodologies that will be used in the research are listed in this section. . This includes the study design, the targets population and sampling technique, sampling design, sources of data, data collection instrument, procedures of data collection, methods of data processing and data analysis, reliability analysis and ethical considerations.

3.2 Research design and Approach

According to Sekaran and Roger (2011), research design is a master plan which defines the methods and procedures for gathering and analyzing the information needed. This study has adopted both descriptive and explanatory research design Explanatory design since the aims of this research to identify critical success factors of projects and finding relationships between different factors in their influence on DBE financed projects.

The study is quantitative in its approach; the quantitative data research relies on the measurement and analysis of statistical data to produce quantifiable conclusions.

3.2 Target Population

In designing any sample design, the critical step is to define the collection of objects, technically called the universe (population). For the purpose of this study, the target population consisted of all staff and officials working at the head office of the Ethiopian Development Bank. The population of study consisted of all the 395 staff professional workers of the banks.(source :DBE, HR Department)

3.3 Sampling Unit

The researcher selects samples from participating groups, most importantly directors' offices, and team managers, team members (officers and engineers) who directly oversee various projects, including mega projects, located in different parts of the country. Depending on the amount of project expense, project type and investment sector, the type of projects can vary. However, all projects fall in to the priority areas of the government including Agriculture, Agro Processing, Manufacturing, Construction, Mining and Extractive industries.

3.4 Sampling size

By considering the homogeneity of the respondents and factors such as time, cost and energy to reduce the sample size the researchers applied in the formula given below at 10% precision level (Israel 2009).

$n= N/1+N (e)^2$

Equation 1

Where N- total population=395

e- Precision level=0.1

$n= 395/1+N (0.1)^2$

n – Sample size= 81

3.5 Sampling Techniques

Stratified random sampling is the sampling method used for the purpose of this study. The stratification technique is often used in the preparation of sample designs because it typically provides greater accuracy in sample estimates without contributing to significant cost increases. The population is divided into several sub-populations under stratified sampling, which are individually more homogenous than the overall population (the separate sub-populations are called 'strata'). To constitute a sample, the researcher selected items from each stratum. Since each stratum is more homogeneous than the entire population, it would be possible to obtain more accurate estimates of each stratum and to estimate each of the component parts more accurately; a better random estimate of the whole would be obtained from each stratum. The strata are (1) Customer relation and management directorate (2) Project appraisal directorate (3) Project Rehabilitation and loan recovery directorate and Engineering Services directorate (4)

The sample size determined from each strata will be the formula of

Equation 2 $nh =(Nh/N)* n$

Where, nh – sample size stratum

N_h – the population size for stratum

N – Total population size

n- Total sample size

Table 9 Sample size distribution across each stratum

No.	Directorate	Population(N_h)	Sample (nh)
1	Customer relation and management directorate(CRMD|)	120	25
2	Project appraisal directorate (PAD)	101	21
3	Project Rehabilitation and loan recovery directorate(PRLR)	90	18
4	Engineering Services directorate(ESD)	84	17
Total		395	81

3.6 Nature and source of Data

It is apparent that two types of data are taken into account, primary and secondary, when deciding on the nature and source of the data to be used for the analysis (Zikmund, 2003). The primary data are those that are gathered for the first time and/or new and thus original in character. On the other hand, the secondary data are those that have already been obtained by someone else and have already been passed through a statistical process (Kothari, 1990). The choice of a method must balance many issues, including the availability of resources, creditability and review and reporting, and the evaluator's ability to choose a method (Zikmund, 2003). Therefore, the primary data source is used in this analysis through questionnaires in order to substantiate the study with relevant information and evidence.

3.7 Data collection instrument/method

According to Zikmund(2003), Data collection means gathering data and information to addressed questions of the investigation It calls for an appropriate and convenient data collection technique to substantiate the investigation and to collect the relevant information. Therefore, standardized questionnaires with a five point Likert scale is used in this study. The questionnaire developed for the purpose of this study (project work) was partially based on previously selected work of researchers or authors including Christopher Ngacho, Debadyuti Das (2014), Aniel Kazhibekova & Vildana Jusufovic(2010). Whereas, the rest of the research

questions were made by the researcher and based on the concept and a priori theories of the subject matter that were thought to be important to mention in order to address concerns about CSFs that are already assumed in this project Work.

3.8 Method of Data Analysis

The analysis of data is carried out by using quantitative methods with the help of inferential statistical technique and descriptive analysis. Descriptive analysis (frequency and frequency distribution, valid and cumulative percentage) was used to analyses the general information of the respondents. Inferential statistics with a computer program called the statistical package for social science (SPSS) was implemented. Descriptive analysis was conducted to present the data for further analysis and statistical tests. The study has also conducted Factor Analysis in order to determine group among the inter-correlations of a set of variables in order to reduce or summarize the data using a smaller set of factors or components.

3.8.1 Descriptive Analysis

The SPSS (Statistical Package for the Social Sciences) program was used to analyze the questionnaire responses. All questionnaire data and information was coded and entered into the SPSS software for statistical analysis in order to obtain variable frequency, percentage, mean, and standard deviation. Then, to present the data for further analysis with factor analysis, statistical tests, and descriptive analysis is performed.

3.8.2Factor Analysis

Factor analysis was performed on the survey data to determine groups among the inter-correlations of a set of variables in order to reduce or summarize the data using a smaller set of factors or components (Pallant, 2007). In other words, as Timothy (2011) explains, exploratory factor analysis seeks out items that are highly correlated with one another., Then it groups them into a factor and looks for the next strongest batch of correlated items, which it groups into another factor. By examining these items, a collective name was able to be assigned to represent these items or factors. Statistical Package for Social Science (SPSS) software was able to tell how many factors there are and how many items fall in the component/group (Pallant 2007). The Eigenvalue in scree plot determines the principal components, which are rotated orthogonally varimax, to obtain more evenly distributed factor loadings within the components.

According to Pallant (2007) three steps were adopted in conducting the factor analysis:

Step 1 Assessment of suitability of the data for factor analysis: When determining whether a data set is suitable for factor analysis, two major issues are taken into account. The Bartlett's Test of Sphericity should be statistically significant at p 0.05, and the Kaiser- Meyer-Olkin Measure of Sampling Adequacy (KMO index) should be greater than 0.6 for a good factor analysis.

