

# Journal of Business and Administrative Studies (JBAS)

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## Assessment of Pay scale Determination Practices at St. Mary's University

Zelalem Ayalew Eshete<sup>1</sup>

### **Abstract**

*The purpose of the study was to examine how the pay scale of St. Mary's University (SMU) has been determined or established and to analyze whether the pay scale may serve as a motivational tool. Qualitative and quantitative research approaches and descriptive research design was pursued. Stratified and convenient sampling techniques were employed in administering the questionnaires. Out of 220 senior (serve 5 years and beyond in the University) staff members residing in Addis Ababa, 74 were stratified and 94 copies of questionnaire were distributed for alleviating of disqualified questionnaire and non-responses. Therefore, the response rate of the questionnaire was 69%. Validity and reliability tests were conducted and results (average Cronbach's alpha coefficient of 0.790) proven to be both reliable and valid. Data were subjected to simple descriptive statistics and analysis was made using SPSS 20 for quantitative data and interpretational and reflective for qualitative data. The study will contribute to and expand the frontiers of knowledge in the field of study; enrich the literature and forward directions to the management of the University to identify the areas of pay scale weaknesses and improve pay policy so as to acquire and retain best minds that will enable the University to achieve its goals. The study is limited to the phenomenon of only one institution on the thematic area, hence, practices of other similar institutions does not compared & included that the research could not start with the general research gap in the thematic area. Results of the study shows that pay scale practices of SMU is resulting on intuitive decisions of the top management regardless of proper job evaluation and grading (JEG) processes and lacking commensuration with internal alignment and external market pressures. The researcher concluded that emphasis should be given to periodically review of the pay policy and pay scale up on meeting standardized principles and procedures. Furthermore, pay in-equity and unfairness is also becoming severe. Therefore, the University ought to effort promoting equal pay for work of equal volume and shall seek to provide salaries that attract, retain and motivate competent employees.*

**Keywords:** Pay policy, Pay Scale, Job Grading, Pay Equity, Pay disparity, Compensation, St. Mary's University, Ethiopia

### **1. Introduction**

The Ethiopian Labor Proclamation No. 377/2003 (as amended) article 53/1 defined "Wage" in Amharic "Demewoz" as the regular payment to which the

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worker is entitled in return for the performance of the work that he or she performs under a contract of employment. However, the proclamation has left the determination of salary scale (including the minimum wage level) to the parties themselves (employer-employee) in an organization for which the main reason from the side of the government may be explained away in the light of its economic philosophy. Perceptibly, most individuals choose to spend much of their adult lifetime in paid employment. Payment is therefore, affects an employee or a worker economically, sociologically, and psychologically. For this reason, retaining professional staff with inept pay scale in organizations becomes more turbulent task. As a result, organizations, with varying degrees of success, attempt to harness the powerful forces of pay scale as a motivator to encourage employees to work in ways that lead to the achievement of organizational objectives. Pay scale makes the job offered attractive, meaning it attracts and retains qualified and competent staff members. Accordingly, success of an organization primarily depends on the morale and motivation of its employees. Among the factors that affect the motivation of employees, pay structure is considered to be a prominent one. Paying employees less than the work they perform generates dissatisfaction which in turn leads to low morale Bach (2005).

Different pay establishment practices may result an increase in employee pay satisfaction or vice-versa. Armstrong (2007) noted that among the main problems in human resource functions of many organizations is their failure to carry out job grading and sound pay structure that even when it is done, it scarcely succeeds. Gomez-Mejia, David and Cardy (2001) also argued that mishandling compensation issues in an organization is likely to have a strong negative impact on employees and, ultimately, on the firm's performance.

With this regard, the study is conducted to examine how the pay scale of St. Mary's University has been established and to analyze whether the pay scale even serves as a motivational tool. These job grades and the pay scale of the University has not been yet evaluated to ensure whether it meet the required principles and procedures commensuration with internal alignment and external market pressures. Hanna (2016) also recently conducted a study on the practices of human resource audit at the University and recommended that job grades and the pay scale of the University needs immediate revision and adjustments in accordance with required standards and procedures.

Customarily, weak bargaining power of the University due to uncompetitive pay scale during recruitment process is the prominent challenge of HRM office equipping vacant positions with competent staff members. Consecutively, exhibited pay inequities between similar positions, “academic” and “support” staff, even between departments within the same “academic” division SMU, Pay Scale Documents (2011 and 2016) absence of stakeholders’ participation in job evaluation and pay determination processes including inappropriate titling of few job positions (like Editor-Tutor-Assessor) were indicated on the report as reasons for employees’ turnover. Indeed, high employee turnover has been observed; for example, turnover rate of the University during 2014/15 and 2015/16 were 23% and 25% respectively in which the main reason addressed on employees’ turnover surveys among other reasons is the in-appropriate pay structure of the University, SMU, Employees Turnover Analysis (2014/15 and 2015/16). Even lots of the remaining employees’ pressure for salary adjustment are also a daily phenomenon at HRM office of SMU.

Meanwhile, the institution has modified its organizational structure several times in its life history; from being a Language Center to University level together with merger and separations of several work units. Accordingly, job grading and pay scale adjustment would be necessary as a result of significant organizational structural changes. However, none of evidences of such practices in the University so far exhibited.

On the other hand, the nature of a pay scale is a strategic alliance with goal and objectives of an organization. Pay scale is not part of a routine task and established to serve usually for Five years and beyond keeping in mind subsequent amendments based on external market pressure and significant internal organizational changes. While the actual trend of the University on the theme seems to be the reverse; the pay establishment practices of St. Mary’s University clearly indicate that results of spinning intuitive decisions made by the top-level management. For instance, more than 20 circulars are exhibited in the period of 2008 – 2016 towards pay adjustments.

The study is therefore, encompasses the assessment of pay policy and strategy of the University, frequency of pay structure changes, the extent to which job evaluation and grading could be used as a means of pay establishment,

alignment of the pay scale with significant organizational structural changes, participation of major stakeholders on job grading and pay establishment processes, pay equitability and fairness issues including theoretical explanations and empirical validations for the linkage between job grading-pay scale-employee motivation are comprehended in the study through descriptive research design using both primary and secondary data with the help of the following basic research questions.

- 1) Why pay policy & strategy matters at St. Mary's University?
- 2) To what extent pay structure of the University meet the required principles and procedures?
- 3) How pay scale of the University is aligned with significant organizational changes?
- 4) How much pay scale of the University enables acquiring and retaining of best minds?

It is envisaged that this study contributes to and expand the frontiers of knowledge in the field of study. It will also launch a new area for future debate in the management of compensation and motivation at St. Mary's University and beyond. The study underscores the sound features and importance of pay establishment practices and sets major compensable factors appropriate for the University. The management of SMU should therefore, endeavor to identify the areas of pay scale weaknesses and improve pay policy so as to acquire and retain best minds that will enable the University to achieve its goals.

## **2. Literature Review**

### **2.1. The Notion of Job Grade and Pay Structures**

Grade and pay structures provide a framework within which an organization's base pay management policies are implemented. Base pay management can involve the design and operation of formal grade and pay structures that define where jobs should be placed in a hierarchy, what people should be paid for them and the scope for pay progression. Base pay management enables pay practices to be monitored and controlled, facilitates the management of relativities, and helps to communicate the pay and sometimes the career opportunities available to employees Snoeker (2010). According to Armstrong (2007) pay structures are defined by the number of grades they contain and, especially in narrow or broad-graded structures, the span or width of the pay

ranges attached to each grade. They define the different levels of pay for jobs or groups of jobs by reference to their relative internal value as determined by job evaluation, to external relativities as established by market rate surveys, and sometimes to negotiated rates for jobs. They provide scope for pay progression in accordance with performance, competence, contribution or service.