Step 2: Factor extraction: It involves determining the smallest number of factors that can be used to best represent the interrelation among the set of variables. Principal component analysis approach will be demonstrated in this research. Screen test technique will also be used which involves plotting the eigenvalues of each factors and inspecting the plots to find a point at which the shape of the curve changes direction and becomes horizontal.

Step 3: Factor rotation and interpretation: The rotated factor matrix shows how the factors are related to each factor (Timothy, 2011). The extracted factors were then rotated based on their factor loadings in a manner that is easier to interpret and to report. The most common orthogonal rotational approach particularly Varimax method is used in this research.

3.8.4 Spearman Rank Correlation Factor

Spearman's rank correlation factor is usually used to check the accurateness and precision of a data. The Spearman's correlation measure the strength of the relationship between different parties regarding different attributes (in this research the success factors are the attributes). The correlation coefficient varies between +1 and -1, where +1 implies a perfect positive relationship (agreement), while -1 results from a perfect negative relationship (disagreement). It might be said then that sample estimates of correlation close to unity in magnitude imply strong correlation, while values near zero indicate weak or no correlation. Spearman rank correlation factor is computed by using SPSS software.

3.9 Reliability

Reliability test is conducted to check the stability and consistency of the data by using Cronbach alpha method. Questionnaires are prepared in a way that is closely related to research question and appropriate and careful data collection method will be used. Cronbach's Alpha test of reliability is in social science studies is important (Taber, 2018). An Alpha value of less than 0.6, as suggested by the author and used by some other studies, is not considered reliable.

10 Validity

Validity concerns the extent to which a measurement actually measures those feature the investigator wishes to measure and provided information that is relevant to the question being asked. Validity is ensured by making sure the sampling techniques are free from bias by giving each subject an equal opportunity to score. The questionnaires is comprehensive to cover all the variables being measured

11 Ethical Considerations

The respondents in the study are assured of confidentiality of the information they provided. The respondents is required writing their names in the questionnaires. All participants is asked to voluntarily participate in the data collection by collaborating in filling the questionnaire and responding. By doing so, the respondents are free of any harm and more importantly their views is very confidential and anonymous. Moreover, the questionnaires do not have any connection with the respondents since the research is done for academic purpose.

Chapter four

RESULTS AND DISCUSSION

4.1. Introduction

This chapter deals with the presentations, analysis and interpretation of the data which was collected from respondents. The questionnaire which was adopted from previous researcher was analyzed by using SPSS version 26.0 software.

4.2. Response Rate

The primary data is collected through questionnaire that consisted 37 items. 81 questionnaires were given and all questionnaires were properly completed and returned by respondents.

4.3. General information of respondents

A frequency analysis was also conducted for the profiles related to the general information about the respondents and projects. This information includes the gender of the respondents, age of the project respondents, education level of the respondents, position level of the respondents and work experience of the respondents.

Table 10 General Information of the respondents

			Frequency	Percent
1	**Sex of the respondents**	**Male**	60	74.1
		Female	21	25.9
2	**Age of the respondents**	Below 30 year	17	21.0
		31 to 49 year	64	79.0
3	**Education Background**	Degree	42	51.9
		Masters	39	48.1
4	**Work Experience in DBE**	3 - 6 year	27	51.9
		> 6 year	54	48.1
5	**Position of the respondents**	Director	2	2.5
		Team Manager	15	18.5
		Engineer	28	34.6
		Loan Officer	36	44.4

Source: Own survey, 2021

The above table shows the summary of the respondents, characteristics. As we can see from the table above, 60 (74.1%) of the respondents were male and the remaining 21 (25.9%) of them were females this shows gender distribution was not equal. Regarding the age the findings established that 17 (21.0%) took part in the study were 30 years or less, 64 (79.0%) respondents was took part in the study were between 31-49years. From this we can observe that in the sampled respondents found in their productive age.

As far as the educational qualification of employees is concerned, the below Table 9 shows that from the total respondents 42 (51.9%) of the respondents were degree holders, 39 (48.1%) of the respondents were masters holder. The results imply that the respondents are fairly educated and can understand and discharge their mandate in the management of projects.

Regarding to current position of the respondents the finding established that 2 (2.5%) of them were at Directorate or Managerial position, 15 (18.5%) of them were at team leader position, 38 (27.94%) of them were engineers, 36 (44.4%) of them were at officer level position.

The high quality of sample precision for answering the research questions is supported by the fact that all of the respondents are currently employed by an Ethiopian development bank, and nearly all of them have more than three years of experience. Respondent experience is a good predictor of sample precision (Saunders, etal., 2007).

4.4 Reliability Checking - Cronbach's Alpha

The reliability of the data was analyzed by using Statically Package for Social Sciences version 26. SPSS software was used to run the value of Cronbach's alpha and the results for project related factors, project management factors, organization related factors, procurement and contract related factors, project owner/client related factors, project manager related factors, contractor/ supplier related factors and external and work environment factors are as shown below.

The following criteria were used to evaluate coefficient α:which have Cronbach's coefficient alpha value of greater than 0.7 are considered as highly reliable and Cronbach's coefficient alpha value of between greater than 0.6 is considered as moderately reliable (Taber, 2018).

Table 11 Reliability statistics

Reliability Statistics	
Cronbach's Alpha	N of Items
.906	37

Table 12 Reliability for Each Factor

S.N	Independent Variables (Group of Success Factors)	Number of deleted item	Cronbach's Alpha value	Number of Items
1	Project related success factors	0	.843	3
2	Procurement and contract related success factors	0	.869	2
3	Project management related success factors	0	.854	7
4	Organization related success factors	0	.760	5
5	Client related success factors	1	.714	2
6	Project manager related success factors	0	.853	4
7	Contractor/ supplier related success factors	1	.791	5
8	External and work environment success factors	0	.897	7

Source: Own survey, 2021

As shown on the table 11, All questionnaires related to project management factors, organization related factors, procurement and contract related factors, project owner/client related factors, project manager related factors, contractor/ supplier related factors and external and work environment factors are highly reliable except project Client and Contractor/ supplier related factors. Furthermore, one variable (Involvement of sub-contractors, CSRSF4) is removed from client-related success factors, and another one variable (Client's risk attitude, CRSF1) is removed from contractor/supplier-related success factors in order to make those factors highly reliable.