Determination of an equitable salary structure is one of the prominent phases of employer-employee relations. For good industrial relations, each employee should; receive sufficient salaries to sustain him/herself and his/her dependents; and feel satisfied with a relationship between his/her wages and wages of other people performing the same type of work in some other organization. The primary objective of salary administration program is that each employee should be equitably compensated for the services rendered by him/her to the enterprise on the basis of; the nature of the job, the present worth of that type of job and the effectiveness with which the individual performs the job.

### **2.1.1. Job Evaluation and Grading (JEG)**

Poels (1997) argued that job evaluation and grading process in an organization is a strategic alliance with medium or long term strategic directions of the organization. And the author recommends conducting job evaluation usually when: A new job is created, before recruitment; substantive functions are added or removed from a job and substantive organizational restructuring process. Of course, it is not always necessarily to evaluate every job. In the case where other similar jobs exist, that have already been evaluated, the evaluator can benchmark the new job against these existing jobs. Besides how often jobs are evaluated, the right method of job evaluation and grading depending on the nature of the organization Armstrong (2010) and criteria for choosing the best job evaluation scheme are also most fundamental processes in JEG.

### **2.1.2. Pay Structure**

People join organizations expecting rewards. Firms expect their employees to perform, increase productivity, and contribute their part to the organizations short and long term success. A prime objective of effective people resourcing is to have “the right people, in the right place, at the right time, doing the right



thing”. This cannot be achieved without integrated reward strategies that meet the required procedures, Pilbeam and Corbridge (2006). Accordingly, of several steps in determining a pay structure: job analysis; job evaluation; pay survey analysis; pay policy development; and pay structure formation are fundamental for assuming a sound pay system; should also be synchronized and aligned each other.

## **2.2. Empirical Review**

Plenty of evidences show that sound pay system in an organization affects not only the relationship between the employer-employee but also productivity of employees and profitability of organizations. A study by Simachew (2016) which was conducted using 339 respondents in selected factories of Moha Soft Drinks Industry Sc find out the relationship between pay and labor productivity. The findings revealed that employees believed they are low paid compared to the tasks they are performing compared to similar jobs in the industry; i.e. external inequity. Accordingly, employees evaluate their salary as if it is not sufficient enough to improve their living standards and to satisfy adequately their basic needs. As per the evaluation of employees, the company has less attractive compensation policy and the average mean of employees’ rating towards the company’s compensation system is not encouraging employees’ productivity. Hameed (2014) conduct a research to measure the impact of compensation on employee performance in 45 Banks of Pakistan which were selected randomly and it is founded from different results that Compensation like salary has positive impact on employee performance. It means that if there is an increase in salary then rewards will also increase moderately. So there is a direct relationship among these variables.

Morgeson (2001) investigating the impact of compensation system implementation on employee outcomes under the research entitled “Understanding Pay Satisfaction: the limits of a compensation system implementation” in a quasi-experimental field study at a manufacturing firm with total participants of 168 staff, and found that the extent to which participation in the job evaluation process during a compensation system implementation influences pay satisfaction; i.e., pay level was positively related to the satisfaction of staff. Hana (2016) also recommended that job

grades & pay scale of St. Mary's University needs immediate revision & adjustments in accordance with standardized procedures, theoretical frameworks and practices so that be able to attract and retain best minds.

### **2.3. Conceptual Framework**

Armstrong (2007), Poels (1997) and Bach (2005) followed different approaches to describe the principles of a sound pay system. However, the central tendencies (communalities) of these authors are the following five fundamental principles; Transparency, Proportionality, Performance, Recruitment and Retention and Process.

- i. **Transparency:** means being open about how pay is set: transparency endeavors public trust. In a transparent organization decisions, activity, policy, strategy and processes are open to all. In general, transparency can be achieved by active participation of pertinent stakeholders in the processes and clear as well frequent communication.
- ii. **Proportionality:** is being fair and consistent: the general essence of pay proportionality is that the level of the remuneration sufficient to attract, retain and motivate best minds. Three main measures may be applicable to evaluate the proportionality of the salaries: comparison within the organization, comparison within the sector, and comparison versus similar sectors.
- iii. **Performance:** pay performance means ensuring that the salaries you pay work for your organization and the beneficiaries you serve: employees will take their own view on the levels of pay that are appropriate to the targets they require. By clearly linking remuneration to progress against agreed performance targets and objectives, as well as the organization's business plan and interdepartmental objectives can ensure that pay levels are proportionate to a staff member's value to the organization.
- iv. **Recruitment and Retention:** the notion of recruitment and retention is keeping valued staff within the organization: It is important to consider the imperative to acquire and retain valued staff within a mission-driven organization. The process of recruiting new staff

members costs considerable time and money, and worse, it can affect the performance of the entire organization. The ability to recruit and retain staff of course will not be based purely upon pay rewards but upon the values of the individual and how closely they correlate with the organization's values.

- v. Process: a sound pay establishment process means ensuring that the principles of Good Pay are supported by appropriate policies and procedures: major considerations in grade and pay structuring; the rationale for grade and structures (policies and strategies), the use of job evaluation in developing a grade structure and grading jobs, and alike processes undergirds all effective decisions on the setting of a pay scale.
- vi. Follow Procedures: the steps to be followed in pay determination. Basically, job analysis, job evaluation, pay policy identification, pay survey analysis and pay structure creation are communal steps in pay determination process of all authors<sup>2</sup>.

The conceptual frame work adopted for the present study is therefore, based on the theoretical discussions using the following simple diagram. Fundamental principles of pay system synchronized with the required procedures of pay structures yield a pay scale that motivates and even attracts best minds.

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<sup>2</sup> IDID

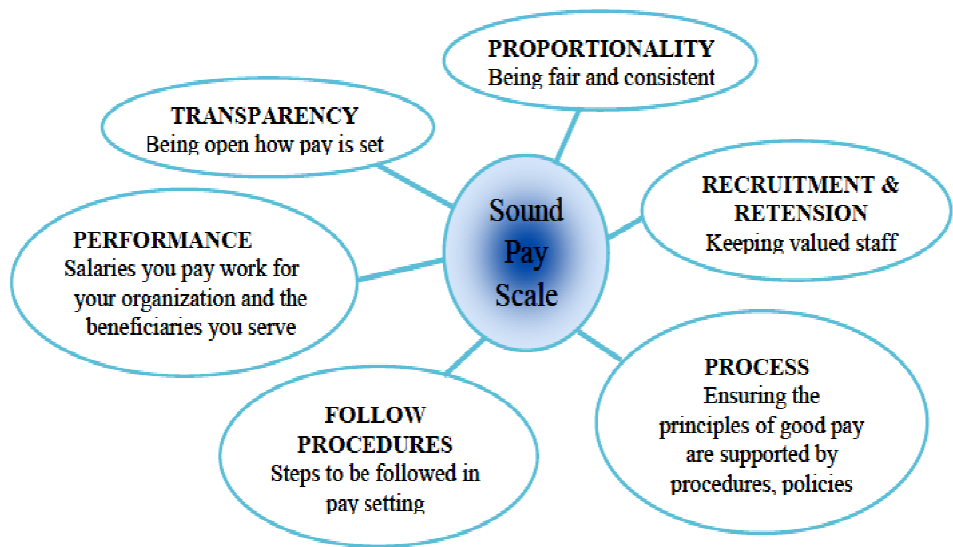


Figure 2.1 Conceptual frame work of the study

Source: Own construction based on literature (2016)

### 3. Research Methods

Research strategy coinciding with nature of the questions and purpose of this study is explanatory and descriptive, while the latter is more emphasized. How the University's human capital has been compensated and where pay scale is determined (organizational authority) including how often the salary is adjusted well manifested on the study. The research also pursued both qualitative and quantitative research approaches where much emphasis is given for the latter because of the research involvement in measurement of quantities where the responses of employees obtained through questionnaire was analyzed and interpreted quantitatively.

According to Burns (2000) and Saunders and Thornhill (2012) cited by Alemu (2016), 30% perhaps be sampled if the total population is bellow 1,000. Therefore, amongst 220 permanent and senior staff members in the University who had been serving five years and beyond residing at Addis Ababa in different campuses, 74 employees were stratified and by considering non-responding rate and unfilled or invalid questionnaires 20 extra

questionnaires (total of 94) were distributed. Only 11 copies of the questionnaire were rejected for different reasons, 18 copies of the questionnaire were not collected and the remaining 65 copies were analyzed. The response rate of the questionnaire was therefore, 69% while non-responding rate is 31%.

Primary data were generated from purposely selected management members (two Vice Presidents and one HRM Director) and the remaining senior staff members were taken as stratified units so as to ensure considerable representation. Thus, the strata (academic, administrative and technical staff) further classified in to five strata based on deployment campuses. Finally, proportional sample to the size of each strata were selected using simple random sampling technique. Where secondary data includes all information gathered from the library (SMU senate legislation, employees' exit interview reports, pay scale documents and minutes, relevant government proclamations) that are related to the topic study.

To ensure its validity and reliability of the questionnaire, it was designed in-line with the literature reviewed and a closer supervision of the research advisor. The pilot testing has been also conducted using 18 questionnaires (19% of the total sample) and 16 questionnaires (89%) were returned and pilot test result (average Cronbach's  $\alpha = 0.790$ ) indicates that all pilot samples are not only understood the issues but also understands relatively in the same way or level.

## 4. Results and Discussion

### 4.1. Pay Policy and Strategy

Pay or reward policies and strategies set specific guidelines for decision making and action. They indicate what the organization and its management are expected to do about managing reward and how they will behave in given circumstances when dealing with reward issues. Tyson (2006) designates a prerequisite for the strategic management of pay and benefits are a reward policy in which the objectives of a policy towards payment could be best described as to remain competitive for labor while rewarding good performance and adopting a position on pay which controls costs and is felt to be fair by all employees.

By the question aiming to know whether respondents are aware of and understand pay policy of St. Mary's University, results showed that majority of respondents (47.7%) do not know that SMU has well-defined & understood pay policy, while 26% of respondents are neither aware of nor understand the pay policy and only 26.3% of respondents are aware of that SMU has well-defined and understood pay policy. Moreover, 53.9% of respondents do not understand that pay scale of the University complies with the pay policy, while 21.5% of the respondents are also neutral to the issue and only 24.6% of respondents duly understand that pay scale of SMU comply with the pay policy. Yet, 43.1% of employees disagree that sensitive issues for example, the minimum and maximum levels of pay, etc are clearly addressed on the pay policy document of the University, while 41.5% of the respondents are neutral. The average mean (3.33) of respondents' rating on their awareness and understanding about pay policy reveals that employees are not aware of and did not know what kind of pay policy does St. Mary's University has?

Among the recent literatures, Mathis and John (2010) argued that the market competitiveness of compensation or pay strategy is among the significant pay equitability and fairness issues. The strategy that an employer chooses to "lag the market" by paying below the market levels, to "meet the market" or "to lead the market" can affect employees' view of their compensation and performance of the organization at large.

With this regard, the discussion under table 4.1 below indicates that majority of the employees 43% and 35.4% disagreed and neutral that the University

has well-defined and understood pay strategy. Furthermore, 41.6% and 32.3% respondents were also disagreed and neutral to the compliance of the pay scale of the University with its pay strategy. In addition, 55.4% and 21.5% respondents were not understanding and neutral that pay strategy helps the University to have competent pay structure.

Table 4.1 Response rate of employees towards pay strategy of SMU

Statements	S/agree		Agree		Neutral		D/agree		S/disagree		Mean
	F	%	F	%	F	%	F	%	F	%	
I am aware of that SMU has well-defined pay strategy	4	6.2	10	15	23	35.4	22	33.8	6	9.2	3.25
I understand that pay scale of SMU comply with pay strategy	1	1.5	16	25	21	32.3	20	30.8	7	10.8	3.25
I understand that pay strategy helps the University to have competent pay structure	2	3.1	13	20	14	21.5	17	26.2	19	29.2	3.58
Overall mean											3.36

Source: Survey data (2016)

The average mean of respondents' rating on their understanding about pay strategy of the University reveals that employees are not aware of or do not understand what kind of pay strategy does St. Mary's University has? Thus, results of the discussion clearly deduced that pay establishment processes of the University lacks the reward policy and strategies.

#### 4.2. Pay Structure that Satisfy the Required Principles and Procedures

Armstrong (2010) argued that harmonious relationship between employee and the management can be maintained through comparative pay equity resulting from proper job evaluation and grading. Armstrong (2007), Poels (1997) and Bach (2005) also followed different approaches to describe the principles of a sound pay system. However, the central tendencies (communalities) of these principles are; Transparency, Proportionality, Performance, Recruitment and Retention and Process.

#### **4.2.1. Stakeholders' Participation**

Determination of the appropriate pay scale involves varying degrees of formality, which defines the rates of pay for jobs, the pay relativities between jobs and the basis upon which jobholders are paid. Therefore, participation of pertinent stakeholders like top managers, line managers, HR specialists, employees and union representatives in job evaluation and pay establishment processes inevitable task of organizations which helps maintaining harmonious relationship between employees and the management. Accordingly, the descriptive analysis on the perception of employees towards stakeholders' participation in job evaluation processes of the University reveals that majority of respondents (49.2%) agreed that all level management are not aware of the importance and do not participate in pay determination processes of the University while 27.7% have no information about the issue.

On the other hand, only 31.2% of employees were aware of the importance and participants in pay determination processes, while 23.1% employees have no idea on the issue and other 46.2% respondents are not aware of the importance and are not participants in the processes. Moreover, significant numbers of respondents (64.7%) were not timely communicated how the pay scale is determined, while 24.6% employees have no idea at all. Result of the average mean (3.39) on the issue also indicates that participation of pertinent stakeholders at the time of pay establishment in the University is very minimal or nil. This is perhaps due to the non existence of the practice or the process was handled by only single or few authorities.

A triangulation with documents analysis towards pay establishment practices of the University clearly indicates that is the results of spinning intuitive nuance decisions made by the top level management. For instance, there are more than 20 circulars (during 2008 – 2016) towards pay adjustments in the University. Assessment also revealed that the rationale of the pay scale found naught (any stated justifications except a recurrent pay adjustment trial to external market pressures so that minimize high employee turnover and increase pay satisfaction) in the overwhelming circulars.

#### **4.2.2. Job Evaluation and Grading (JEG)**

The principal principle of job evaluation is providing proportional or equal pay for substantially equal work through the primary procedure of factor



evaluation system for position classification. With this regard, employees were asked whether they know job positions in the University are graded meeting standardized principles and procedures. Therefore, close to 41.5% respondents agreed that job positions in the University are not graded meeting standardized principles and procedures. Only 32.6% respondents are aware of that job positions in the University are graded meeting standardized procedures and principles while 26% employees are neutral to the issue. Moreover, according to respondents, pay scale of the University does not emanate from proper job evaluation & grading processes. Consecutively, there are also job titles like “Assessor” at Testing Center and “Editor-tutor-Assessor” at College of Open and Distance Learning those are not titled-standardized to aspire the incumbents for the positions. Furthermore, majority of respondents (46.2%) do not believe that job titles of the University help candidates to assume duties and responsibilities of the position in advance, while 18.5% respondents are neutral on the issue.

Moreover, respondents could have an opportunity to know the level of the job grade at which he/she has been assigned with the help of the job offer letter. However, the research shows that a single individual among the respondents could not indicate the level of his or her job grade. Rather, several respondents mentioned the title of the position he/she is possessing. Thus, the discussion clearly shows that the University either fails to inform at which job grade of the pay scale the incumbent is employed or positions are not graded at all.