4.5 Factor Analysis

4.5.1 Sampling Adequacy and significance of variables for factory analysis

To applying factor analysis, first we have to test the factorability of all 35 variables by using Bartlett's test of sphericity and the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy, respectively. As revealed in SPSS output, from observation of the correlations

along the diagonal of the anti-image correlation matrix shows that 1 variables (Organizational /corporate Culture,ORSF2) had their KMO values(0.423) which is less than 0.5, this indicates that the dataset, in its current form, is still not suitable for factor analysis (Hair et al., 2006). So after removing this variable, as shown in the table below, Bartlett's test statistics was found significant at 0.000 levels, which indicates the presence of non-zero correlations in the correlation matrix. Further the KMO measure of the sampling adequacy turns out to be 0.721

Table 13 KMO and Bartlett's test of the data

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.721
Bartlett's Test of Sphericity	Approx. Chi-Square	1732.977
	df	561
	Sig.	.000

4.5.2 Factor (Component) Extraction

As shown in Figure 1 below, what is indicated by the arrow on the above scree-plot represents all factors prior to the breaking point. This is the point at which the graph begins to flatten. That particular point was discovered to be 8, implying that eight (8) principal components are valid to be considered for this specific study/project work.

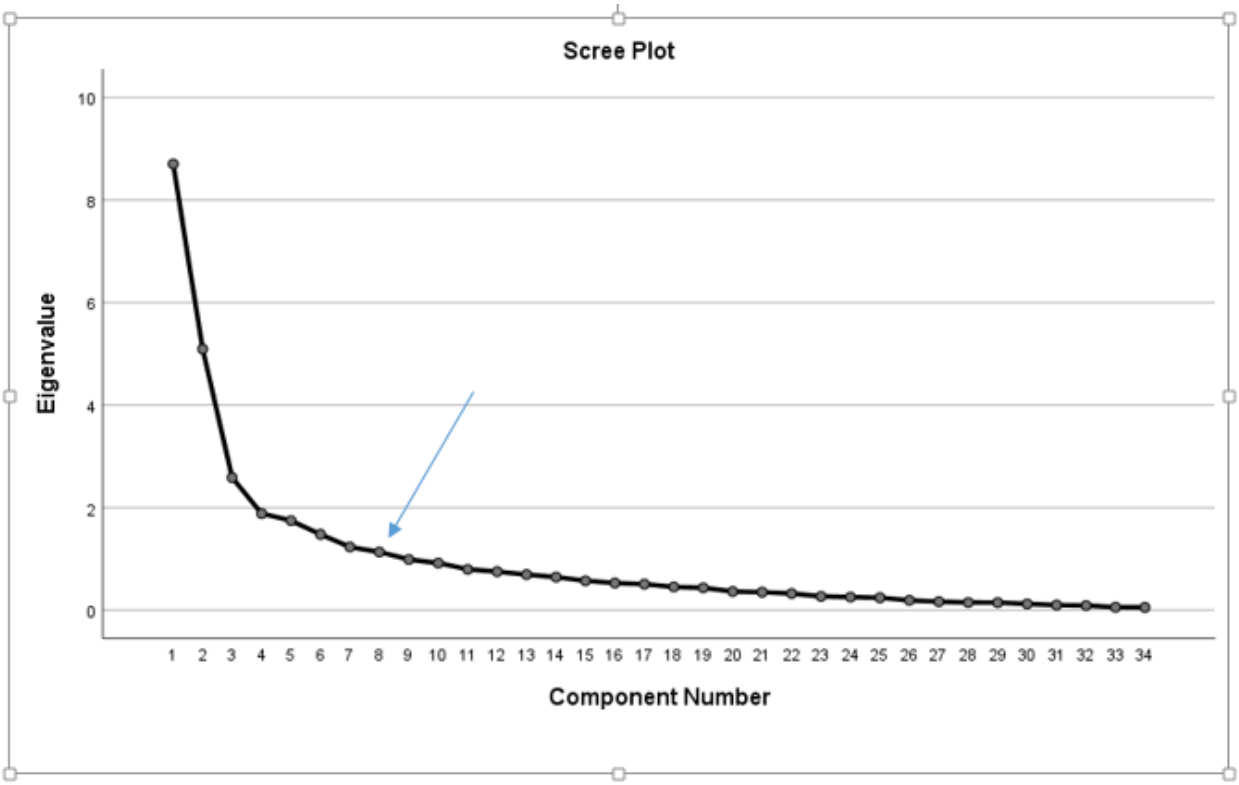

Figure 1 Scree Plot of Component Number Determination (SPSS Result).

4.5.3 Factor Analysis following Varimax Rotation

Principal components analysis (PCA) was used with varimax rotation given that the primary purpose was to identify the underlying factors. Initially, all 34 variables were free to load on various factors as long as their eigenvalue was greater than one. Then using the generated scree plot, we were able to determine that eight factors to be extracted. As a result, the process of identifying the final factors underlying the CSFs was subjected to five conditions.; (i) the number of factors fixed at eight, (ii) deletion of items with loadings of less than 0.5 o, (iii) communalities of variables be at least 0.5, (iv) retention of only those factors with at least two items and (v) the number of factors extracted should together account for at least 60% of the variance (Hair et al. 2006 and Tabachnick, B. & Fidell, L., 2007).

The rotated component loadings are shown in the following table (12) and eight components have been extracted the loadings explain the relationship (similar to a correlation) between the original variables and the extracted factor. The Rotated Component Matrix of Principal Component Analysis (PCA) displays the variable factor loadings. When we move across each row in the below table (12) we can clearly see the factors that each variable loaded on robustly or highly.

Table 14 Rotated Component Matrix (Based on SPSS 26.0 Computation Results)

Rotated Component Matrix[a]								
	Component							
	1	2	3	4	5	6	7	8
Size of the project				.835				
Location of the project				.787				
Uniqueness of the project activities				.899				
Effective procurement and tendering methods							.803	
Effective contract formulation and contract							.727	
Effective communication among all project participants			.577					
Adequate project control and change management			.599					
Project performance monitoring and feedback			.804					
Effective quality assurance program			.891					
Adequate use of project management tools and methodology			.657					
Decision making effectiveness								
Risk identification and allocation								
Top management support and commitment								
Adequate project funding/ budget to completion					.778			
Appropriate organizational structure					.781			
Training (TR)					.610			
Adequate experience on similar projects								.814
Ability to make timely decision								.815
PM's competence and experience		.789						
Project Manager’s managerial, Coordinating and leadership skills.		.825						
Project Manager’s authority to take decisions		.652						
Adaptability to changes, management of RISK		.705						
Contractor’s/ supplier’s competence and commitment						.607		
Contractor experience						.589		
Site management						.699		
Use of advance technology & equipment’s						.693		
Economic and financial situation								
Economic related factors (e.g. exchange rate, inflation, Price escalation etc.).	.733							
Political related factors (e.g. political interference, Political conflicts, vandalism etc.).	.757							

Socio-cultural related factors (e.g. customs, norms, Values, languages, educational level, attitude towards Social responsibility etc.).	.805							
Technical and technological environment	.762							
Physical environmental factors	.717							
Site related factors (access road, ground conditions)	.853							
X-Factor (fraudulent practices, corruption, favoritism, Lack of ethics, etc.)	.802							
Eigenvalue	4.673	3.807	3.510	2.546	2.485	2.416	2.307	2.112
Percentage of variance explained%	13.744	11.196	10.324	7.489	7.309	7.107	6.785	6.212
Cumulative percentage%	13.744	24.940	35.264	42.753	50.062	57.170	63.955	70.166
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.								
a. Rotation converged in 7 iterations.								