#### **4.2.3. Pay Scale Determination**

St. Mary’s University current (November 2016) pay scale has 175 active jobs which are banded in 26 grades having 8 increment levels of each grade. Job grades 12, 16 and 21 – 26 each have single job, grades 1, 10 and 14 each have 17 jobs, grades 5 and 9 each have 5 jobs, grades 2 and 13 each 8 jobs, grades 7 and 15 each 4 jobs, grades 3 and 19 each have 13 jobs, grades 18 and 20 each have 2 jobs, grades 4 and 8 each 7 jobs, and grades 6, 11 and 18 each have 12, 9 and 18 jobs respectively. The extent to which pay or benefit structure of the University includes, base pay, different forms of allowances (relative to different positions), for instance; transportation allowance, mobile card allowance, representation allowance, hardship allowance, cash indemnity allowance, fuel allowance including other none financial perks like

scholarship, Group Personal Accident, Medical and Life Insurance schemes, and the provision of vehicle with fuel for members of the top management. Regarding the pay determination trend of the University is the results of spinning intuitive decisions made by the top level management. For instance, there are more than 20 circulars (during 2008 – 2016) towards pay adjustments in the University. Thus, the first circular (the researcher accessed) from office the president to HRM office dated on 6 September 2008 entails that the initial pay scale for support staff to be for laborers ETB<sup>3</sup> 330.00, staff with certificate of 10+1 ETB 518.00, 10+2 ETB 648.00, 10+3 ETB 700.00 and BA/BSc. holders ETB 1,600.00 for all graduates of new interns. Another circular from the same authority to HRM office dated on 27 July 2012 indicates that the entail pay level for support staff that had been effective from 6 September 2008 is adjusted as for laborers ETB 420.00, certificate holders of 10+1 ETB 672.00, 10+2 ETB 784.00 and 10+3 ETB 875.00 all without work experience.

The flaw in this circular is still deficient in the rational & partiality in pay scale adjustment basing only on the problem of retaining & recruiting staff with the existing pay scale. A consecutive circular from office of the president again decided on 30 August 2013 that the pay scale for graduate program teachers to be partially adjusted as initial salary of ETB 14,000.00 for professors, ETB 11,000.00 for Associate Professors and 9,000.00 for Assistant Professors. As a result of intuitive nuance pay scale adjustment tradition in the University, a partial pay scale adjustment for messengers and drivers was slated to be ETB 600.00 and ETB 1,300.00 respectively effective from 28 April 2014 and the same partial adjustment for secretarial positions was decided on other circular dated on 17 December 2013. An extra pay scale adjustment again partly for academic staff was proposed by HRM office & approved by office of the president on 19 November 2014. However, after a month a special allowance adjustment for six staff was approved again as a result of existing pay scale internal inequity.

Reprehensible pay scale always leads an organization to benefit some and detriment others. In doing so, SMU tried to compensate pay scale of all staff

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<sup>3</sup> 1 USD ≈ 26.87ETB. *Commercial Bank of Ethiopia as of 18 April 2017, 07:38PM*

in Finance Administration Office with the circular dated on 9 May 2014 thinking that the stated positions were detriments on the existing pay scale. Moreover, on the date of 19 April 2015 office of the Academic Vice President proposed & approved by office of the president for a new pay scale of all academic staff basing on their educational qualification and weekly course load. Pretty speaking, this attempt has tried to base a pay scale only on educational qualification and course load. Other compensable factors and equity (internal & external) issues were not been addressed adequately. Yet, the fatal consequence of erratic pay scale remains the University unable to retain & recruit professionals after copious circulars of pay scale adjustments. As a result, the HRM office proposed & approved by office of the president a new pay scale adjustment by December 2015 but with the same fashion lacking of job evaluation, equity issue and market assessment or bench marking. Consecutively, a realm circular practice of SMU results the latest pay scale being effective from November 2016. The circular noted that technical positions like finance, IT and drivers still to be treated in different ways. The pay scale still treats differently the same educational qualification of assistant graduates ETB 3,600.00 and ETB 2,800.00 for noon-teaching staff members. With the same fashion, MA/MSc. Degree for lecturers in business courses ETB 6,600.00, for lecturers in basic courses ETB 6,000.00 and for noon-teaching staff with the same qualification ETB 4,800.00. With this all evidences, regardless of the routine pay determination practices, the remarkable task of the University is a recurrent pay adjustment trial to external market pressures so that minimize high employee turnover and increase pay satisfaction.

#### **4.2.4. Pay Disparity**

Pay disparity, which mean to this context, is the extent to which rates of pay for similar workloads and same positions differ without significant reason/s. with this regard, majority of respondents (63%) knew colleague/s in the University doing the same job but receiving different grading/pay or colleague/s with low workload but awarded grading/pay equal to a person with a high workload while 37% of respondents believe no pay disparity in the University. Hence, majority of respondents believed that SMU usually pay sufficient attention to pay people than the workload.

A triangulation from document analysis of SMU's recent pay scale results that the pay scale treats the same educational qualification of assistant graduates for ETB 3,600.00 and ETB 2,800.00 for noon-teaching positions. With the same fashion basic course lecturers are paid ETB 5,000.00 and business course lecturers ETB 5,600.00 while noon-teaching staff members paid ETB 4,800.00 for the same qualification i.e., MA/MSc Degree. It is also noted on the pay scale that technical positions like finance, IT and drivers still to be treated in different ways regardless of similarities in qualification. Regarding the external pay equitability of the University, most respondents (84.6%) agreed up on SMU's external pay inequity and alleged the University for the Phenomenon of high employees' turnover. Nevertheless, 43.1% of the respondents are not aware of grade drift practice in the University, while 38.4% of the respondents also do not believe that there is incidence of grade drift (unjustified upgrading) in the University. However, 64.6% employees believe that SMU's salary is in-consistent among employees. Regarding to the perception of employees on basis upon which pay is determined, 73.9% respondents believe that is not fair and only 14% respondents agreed that is fair. In general, at univariate level of the category, external pay equitability is worse than other variables and the average mean (3.73) also indicate that pay equitability and fairness of the University is unsatisfactory.

On the other hand, a comparative analysis of salary data was undertaken to compare external pay relativities, i.e.; the pay rates provided for equivalent jobs (initial rate) in other organizations (market rates) with those provided within the University. Though, the external market is not systematically monitored, the data gathered through intelligence was compared with SMU's benchmark jobs, base pay.

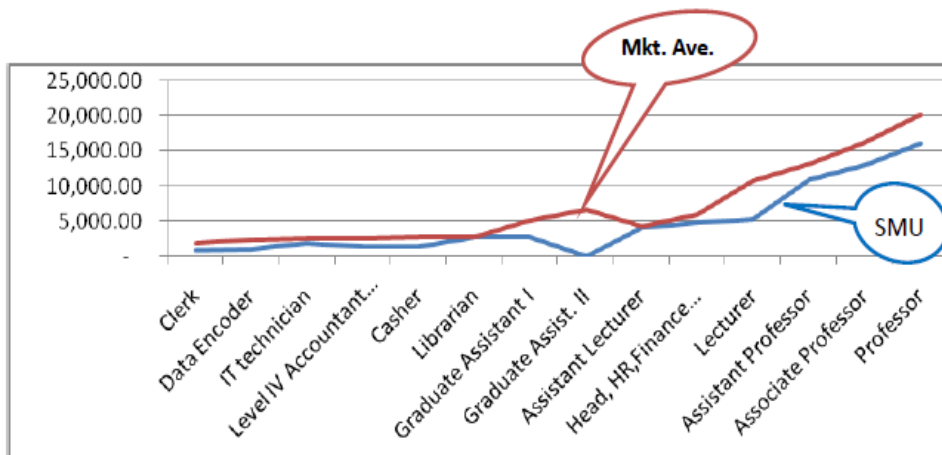


Figure 4.1 Pay market rate analyses

Source: Own survey result (2016)

As discussed in figure 4.1 above, the market comparison clearly shows that pay scale of SMU is inequitable, i.e., incompetent with the labor market relative to the selected positions. Base pays only for the position Librarian and Assistant Lecturer of the University asymptotes the market average price (pay). Moreover, the researcher is very much interested to remember the reader about several additional major benefit packages especially in Public Higher Education Institutions, for example, provision of Condominium or Apartment House, Research awards and so on.