The factor analysis results shown in table 13 above reveal that " External and work environment factors "is the most important construct of project success having the highest eigenvalue of 4.673 and accounting for 13.744% of the variance in the data set. This is followed by "Project manager related factors" with an eigenvalue of 3.807, which explains 11.196 % of the total variance. The third most important critical success factor is found to be "Project management factors" with an eigenvalue of 3.510 and explaining 10.324%`of the variance while the fourth important factor turns out to be "Project related factors" with an eigenvalue of 2.546 and contributing to7.489% of the total variance. The last three critical success factors in order of importance are "Organization related factors", "Contractor/ supplier related factors", "Procurement and contract related factors " and "Project owner/client related factors" with an eigenvalue 2.485, 2.416, 2.307 and 2.112 respectively and the variance explained of 7.309%, 7.107%,6.785% and 6.212% respectively. The eight factors extracted indicate different dimensions of success factors which affecting the success of DBE financed projects.

4.5.4 Interpretation of Output from the Principal Component Analysis Extraction Method

CSFs determined through Principal Component Analysis Extraction Method and validated through appropriate tests enabled us to develop and validate a measurement scale to enable measurement of success amongst DBE financed projects. The study demonstrates that the

success factors which affected the success of DBE financed project can be described in terms of "project related factor project management factors, organization related factors, procurement and contract related factors, project owner/client related factors, project manager related factors, contractor/ supplier related factors and external and work environment factors. The findings so obtained and provide evidence to the fact that the success scale is appropriate for determination of success of DBE financed projects. A brief description of the CSFs extracted is given below.

Factor 1: External and work environment factors

External and work environment factors as shown in Table 13 are the most important factors than the other eight CSFs for DBE financed projects. The highest loading in this component is Site related factors (access road, ground conditions) with loading of .853. This indicates that the DBE financed projects highly affected by Site related factors. The site related factors followed by Socio-cultural related factors, X-Factor, Technical and technological environment, Political related factors, Economic related factors and Physical environmental factors with 0.805, 0.802, 0.762, 0.757, 0 .853, 0.733 and 0.717, respectively. The combination of ecological, political, economic, socio-cultural, and technological contexts in which the project is carried out is referred to as the external and work environment.

Factor 2: Project manager related factors

This factor is ranked second amongst eight factors. "Project Manager's managerial, Coordinating and leadership skills." is a major factor affecting DBE financed projects among project manager and team related factors with a highest loading value of 0.825; followed by "Project manager competence and experience" is rated to be the second with loading value of .789 and the remaining "Adaptability to changes, management of RISK" and Project Manager's authority to take decisions are rated third and fourth with a loading value of .705and 652, respectively.

A number of studies have found that project manager factors are important. A project manager's efforts can contribute to the success of a project. His competence is a critical factor in the planning and execution of a project. Leadership, organizational, and coordinating skills of project managers are among the factors influencing project manager performance. (Christopher Ngcho (2017), Seiler, S, Verburg, R. M., Bosch-Sijtsema, P., Vartiainen, M. (2013)).

Factor 3: Project management related factors

Project management related factor is the third most important factor. "Adequate use of project management tools and methodology" had the highest loading of 0.891 while the lowest loading was found in "Adequate project control and change management" (0.577). These factors are activities that adhere to a high standard of quality, help you meet project goals, and help you prioritize tasks to meet projected goals.

As the loading factor indicates DBE financed projects highly affected by the Lack of Project Management Techniques. Project Management Technique refers to the effective and efficient application of knowledge, skills, tools and techniques in projects. Dr. Richard Amponsah & Andrew Hansen-Addy (2014) in their study found same result that adequate use of project management tools and methodology is a success for Banking Sector Projects in Ghana.

Factor 4: Project related factors

This factor is ranked fourth in order of importance. Three variables namely Uniqueness of the project activities (0.899), Size of the project (0.835) and Location of the project (0.787) loaded on this factor. This shows that the project's charactestic affect the successful of projects. Many authors supported these finds by giving emphasis on the characteristics of project itself is a success factor for projects (Belassi and Tukel (1996), Finch (2003) , Potti, Shiva and Gopalkrishna (2014) , Christopher and Debadyuti (2015), Murat & Mohammed (2019),

Factor 5: Organization related factors

This factor is fifth in order of importance. Three variables namely Appropriate organizational structure (0. 781), adequate project funding/ budget to completion (0.778) and Training (0.610) loaded on this factor. Adequate financial resources serve as the pivot around which everything else revolves. Lack of sufficient cash flow has a negative impact on everyone and everything involved in investing in the manufacturing, agriculture, and agro-processing sectors. Hence, adequate project funding is the one of most important factor for project success of DBE financed projects found in Organization related factors.

Factor 6: Contractor/ supplier related factors

This factor is ranked fourth in order of importance. The highest factor loading is observed in "Site management" (0.699) whereas the least one is found in "Contractor experience" (0.589). According to this finding, a contractor's Site management is critical to the successful DBE financed projects. Construction contractors carry out construction work in accordance with DBE's prescribed technical, managerial, and contract specifications. As a result, it is critical to consider their technical and managerial abilities in project construction.

Factor 7: Procurement and contract related factors

This factor, known as Procurement and contract related factors, is ranked fifth important factor. Of two the variables, "Effective procurement and tendering methods (0.803) while "Effective contract formulation and contract had the lowest loading (0.729). Mamaru Ing-Esayas, & Sintayehu (2016), Zakar, Michael & Alan (2016) found the same result that Procurement and contract related factors are important for the project success.

Factor 8: Project owner/client related factors

Despite being the least important of the eight components, it is vital to the success of DBE financed projects. The "ability to make timely decisions" has the highest loading (0.815), while the "adequate experience on similar projects" has the lowest (0.814). A number of studies have found that client related factors are important for project success. The success of projects depends on client's experience, influence, ability to make timely decision, clear and precise goals, risk attitude, ability to participate in different phases of project (Christopher and Debadyuti (2015), Murat & Mohammed (2019), Mamaru Ing-Esayas, & Sintayehu (2016).

4.6 Critical Success factors interrelationship

The other objective of this research is to explore Inter-relationships between CSfs which affecting the success of DBE financed projects. To do so, Collected data was tested for its normality using SPSS (see appendix A), and it was found that the collected data deviated from normal distribution. Therefore, non-parametric Spearman's correlation was used to find the relationship between selected factors. Spearman's rank-order correlation test is applied. It is used to determine if there is a significant relationship between selected factors. The numbers at column Sig. (2-tailes) of the test shows the statistical significant of relationship when ρ value is less than point zero five (0.05).

To analyzing the level of relationship between variables, Hair et al. (2007) suggests to apply the 'rules of thumb'. (See table below).

Table 15 Rules of thumb Adopted from Hair et al. (2007)

Range	Description
.00-.19	"very weak"
20-.39	"weak"
40-.59	"moderate"
.60-.79	"strong"
.80-1.0	"very strong

Table 16 Spearman's rho correlations among selected critical success factors

Correlations

			PRSF	PCRSF	PMRSF	ORSF	POCRSF	PMMRSF	CSRSF	BERSF
Spearman's rho	PRSF	Correlation Coefficient	1.000	.066	.004	.045	.016	.136	.250*	.358**
		Sig. (2-tailed)	.	.561	.969	.688	.890	.225	.024	.001
		N	81	81	81	81	81	81	81	81
	PCRSF	Correlation Coefficient	.066	1.000	.424**	.474**	.293**	.436**	.425**	-.002
		Sig. (2-tailed)	.561	.	.000	.000	.008	.000	.000	.986
		N	81	81	81	81	81	81	81	81
	PMRSF	Correlation Coefficient	.004	.424**	1.000	.421**	.222*	.479**	.359**	.050
		Sig. (2-tailed)	.969	.000	.	.000	.047	.000	.001	.659
		N	81	81	81	81	81	81	81	81
	ORSF	Correlation Coefficient	.045	.474**	.421**	1.000	.345**	.350**	.393**	.138
		Sig. (2-tailed)	.688	.000	.000	.	.002	.001	.000	.221
		N	81	81	81	81	81	81	81	81
	POCRSF	Correlation Coefficient	.016	.293**	.222*	.345**	1.000	.228*	.261*	.084

		Sig. (2-tailed)	.890	.008	.047	.002	.	.040	.018	.458
		N	81	81	81	81	81	81	81	81
	PMMRSF	Correlation Coefficient	.136	.436**	.479**	.350**	.228*	1.000	.562**	.051
		Sig. (2-tailed)	.225	.000	.000	.001	.040	.	.000	.651
		N	81	81	81	81	81	81	81	81
	CSRsF	Correlation Coefficient	.250*	.425**	.359**	.393**	.261*	.562**	1.000	.099
		Sig. (2-tailed)	.024	.000	.001	.000	.018	.000	.	.381
		N	81	81	81	81	81	81	81	81
	BERSF	Correlation Coefficient	.358**	-.002	.050	.138	.084	.051	.099	1.000
		Sig. (2-tailed)	.001	.986	.659	.221	.458	.651	.381	.
		N	81	81	81	81	81	81	81	81
*. Correlation is significant at the 0.05 level (2-tailed).										
**. Correlation is significant at the 0.01 level (2-tailed).										

Each relationship is explained below.

Projects related success factors (PRSF) has statistically significant relationship with only Business & work environment related factors (BERSF) where $\rho = .001$ (< 0.05). And a weak positive relationship between PRSF and BERSF as the correlation coefficient, $r_s = .358$.

The procurement and contract related success factors(PCRSF) has a significant relationship with all critical success factors as $\rho < 0.05$, except with Projects related success factors (PRSF) , project owner/client related factor (POCRSF) and Business & work environment related factors (BERSF) where ρ value is greater than 0.05. The PCRSF relationship with project management related success factors (PMRSF), organizational related success factors (ORSF), project manager related success factors (PMMRSF), and contractor/supplier related success factors (CSRSF) is moderate as the r_s value is between .40-.59.

The project management related success factors(PMRSF) has a significant relationship with all critical success factors as $\rho < 0.05$, except with Projects related success factors (PRSF) , project owner/client related factor (POCRSF) and Business & work environment related factors (BERSF) where ρ value is greater than 0.05. The PMRSF relationship with PCRSF,

ORSF, PMMRSF, and is moderate as the r_s value is between .40-.59 whereas its relationship with CSRSF is weak as r_s value is between .20-.39.

The organizational related success factors(ORSF) has a significant relationship with all critical success factors as $\rho < 0.05$, except with Projects related success factors (PRSF) and Business & work environment related factors (BERSF) where ρ value is greater than 0.05. The ORSF relationship with PCRSF and PMRSF is moderate as the r_s value is between .40-.59; whereas, its relationship with POCRSF, PMMRSF, CSRSF is weak as r_s value is between .20-.39.

The project owner/client related factor (POCRSF) has a significant relationship with only with organizational related success factors (ORSF) as $\rho < 0.05$. And their relation is weak as the correlation coefficient rs = .345.

The project manager related success factors (PMMRSF) has a significant relationship with all critical success factors as $\rho < 0.05$, except with Projects related success factors (PRSF) , project owner/client related factor (POCRSF) and Business & work environment related factors (BERSF) where ρ value is greater than 0.05. The PMMRSF relationship with PCRSF, PMRSF, and CSRSF is moderate as the r_s value is between .40-.59; whereas, its relationship with ORSF is weak as r_s value is between .20-.39.

The contractor/supplier related success factors (CSRSF) has a significant relationship with all critical success factors as $\rho < 0.05$, except with except with Projects related success factors (PRSF) , project owner/client related factor (POCRSF) and Business & work environment related factors (BERSF) where ρ value is greater than 0.05. The CSRSF relationship with PCRSF and PMMRSF is moderate as the r_s value is between .40-.59; whereas, its relationship with PMRSF and ORSF is weak as r_s value is between .20-.39.