#### 4.2.5. Pay Performance

St. Mary's University currently seems to have a narrow graded pay structure with 26 grades and 8 incremental levels of each grade and the structure pays ranging from ETB 800.00 of grade 1 to ETB 18,500.00 of grade 26 (laborer to professorship). A regular annual pay increment is also given on completion of each year's service (at the end of January or July) which contains increment schemes like, 10% of the monthly base pay of an employee who is earning below ETB 2,000.00, 7% of the base pay of an employee earning between ETB 2,001.00 – 5,000.00, 5% of the base pay of an employee earning between ETB 5,000.00 – 8,000.00 and 3% of the base pay for employees whose base pay exceeds 8,000.00 (SMU pay scale document 2011). Employees were asked to rate the soundness of the University in providing the

base pay, annual pay increment and salary adjustment based on increases of the living cost.

The findings presented in table 4.2, employees believed that they were paid low basic salary with lesser annual pay increment and poor salary adjustment based on increases of the living cost. The average mean of the respondents' rating on the University's pay system 3.73, reveals that the pay system of the University is not encouraging. Of course, one thing we should clearly understand is that, no matter amount of the pay, it is not enough. A onetime higher increment eventually becomes normal and archaic. What matter always is a reasonable and fair pay; both internal and external pay equity.

*Table 4.2 Frequency and percentage of responses on the payment system*

Statements	Excellent		Good		Average		Poor		V/Poor		Mean
	F	%	F	%	F	%	F	%	F	%	
Basic Salary	0	0	6	9.2	19	29.2	25	38.5	15	23.1	3.75
Annual pay increment	2	3.1	4	6.2	22	33.8	23	35.4	14	21.5	3.69
Salary adjustment following cost of living	2	3.1	6	9.2	22	33.8	18	27.7	17	26.2	3.74
Overall mean											3.73

Source: Own survey (2016)

#### **4.1. Alignment of Pay Scale with Significant Organizational Changes**

It is noted that St. Mary's University is an outgrowth of St. Mary's Language Center established in 1991, to a College since 1998, a University College since 2006 and being a University starting from 2012. Hence, several internal adjustments like structural expansion and merger of working units are expected activities. Accordingly, the pay scale alignment with these functional changes was required at each significant organizational change. However, none of job regarding to pay scale revision exhibited aligned with these significant organizational structural changes. According to respondents, positions could be simply established or downsized at any time basing on the expansion or contraction of working units in the University.

The majority of respondents 53.8% respond that SMU usually does not align its pay scale with significant organizational changes while, 26% of

respondents agreed up on the alignment of pay scale with significant organizational changes. Moreover, 55.4% and 55.3% of employees rate the University that does not align its pay scale at time of merger and establishment of new significant work units respectively. Generally, the average mean (3.54) tells us the weakness of pay alignment with substantial organizational structural changes in the University.

Table 4.3 Alignment of pay scale with significant organizational changes

Statements	S/agree		Agree		Neutral		D/agree		S/disagree		Mean
	F	%	F	%	F	%	F	%	F	%	
SMU usually aligns its pay scale with significant organizational changes	0	0	17	26	13	20	19	29.2	16	24.6	3.52
SMU usually aligns its pay scale at time of merger in significant work units	0	0	12	19	17	26.2	23	35.4	13	20	3.57
SMU usually aligns its pay scale at time of establishing new significant work unit	0	0	11	17	18	27.7	27	41.5	9	13.8	3.52
Overall mean											3.54

Source: Own survey (2016)

#### 4.2. Ability of Pay Scale to Acquire and Retain Qualified Staff Members

A detail literature discussion of this research stated that reward can influence employees' decisions about which particular employer to work for, whether to stay with or leave an employer, and when to retire. What benefits are offered, the competitive level of the reward, and how those benefits are viewed by individuals all affect employee attraction and retention efforts of employers and entirely affects the harmonious relationship between employee and the management. With this regard, SMU employees were asked and result drawn as 53.8% of respondents rated that pay scale of the University does not help in bringing harmonious relationship between employee and the management. Employees were also asked to rate the ability of the pay scale to acquire and retain qualified staff members. Hence, results are drawn as follows.

*Table 4.4 Ability of pay scale to acquire and retain qualified staff members*

Statements	S/agree		Agree		Neutral		D/agree		S/disagree		Mean
	F	%	F	%	F	%	F	%	F	%	
Pay scale improves harmonious relationship between employee and the management	6	9.2	11	17	13	20	21	32.3	14	21.5	3.40
Pay scale attracts qualified employees	2	3.1	4	6.2	6	9.2	22	33.8	31	47.7	4.17
Pay scale helps to retain qualified staff members	2	3.1	10	15	3	4.6	20	30.8	30	46.2	4.02
I accepted this job because it pays well	1	1.5	6	9.2	8	12.3	20	30.8	30	46.2	4.11
I accepted this job because I had no other options	16	24.6	10	15	13	20	15	23.1	11	16.9	2.92
Pay scale does not motivate employees	37	56.9	19	29	1	1.5	6	9.2	2	3.1	1.72
There is a critical need to review and revise the pay scale of the University	49	75.4	11	17	0	0	4	6.2	1	1.5	1.42
Overall mean											3.11

Source: Survey result (2016)

81.5% and 77% respondents rated the pay scale of the University that could not attract and retain qualified employees respectively. The other 77% respondents were not agreed that he/she accepted the job because it pays well. Even, 39.6% respondents accepted the job because he/she had no other options. Moreover, figures in table 4.4, have shown that 85.9% respondents believed that SMU's pay scale does not motivate employees while 92.4% employees agreed up on a critical need to review and revise the pay scale of the University.

## 5. Conclusions and Recommendation

### 5.1. Conclusions

The research was initiated with major objective to assess the pay scale establishment practices of St. Mary's University; how the University's human capital has been compensated and to analyze whether the pay scale even serves as a motivational tool through determination of the perception of employees about the practices. This descriptive research was conducted based on the data gathered through questionnaire, interview and documents



analyses. Indeed, based on the analysis of the collected data the following major findings were drawn as follows:

- ❖ Job grading and pay structure of the University fails to meet standardized procedures and principles, and yet not reviewed periodically. Furthermore, pay scale of the University does not emanate from proper job evaluation and grading processes.
- ❖ The discussion about awareness and understanding of employees about pay policies and strategies of St. Mary's University reveals that the University has tended to keep information secret. The respondents' rating on the issues reveals that employees are not aware of and did not know what kind of pay policies and strategies the University has. Thus, the absence or inept pay policy and strategy eventually may leave the University with employees developing the feeling of undervalued (physical and mentally exploited), job insecurity, lack of career vision, conflict and so on.
- ❖ Pay equitability and fairness of the University is found to be unsatisfactory. At univariate level of pay equitability and fairness variables, the external pay equitability is worse and pay disparity practiced in the University.
- ❖ The pay determination or review practices of SMU are usually carried out by the top management (intuitive decisions) basing on a few proposals of pertinent business units and significant number of respondents also believed that there is no job evaluation practices at all in the University.
- ❖ With regard to substantial internal organizational structural changes, the University fails to align its pay scale with such significant organizational changes (for example, at the time of being a College, University College and a University).
- ❖ Pertinent stakeholders like top managers, line managers, HR specialists and employees were not participated in job evaluation and pay establishment processes at SMU because of the fact that the processes were handled by only single or a few authorities. Moreover, significant numbers of respondents were not timely communicated how the job grads are designed and pay scale established, while few employees have no idea at all to the issue.