Business & work environment related factors (BERSF) has statistically significant relationship with only PRSF, where $\rho = .001$ (< 0.05). And their relation is weak as the correlation coefficient, $r_s = .358$

4.6.1 Summary of the finding

The finding indicates the existence of numerous significant relationships between critical success factors related groups. So, the findings based on the level of relationship between factors summarized below.

The following group of factors appeared to have moderate positive significant relationship

- Procurement & contacts related factors and project management related success factors
- Procurement & contacts related factors and organizational related success factors
- Procurement & contacts related factors and project manager related success factors
- Procurement & contacts related factors and contractor/supplier related success factors
- Project management related success factors and organizational related success factors
- Project management related success factors and project manager related factors
- Project manager related factors and contractor/supplier related success factors

The following group of factors appeared to have weak positive significant relationship

- Projects related success factors (PRSF) and project owner/client related factor (POCRSF)
- Project management related success factors and contractor/supplier related success factors
- Organizational related success factors project owner related success factors
- Organizational related success factors and project manager related factors
- Organizational related success factors and contractor/supplier related success factors

According to the above results, there is a significant interrelationship between majorities of factors and also the majority of the correlation coefficients between factors appeared to be moderate and weak. Some factors, such as project-related success factors (PRSF) and Business & work environment related factors (BERSF), had no significant relationship with other factors and also project owner/client related factors had only significant relationship with organizational related factors. Hence, based on the finding, it might be concluded that the success factors do not just influence the success of the projects. Moreover while contributing to project success they influence other input parameters (success factors) as well. These findings support the theory that different project success factors do not exist independently of one another (Inna didenko & Ivan konovets 2008).

4.7 The Model Developed for this Project Work

The diagrammatic representation model of DBE financed project success that was constructed by the researcher in regards to the thirty four (34) individual success factors and

eight (8) extracted principal components that has been explored or identified by the detailed analysis result of this project work is shown in figure (3).

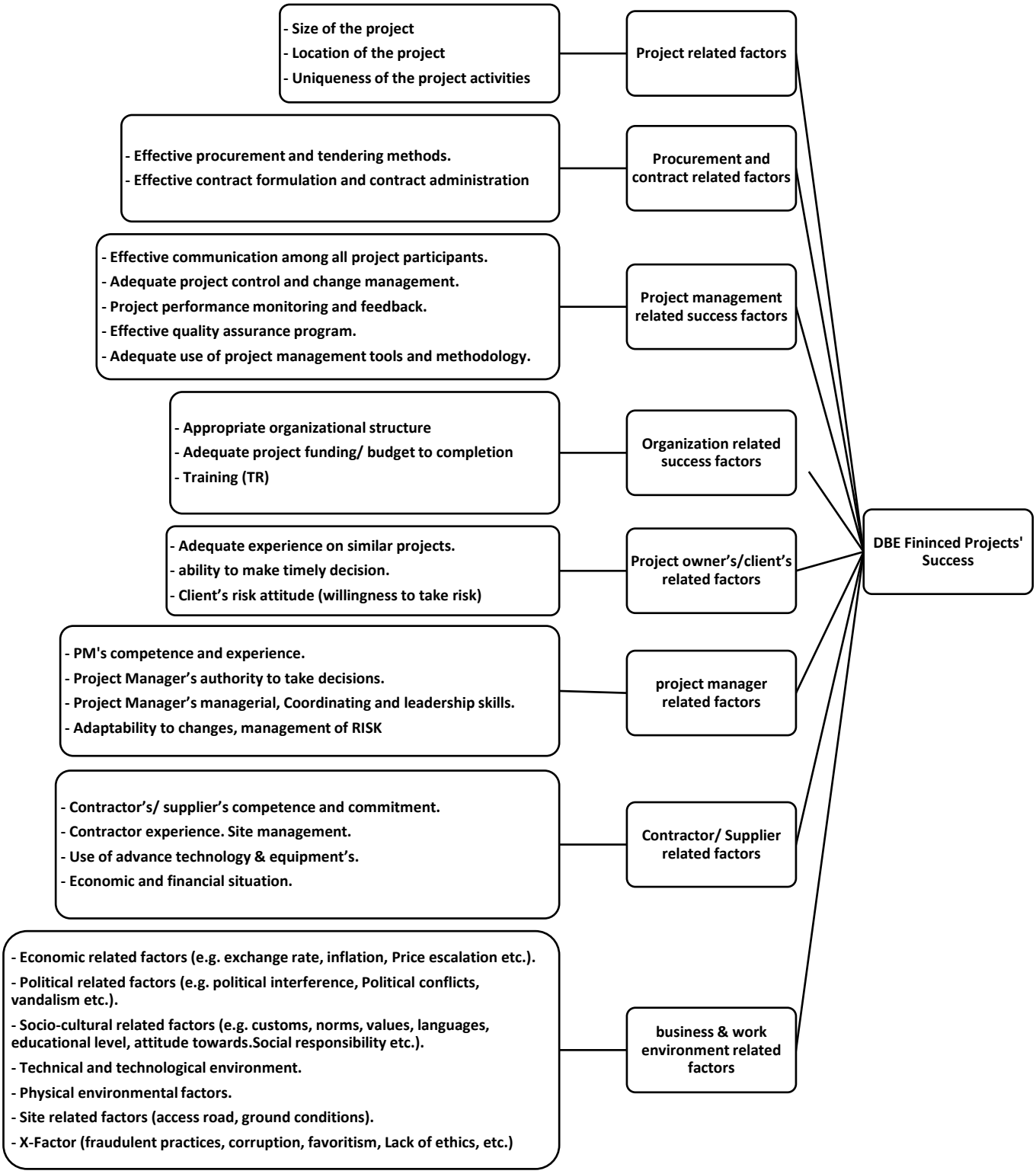

Figure 1 Own Constructed DBE financed projects Success Model

(Drawn Using Microsoft Office Power Point, 2013).

CHAPTER FIVE

SUMMARIES AND CONCLUSIONS AND RECOMMENDATION

5.1. Result Summaries and Conclusions

The overall objective of the study was to identify critical success factors (CSFs) that affecting success of DBE financed projects. Accordingly, various CSFs have been identified and then analyzed by this project work that was believed to matter to the success of projects. In doing so, principal component analysis, including descriptive and other related statistical econometric analysis methods were used. For the same intention the paper analyzes the data gathered from only those employees who have been working in development Bank of Ethiopia and then their respected judgments were computed and analyzed for the purpose of extracting CSFs. And most importantly the overall research data or information gathered were found to be valid or significantly passed all statistically and/or econometrically tests.