- ❖ The soundness of the pay system is measured by the ability of both attracting and retaining of best minds. However, data drawn from the research discussion clearly shows that the pay scale of the University is unable both to attract and retains best minds. Significant number of respondents also rated that the pay scale of the University does not help in motivating employees.

## **5.2.Recommendations**

Based on the findings and conclusions, the study propounds the following recommendations.

- ✓ The study laid out that SMU employees are not aware of and did not understand the pay policy and strategy. Thus, the University needs to sustainably review the policy document and increase transparency of pay policies and strategies through effective employees' involvement and communications.
- ✓ Job positions in St. Mary's University are not graded meeting the required procedures and principles. Therefore, SMU is recommended to regularly review its pay scale meeting standardized procedures and principles, so that maintain fairness and the market competitiveness aligned with improvement of the living standard of its employees.
- ✓ The research discussion indicated that both external pay in-equality and internal pay disparity is exhibited. Thus, equal pay for work of equal volume shall always be practiced at St. Mary's University and external pay in-equity has to be seen critically in order to tackle employees' job dissatisfaction and high turnover.
- ✓ The study found that pay establishment trend of the University is the results of spinning intuitive decisions made by the top level management with copious of routine circulars. In addition, the participation trend of pertinent stakeholders in job grading and pay determination processes of the University is very minimal. Hence, the University is advised to sustainably increase the participation opportunity of pertinent stakeholders in job grading and pay establishment processes so as to maintain harmonious relationship between employee and the management.
- ✓ SMU has encountered several internal adjustments like: structural expansion and merger of working units in its life history. However, the research indicated that the University does not align its pay scale with

significant organizational changes. Hence, immediate due consideration to the weakness of pay alignment with substantial organization structural changes of the University and greater attention to the comprehensive pay system shall be given accordingly.

- ✓ The extent to which the pay scale enables the University to acquire and retain qualified staff members is unsatisfactory. Therefore, it is imperative that SMU shall seek to provide salaries that attract, retain and motivate competent employees. It is also recommended that robustness of compensation systems of the University ought to be studied or researched comprehensively.

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# Determinants of Adoption of Mobile Banking Services: The Case of South Addis Ababa District, Commercial Bank of Ethiopia

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## Abstract

*Commercial banks in Ethiopia introduced mobile banking technology. However, the numbers of users of the services are very small, even by African standard. This research paper aims to identify the factors that affect the adoption of mobile banking technology in the South Addis Ababa district of Commercial bank of Ethiopia. A sample of 384 customers were selected based on stratified and convenient sampling techniques, from which 362 respondents replied appropriately to the survey questionnaire. Data were analyzed using the binary logistic regression model, in addition to descriptive statistics tools such as frequency, percentage, mean, and standard deviation. The study found out that sex, income, perceived security of the technology, perceived usefulness of the service, experience on technology and voluntarism to use the service have positive and significant effect on the adoption of mobile banking service. Therefore, to increase the penetration and growth of mobile banking service, Commercial bank of Ethiopia should work on the correlates that affect the adoption of the service.*

**Keywords:** *Mobile banking service, adoption, determinants, binary logit, Commercial bank of Ethiopia*

## 1. Introduction

### 1.1 Background of the Study

Worldwide the way in which banks deliver services has undergone a paradigm shift with the banks increasingly going towards the provision of electronic services in the self service mode. Tough competition and increasing customer expectations have forced all major commercial banks, irrespective of the sectors, to adopt the provision of banking services through ATMs, internet banking, mobile banking etc. The services through these channels offer tremendous advantage both to the banks and their customers. For the banks, the advantages are reduced transaction costs and lesser crowding in their branches. For the customers, these channels offer the convenience of doing

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bank transactions from the places of their choice, even homes and conducting them any time of the day they want (Koshy, 2009).

The increase in competition and change, co-operation, globalization and convergence, as well as changing consumer preferences means that new strategies to attract and maintain customers are essential. The Internet is therefore being considered as a strategic weapon and will revolutionize the way businesses operate to seize opportunities and overcome threats. The banking sector is no exception, the Internet is causing major delivery changes and is bringing about a transformation of this sector this is because the financial sector is one of the most affected by technology banking has always been a highly information intensive activity that relies heavily on technology to acquire, process, and deliver the information to all relevant users. Increasingly competition in the financial services sector is forcing providers to develop and utilize alternative delivery channels IT and Internet technology is therefore a revolutionary approach for banks to provide convenient, reliable and expedient services to bank customers (Tan & Teo, 2000 cited in Jaruwachirathanakul, 2003). In banking, in the past, the technology strategy was considered as subordinate to business strategy. But now with so much advancement in technology it has become as important as business strategy. Technology has provided an altogether new way of interacting and providing service to bank customers rather than merely replicating activities of the bank employees (Koshy, 2009).

The banking industry has witnessed significant advancement in technology just like any other sector. The adoption of e-banking service is one of the advancement that affects banking operations entirely. With the adoption of self-service technology by the banks, e-banking system has continued to service the populace well. Electronic banking offers convenience to costumers and it provides banking services well beyond the traditional service period. It therefore encourages a cashless society and every sector of the economy whether financial or nonfinancial organization is adopting computer based approaches to the service rendered. Mobile banking which is a type of electronic banking is becoming more popular in modern banking and as such has been a subject of interest among researchers. Mobile banking means a financial transaction conducted by logging on to a bank's data base using a

cell-phone; such as viewing account balances, making transfer between accounts, or paying bills. It is a term used for performing balance checks, account transactions, payments etc, via a mobile device such as a mobile phone. In recent times e-banking is most often performed via SMS or the mobile internet and can also use special program called client downloaded to the mobile (Oluma et.al, 2016).

Electronic banking technologies have contributed to improving of effectiveness of banks' distribution channels through reducing the transaction cost and increasing the speed of service, mass customization, marketing and communication activities, and maintaining the customers and attracting new ones, From the customer's perspective, e-banking allow customers to save time and cost. Due to the advantages of e-banking for both banks and customers, the adoption of electronic banking recently has rapidly grown as a channel of distribution of banking products and services (Bucevska, 2011). The concept of mobile-banking is generally used to refer to the new technologies that enable access to banking services via mobile phones. mobile-banking, also referred to as cell phone banking, is the use of mobile terminals such as cell phones and personal digital assistants (PDAs) to access banking networks via the wireless application protocol (Francois et.al 2015).

Mobile banking involves mini-statements and checking of account history, alerts on account activity or passing of set thresholds; monitoring of term deposits, access to card statements, mutual funds/equity statements; insurance policy management, pension plan management, access to loan statements; status on cheque, stop payment on cheque, ordering check books, balance checking in the account, PIN provision, change of PIN and reminder over the internet, domestic and international fund transfers, recent transactions, due date of payment, micro-payment handling, mobile recharging, commercial payment processing, bill payment processing, peer to peer payments and deposit at banking agent (Cudjoe et.al, 2015).

In Ethiopia, the first bank that deployed mobile banking service is the state-owned Commercial bank of Ethiopia. However, online banking is in its infant stage. Even though, the concept of online banking implemented in Ethiopia with a single service of SMS message during late 2008, it does not show that

much improvement as its age. Now a day some banks are adopting e-banking system which is the state of the art. In addition, many banks are making what seem like huge investments in technology to maintain and upgrade their infrastructure, in order not only to provide new electronic information based services, but also to manage their risk positions and pricing. The earliest forms of electronic and communications technologies used mainly in Ethiopian banking offices were automation devices. However, Telephones, telex and facsimile were employed to speed up and make more efficient the process of servicing clients (Mattewos, 2016). Banking institution cannot increase their customer base in the mobile banking environment without knowing what factors enable or inhabit consumers from adopting such service. As there are ever increasing pressures on telecommunications operators and banking institutions to increase their revenue, it is important to understand what drives consumer adoption of mobile banking services but failure to do so could result in a loss of market share and limited growth in the mobile banking sector for both financial and network operators.

## **1.2 Statement of the problem**

Commercial bank of Ethiopia have spent huge amounts in establishing mobile banking systems, but the adoption and usage rate of mobile banking is still lower than expected and remains insignificant compared to the entire banking transactions. For instance the bank has only managed to recruit 625,000 new mobile banking in 2015/16 physical year but the actual new mobile banking activated was 431,677 customers (72% activations below the planned 80% activation) and total mobile banking registered stood at 1.1 million out of over 13.3 million accounts –holders as of December 30, 2016. This amounts account to only 8% of all commercial bank of Ethiopia customers. Furthermore, in the same period, mobile banking transaction stood at 868,464 with a total value of birr 3.5billion (CBE, 2016/2017).

The bank had hoped that it would be able to capture most, if not all of these mobile phone subscribers into its M-Banking platform which is available to both account and non-account holders. It is true that mobile banking is an infant stage since its introduction in 2013 for the Ethiopian society. It is therefore important for the banking industry to understand the factors that affect the technology adoption decision of mobile banking users.



Previous studies in various countries identified the factors that determine the adoption of mobile banking services. For example, studies by Alsheikh and Jamil (2014) in Saudi Arabia, Yu (2012) in Taiwan, Oliver (2012), Ndumba et.al (2014) and Abdullatif (2015) in Kenya, Fall et.al (2015) in Senegal, and Cudjoe et.al (2015) in Ghana have shown that the apathy of the bank consumers towards mobile banking services affected the adoption negatively, while customers belonging to the well educated, young, relatively well-off and residing mainly in urban areas, etc adopted the technology. Studies conducted about the determinants of adoption of mobile banking services in Ethiopian commercial banks by Mattewos (2016) and Laekemaryam (2016) found out that perceived usefulness and perceived ease of use of the technology to have positive relationship with the adoption of mobile banking whereas perceived risk has negative relationship with the adoption of mobile banking. In these studies important variables such as experience with technology and voluntarism to use the service were omitted while they are important. In the current study, the researcher included these omitted variables and estimated the determinants of adoption of mobile banking services using the binary logit model while in the previous studies data were analyzed using the Analysis of Moment Structure. Therefore, this study is an effort to fill in the existing knowledge gap due to omission of relevant variables in the analysis.

While the factors that determine adoption of mobile banking services presented in the literature are several, this study examines only some factors that determine adoption of mobile banking services in the case of south Addis Ababa district of the Commercial bank of Ethiopia. While the branches were selected by using stratified sampling technique, the sample respondents were selected using convenient sampling method due to the difficulty of accessing sample customers. Therefore, readers should accept the findings of the study given these limitations, which may affect the representative of the study.

### **1.3 Objectives of the study**

The objective of the study is to identify the determinants of adoption of mobile banking services by customers of Commercial bank of Ethiopia. More specifically, it examines

1. the effect of demographic factors on the adoption of mobile banking technology by the Bank's customers,
2. the effect of customers' experiences on the technology and their voluntarism to use on the adoption of mobile banking services provided by commercial bank of Ethiopia, and
3. the influence of user's perceived risk of the technology on the adoption of mobile banking services.

## **2. Review of Literature**

### **2.1 Theoretical literature review**

Electronic Banking (E-Banking) service originated with Automated Teller Machine (ATM) since 1980. In 1990 the banking sector started to perform their banking transaction through telephone, and in 1995 internet banking service was introduced in USA. E-Banking users can perform many banking transaction like balance inquiry, paying of bill, transferring money from one account to another (Azam et al., 2014). Financial services industry over time has opened to historic transformation that can be termed as electronic developments which is advancing rapidly in all areas of financial intermediation and financial markets such as e-finance, e-money, electronic banking (e-banking), e-brokering, e-insurance, e-exchanges, and even e-supervision. The driving forces behind the rapid transformation of banks are influential changes in the economic environment include among others innovations in information technology, innovations in financial products, liberalization and consolidation of financial markets, deregulation of financial inter-mediation (Elisha, 2010). These factors make it complicated to design a bank's strategy, which process is threatened by unforeseen developments and changes in the economic environment and therefore, strategies must be flexible to adjust to these changes.

The e-banking is transforming the banking and financial industry in terms of the nature of core products /services and the way these are packaged, proposed, delivered and consumed. It is an invaluable and powerful tool driving development, supporting growth, promoting innovation and enhancing competitiveness. Banks and other businesses alike are turning to IT to improve business efficiency, service quality and attract new customers. Technological innovations have been identified to contribute to the

distribution channels of banks and these electronic delivery channels are collectively referred to as electronic banking (Elisha, 2010).

E-banking is a term which is explained as customer enjoyment of banking services electronically, without the having physical appearance to the bank's branch. It is also sometimes regarded with internet banking, home banking, virtual banking, online banking, remote electronic banking and personal computer banking. E-banking provides a wide range of financial services, namely, ATM services, fund transfer, utility bill payment and online payments. Generally, E-banking is a remote facility to perform banking services using the internet (Muhammad, 2015).

### **2.1.1 Mobile Web**

Mobile web allows users to access web sites from their handsets and it is a channel for the delivery of web contents through the mobile handset. As result of the advancement in mobile handset devices in terms having web browsing feature as well as wider screen with high resolution coupled with availability of mobile internet services with higher quality (broadband) and affordable services relative to what was before, use of mobile web for various services is growing across the various segments of consumers. Among those services use of mobile web for mobile banking is becoming popular in the banking business. Like SMS channel mobile web has its own advantages and disadvantages some of which are described below.

### **2.1.2 Mobile Client Applications**

Mobile client applications are a rapidly developing segment of the global mobile market. Mobile client applications are common on most mobile phones today and are key to providing user interfaces for basic telephony and messaging services as well as for more advanced and entertaining experiences. It has evolved to give a user access to services that require richer, faster and not necessarily connected user experiences. In this respect mobile applications are distinctly different from browsing the mobile web (CBE, 2016/17). In terms of advantages, it offers organizations more control over the user experience with a rich user interface capability, enhance the ability to work even when there is no connection to the wireless network, provides secured access with applications, supports for access to corporate customs

applications, and provides the ability to provide remote wipe-out of information when device is lost or stolen (CBE, 2016/17).

### **2.1.3 M- Banking Business Models**

A wide spectrum of mobile/branchless banking models is evolving. However, no matter what business model, if mobile banking is being used to attract low-income populations in often rural locations, the business model will depend on banking agents, i.e. retail or postal outlets that process financial transactions on behalf telecoms or banks. The banking agent is an important part of the mobile banking business model since customer care, service quality, and cash management will depend on them. Many telecoms will work through their local airtime resellers. However, banks in Colombia, Brazil, Peru, and other markets use pharmacies, bakeries, etc. These models differ primarily on the question that who will establish the relationship (account opening, deposit taking, lending etc.) to the end customer, the Bank or the Non-Bank/ telecom Company (Worku, 2015).

#### **1. Bank-focused Model**

The bank-focused model emerges when a traditional bank uses non-traditional low-cost delivery channels to provide banking services to its existing customers. Examples range from use of automatic teller machines (ATMs) to internet banking or mobile phone banking to provide certain limited banking services to banks' customers. This model is additive in nature and may be seen as a modest extension of conventional branch-based banking (Worku, 2015).