According to the study's empirical findings and subsequent analyses, the success of DBE-financed projects is dependent on project-related factors, project-management factors, organization-related factors, procurement and contract-related factors, project owner/client related factors, project-manager related factors, contractor/supplier related factors, and external and work environment factors. Out of eight factors, Client-related, contractor-related, organizational related factors and project management-related success factors are stakeholder-based, whereas project-related success factors are based on project characteristics. External and work environment factors are related factors that address all environmental issues that impact project success.

The research findings show that external and work environment factors are the most important, followed by project manager-related factors, and contractor-related factors are the least important in order of importance. Moreover, research findings shows that the selected critical success factors while contributing to project success they influence other input parameters (success factors) as well.

5.2 Recommendation

On the bases of the findings of the study:

- According to the findings, the foreign currency exchange rate and infrastructure are the success factors among a group of business and work environment-related factors that affect DBE-financed projects. As a result, the bank should work collaboratively to help the investing activities in projects whose products are meant for export market. This will help to increase the country's export earnings and improve the foreign currency reserve of the country. In addition, for DBE-financed projects, the Ethiopian government should provide infrastructure such as power, telecommunications, water, roads, and other infrastructure on time. Furthermore, the Ethiopian government should consider establishing economic and political stability.
- According to the finding of this research, the client related success factors such as client's experience on similar projects, client's ability to make timely decision and client's risk attitude (willingness to take risk) are most important factors which affected the success of DBE financed projects. Therefore, the bank should design appropriate mechanism to check that clients coming to the Bank have required experience on similar projects.
- Another success factor affecting DBE financed project according to this study is "procurement and contactor related success factor" and "supplier/ contactor related success factors". This means that awarding contracts for civil works/supply of machinery and equipment to reputable experienced firms based on fair and equitable contractual obligations plays a critical role in the success of DBE financed projects. Hence, the bank should pay close attention to these activities and assign highly experienced personnel to evaluate contract processes, procurement activities, and suppliers'/manufacturers' experience and financial capacity. Furthermore, the bank should follow a transparent policy for awarding bids rather than the lowest bidder of contractor to execute the project, in order to shift the practice of the "lowest bid" to an approach that improves project performance.
- The bank should undertake a continuous follow-up and evaluation wither each projects had hired the proposed project management staff with proposed education status and experience or not.
- The bank must develop management information systems and standard project management software to monitor and control the implementation of project success

factors: the bank's day-to-day operations must be monitored using standard project management software and an up-to-date management information system.

- In general, the bank should focus more on identifying and analyzing success factors, as they are possible to have a large impact on project success and the bank should allocate adequate resources on that in order to identify more critical success factor since each critical success factors while contributing to project success they influence other input parameters (success factors) as well.

Recommendation for further research:

- This study focused on the critical success factors that affecting the success of projects funded by the Ethiopian Development Bank. However, the study was unable to cover all of these factors in depth, suggesting the need for additional research in this area.

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APPENDIX A:

Tests of Normality of collected data

Tests of Normality						
	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
PRSF1	.318	81	.000	.813	81	.000
PRSF2	.347	81	.000	.768	81	.000
PRSF3	.318	81	.000	.809	81	.000
PRRSF1	.195	81	.000	.897	81	.000
PRRSF2	.178	81	.000	.905	81	.000
PMRSF1	.350	81	.000	.780	81	.000
PMRSF2	.234	81	.000	.876	81	.000
PMRSF3	.256	81	.000	.859	81	.000
PMRSF4	.259	81	.000	.883	81	.000
PMRSF5	.254	81	.000	.885	81	.000
PMRSF6	.223	81	.000	.895	81	.000
PMRSF7	.284	81	.000	.867	81	.000
ORSF1	.210	81	.000	.886	81	.000
ORSF2	.259	81	.000	.867	81	.000
ORSF3	.275	81	.000	.857	81	.000
ORSF4	.194	81	.000	.859	81	.000
ORSF5	.251	81	.000	.875	81	.000
POCSRF1	.237	81	.000	.892	81	.000

POCRSF2	.304	81	.000	.848	81	.000
POCRSF3	.186	81	.000	.890	81	.000
PMTRFS1	.207	81	.000	.874	81	.000
PMTRSF2	.233	81	.000	.858	81	.000
PMTRSF3	.217	81	.000	.861	81	.000
PMTRSF4	.215	81	.000	.885	81	.000
CSRF1	.251	81	.000	.850	81	.000
CSRF2	.236	81	.000	.843	81	.000
CSRF3	.233	81	.000	.848	81	.000
CSRF4	.235	81	.000	.899	81	.000
CSRF5	.223	81	.000	.870	81	.000
CSRF6	.193	81	.000	.902	81	.000
BERSF1	.331	81	.000	.702	81	.000
BERSF2	.324	81	.000	.689	81	.000
BERSF3	.281	81	.000	.823	81	.000
BERSF4	.313	81	.000	.787	81	.000
BERSF5	.311	81	.000	.801	81	.000
BERSF6	.325	81	.000	.727	81	.000
BERSF7	.308	81	.000	.766	81	.000

a. Lilliefors Significance Correction

P-value < 0.05(deviated from normal distribution)

Communalities		
	Initial	Extraction
PRSF1	1.000	.743
PRSF2	1.000	.725
PRSF3	1.000	.843
PRRSF1	1.000	.845
PRRSF2	1.000	.812
PMRSF1	1.000	.544
PMRSF2	1.000	.610
PMRSF3	1.000	.734
PMRSF4	1.000	.842
PMRSF5	1.000	.656
PMRSF6	1.000	.642
PMRSF7	1.000	.465
ORSF1	1.000	.550
ORSF3	1.000	.762
ORSF4	1.000	.775
ORSF5	1.000	.727
POCSRF1	1.000	.813
POCRSF2	1.000	.732
PMTRFS1	1.000	.768
PMTRSF2	1.000	.782
PMTRSF3	1.000	.554

PMTRSF4	1.000	.637
CSRF1	1.000	.692
CSRF2	1.000	.603
CSRF3	1.000	.720
CSRF5	1.000	.610
CSRF6	1.000	.652
BERSF1	1.000	.675
BERSF2	1.000	.713
BERSF3	1.000	.674
BERSF4	1.000	.720
BERSF5	1.000	.700
BERSF6	1.000	.838
BERSF7	1.000	.697
Extraction Method: Principal Component Analysis.		

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	8.705	25.604	25.604	8.705	25.604	25.604	4.673	13.744	13.744
2	5.093	14.980	40.584	5.093	14.980	40.584	3.807	11.196	24.940

3	2.585	7.604	48.188	2.585	7.604	48.188	3.510	10.324	35.264
4	1.884	5.540	53.728	1.884	5.540	53.728	2.546	7.489	42.753
5	1.746	5.134	58.862	1.746	5.134	58.862	2.485	7.309	50.062
6	1.478	4.347	63.209	1.478	4.347	63.209	2.416	7.107	57.170
7	1.232	3.622	66.832	1.232	3.622	66.832	2.307	6.785	63.955
8	1.134	3.334	70.166	1.134	3.334	70.166	2.112	6.212	70.166
9	.988	2.905	73.071						
10	.918	2.700	75.771						
11	.796	2.340	78.111						
12	.750	2.207	80.318						
13	.693	2.039	82.356						
14	.643	1.890	84.246						
15	.572	1.683	85.929						
16	.527	1.551	87.480						
17	.506	1.489	88.969						
18	.452	1.328	90.297						
19	.435	1.278	91.576						
20	.363	1.066	92.642						
21	.349	1.027	93.669						
22	.323	.951	94.620						
23	.268	.788	95.407						
24	.253	.745	96.153						
25	.241	.707	96.860						

26	.191	.561	97.421						
27	.165	.484	97.905						
28	.148	.436	98.341						
29	.147	.433	98.774						
30	.121	.355	99.128						
31	.098	.287	99.415						
32	.090	.265	99.680						
33	.056	.166	99.846						
34	.052	.154	100.000						
Extraction Method: Principal Component Analysis.									

APPENDEX B:

ST. MARY'S UNIVERSITY

SCHOOL OF GRADUATE STUDIES

PROJECT MANEGMENT PROGRAM

Dear respondent:-

I am a final MA student at St. Mary's University. My area of specialization is project management. I am currently undertaking a research thesis on "***Critical Success Factors for Projects Financed By Development Bank of Ethiopia***".

I would be grateful if you could spare some time from your busy schedule and complete the enclosed questionnaire. All the information provided will be used purely for academic purposes and will be treated with utmost confidentiality.

Thank you for your cooperation.

Yours faithfully,

Surafel Gashaw

MA student, St. Mary's University

Instructions

No need to write your name

If you have any questions, please contact me through my cell phone number 0921058399 or email mesurgash@gmail.com

The information provided in this questionnaire will only be used for the purpose of this study. Please read carefully and give appropriate answers by ticking or filling the blank spaces. The information will be treated with maximum confidentiality.

Section A: General Information

Indicate your age

Below 30 ( ) 31 to 49 ( ) 50 and above ( )

Indicate your gender

M ( ) F ( )

Indicate your educational level

Diploma ( ) Degree ( ) Masters ( ) PhD ( )

Indicate the directorate you are working right now:

CRMD ( ) PAD ( ) PRLR ( ) ESD ( )

Indicate your position in the bank:

Director ( ) ( ) Team Manager ( ) Engineer ( ) Loan Officer ( )

Indicate your work experience in DBE

<3year ( ) 3-6 year ( ) >6 year ( )

SECTION B

1. By considering DBE's ongoing projects, to what extent do the factors listed in the statements in the table below affect the success of DBE financed projects?

NO	Statements	**Strongly disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly agree**
		1	2	3	4	5
Project related factors						
1	Design complexity (type, size and nature) did not affect DBE financed projects					
2	The location and site condition					

	did not affect DBE financed projects					
3	The Projects are not affected by the Uniqueness of the project activities					
Procurement and contract Related Factors						
4	There is the use of effective procurement and tendering methods.					
5	There is an effective contract formulation and contract administration.					
Project management related factors						
6	There is effective communication among all Project participants.					
7	There is adequate project control and change management.					
8	Project performance monitoring and feedback is carried out regularly and carefully.					
9	Effective quality assurance system is in place to ensure quality standard					
10	Project management tools and methodology are adequately					

	applied in the project management.					
11	Project risks are effectively addressed, assessed and managed.					
12	Effective decision making is taking place					
Organization related factors						
13	There is top management support and commitment to the projects.					
14	There is a strong organizational/ corporate Culture (shared attitudes, values and believes in performing the jobs) in the projects implementation (e.g. innovative thinking, acting proactively, no fear to take responsibilities etc.).					
15	The projects have secured adequate funding/ budget to completion.					
16	DBE has appropriate organizational structure that facilitate project success					
17	High quality Training conducting to develop skills					

Project owner/Clients related factors						
18	The project owners have Adequate experience on similar projects					
19	The project owners have ability to make timely decision					
20	The project owners have willingness to take risk					
Project manager related factors						
21	The project managers have the necessary Technical competence and experience.					
22	The project managers have managerial, Coordinating and leadership skills.					
23	The project managers empowered with authority to take decisions.					
24	The project managers have skill of Adaptability to changes and management of risk					
Contractor/ Supplier related factors						
25	The contractors/suppliers have the necessary competence and commitment to the contract obligation.					
26	The contractors have adequate experience in these particular					

	projects					
27	Effective site management, control and coordination are carried out by the contractors					
28	Involvement of sub-contractors don not affect projects.					
29	The contractors Use advance technology & equipment's.					
30	The contractors/ suppliers have cash flow/ financial capabilities to undertake the works effectively and consistently.					
Business & work environment related factors						
31	The projects are not affected by economic related factors (e.g. exchange rate, inflation, price escalation etc.).					
32	The projects are not affected by political related factors (e.g. political interference, political conflicts, vandalism etc.).					
33	The projects are not affected by socio-cultural related factors (e.g. customs, norms, values, languages, educational level, attitude towards social responsibility etc. of the society within which the projects undertaken).					

34	The projects are not affected by technical and technological related factors (e.g. method of construction etc.).					
35	The projects are not affected by physical environmental factors (e.g. harsh weather conditions, etc.).					
36	The projects are not affected by site related factors (e.g. access roads, ground conditions, right off way, challenging terrains, other unforeseen conditions etc.).					
37	The projects are not affected by X-Factors (e.g. Fraudulent practices, corruption, favoritism, lack of ethics, etc.).					

Please give your comment on the other influential factors that are not mentioned in the questions statements above.

I/_____

II/_____

III/_____

IV/_____

V/_____