#### **2. Bank- Led Model**

The bank-led model offers a distinct alternative to conventional branch-based banking in that customer conducts financial transactions at a whole range of retail agents (or through mobile phone) instead of at bank branches or through bank employees. This model promises the potential to substantially increase the financial services outreach by using a different delivery channel (retailers/mobile phones), a different trade partner (telecom operators / chain store) having experience and target market distinct from traditional banks, and may be significantly cheaper than the bank-based alternatives. The bank-led model may be implemented by either using correspondent arrangements or by

creating a JV between Bank and Telco/non-bank. In this model customer relationship rests with the banks non bank led model (Worku, 2015)

### **3. Non – Bank Led Model**

The non-bank-led model is where a bank does not come into the picture (except possibly as a safe-keeper of surplus funds) and the non-bank (e.g. telecom operators) performs all the functions (Worku, 2015).

#### **2.1.4 M-banking Technology Adoption models**

Adoption: is defined as the act or process of beginning to use something new or different (Webster, 2009). Technology adoption is thus the process of beginning to use new technology or different technology by customers, organizations etc. As result of the dynamism of the information and communications technology innovative technological products are released. And the growth of nations, organizations and individuals is highly dependent on how best they adopt the technology in their operations. In order to understand how people can accept or adopt technology various models are developed and used. In the following paragraphs some technology acceptance models are briefly discussed which include: (1) The Theory of Reasoned Action (TRA), (2) Theory of planned Behavior (TPB), (3) Innovations Diffusion Theory, and (4) Technology Acceptance Model (TAM).

#### **(1) Theory of Reasoned Action (TRA)**

Theory of Reasoned Action is a psychological theory that tries to explain an individual's action that is determined by his/ her behavioral intention to perform it. Ajzen and Fishbein (1975). According to their theory, behavioral intention (use technology), is explained by people's attitudes toward that behavior and subjective norms. People's attitude toward a behavior includes behavioral beliefs; assess the consequences of behavior, subjective norms, normative beliefs and motivations that must be answered (Riivari, 2005; Puschel et al, 2010). This theory, as long as the behavior is voluntarily controlled by the individual, can accurately explain the factors influencing technology adoption (Laukkanen and Cruz, 2009).

#### **(2) Theory of Planned Behavior (TPB)**

The Theory of Planned Behavior (TPB) is proposed as an extension of the Theory of Reasoned Action (which was related to voluntary behavior), because of the limitations of TRA in dealing with behaviors over which people have incomplete Volitional/autonomous control. The TPB introduced a third independent determinant of intention, perceived behavior control (PBC). For this reason, TPB was introduced by Ajzen in 1985 (Ajzen 1985) The theory was called the theory of planned behavior (TPB) since it evolved from the Theory of Reasoned Action, with an additional construct (PBC). According to Ajzen (1991), TPB incorporates an additional construct in order to account for situations where an individual lacks the control or resources necessary for carrying out the targeted behavior freely.

### **(3) Technology adoption models**

Several economic models have tried to explain how the diffusion of technology takes place and why firms adopt the technology at different stages. These models roughly consist of the so-called “equilibrium” models (Battisti & Stoneman, 2003; David, 1991; Karshenas & Stoneman, 1993), the “epidemic” models (Mansfield, 1961, 1968) and the adoption models with “network externalities” (David, 1985; Farrell & Saloner, 1985; Katz & Shapiro, 1986)<sup>3</sup>. On the other hand, several models have focused on the demand side, or the consumer technology diffusion process (Battisti, 2008). This literature takes into consideration the spreading of consumer technology within and across households (Mahajan, Muller, & Bass, 1990; Zettelmeyer & Stoneman, 1993). However, as Battisti (2008) states consumers’ choice could be modeled following either the epidemic or the equilibrium approach.

**1) Equilibrium Models:** The equilibrium models are based on at least two of the tenets of mainstream neoclassical theory: such as equilibrium, infinite rationality and full information (Battisti & Stoneman, 2003; David, 1991; Karshenas & Stoneman, 1993 cited in Fall 2014). This theory considers that the decision to adopt is the result of a cost-benefit calculation by potential adopters (firms or individuals) who anticipate the net benefits from adopting and using these technologies.

**2) Epidemic models:** The second group of technology adoption models is the “epidemic” models (Mansfield, 1961, 1968 Cited in Fall 2014).), which

emphasize the influence of information spillover effects on the diffusion of technologies. The process of technological diffusion is considered similar to the spread of disease by infection. A greater number of adopters indicate a greater amount of information that is available about the technologies and a higher diffusion rate of the information. The basic hypothesis is that it takes time for information about a new technology to reach all potential users (Geroski, 2000).

**3) Networks externalities:** Technology adoption models with “network externalities” have been well studied in the literature, especially for the adoption of competing technologies (David, 1985; Farrell & Saloner, 1985; Katz & Shapiro, 1986 cited in Fall 2014). Technology is characterized by network externalities that occur when the benefit an agent obtains from his adhesion to a network is positively correlated to the number of members connected to this network. In these type of models, users are heterogeneous, with different preferences for innovation and simultaneously decide whether to adopt or switch to a new technology or stick with their current own. In the same matter, it may be optimal for a firm to adopt a technology, simply because others have already done so, regardless of the information they have on the efficiency of such technology (Arthur, 1989). Katz and Shapiro (1986) suggest three possible sources of network externalities: i) the direct physical effect of the number of adopters on the quality of a particular technology.

#### **(4) The Unified Theory of Acceptance and Use of Technology Model**

Venkatesh et al. (2003) proposed and tested a unified information technology acceptance and use research model, called the Unified Theory of Acceptance and Use of Technology (UTAUT). The model integrates significant elements across eight prominent user acceptance models and formulates a unique measure with core determinants of user behavioral intention and usage. In this model the original UTAUT aims to explain user intentions to use an IS and subsequent usage behavior. Furthermore UTAUT model suggests that there are a set of factors that influence the intention of the individual user acceptance (Mohammad, 2012). Venkatesh (2003), in their research article theorized that, four constructs play a significant role as direct determinants of user acceptance and usage behavior: (i) performance expectancy, (ii) effort expectancy, (iii) social influence, and (iv) facilitating conditions. Gender, age,

experience, and voluntariness of use are also explained to mediate the impact of the four key constructs on usage intention and behavior (Venkatesh et al., 2003).

**(i) Performance Expectancy (PE):** Performance expectancy (PE) is defined as the degree to which an individual believes that using the system will help him or her to attain gains in job performance (Venkatesh et al., 2003). PE is the strongest predictor of intention and remains significant at all points of measurement in both voluntary and mandatory settings however from a theoretical point of view, there is reason to expect that the relationship between performance expectancy and intention will be moderated by gender and age.

**(ii) Effort Expectancy:** Effort expectancy found to be significant in the early time periods, but became insignificant over time (Venkatesh et al., 2003). As individuals became more familiar with the technology, the effort needed to use the technology declined. Previous research supported that the effort necessary to learn and use a new technology affected its acceptance and use (Gefen & Straud, 2000). In other words the easier a system is to use, the more likely it will be accepted and used (Sungwoo, 2009). To the extent that promoted effort expectancy leads to improved performance, previous studies indicated that effort expectancy had a direct effect on performance expectancy and intention to use mobile learning (Carlsson et al., 2006).

**(iii) Social Influence:** Social influence is defined as the degree to which an individual perceives that important others believe he or she should use the new system. Social influence has an impact on individual behavior through three mechanisms: compliance, internalization, and identification (Venkatesh and Davis, 2000). Previous models showed that gender moderated this relationship as the effect was stronger for females than males (Sungwoo, 2009). However, current results showed that gender failed to moderate this relationship when testing the proposed model. Experience also was not a significant moderator of this relationship, which fails to support the UTAUT findings in which non-users showed a stronger effect than users (Venkatesh et al., 2003).



**(iv) Facilitating Conditions:** Facilitating conditions are defined as the degree to which an individual believes that an organizational and technical infrastructure exists to support use of the system (Venkatesh et al., 2003). This definition captures concepts embodied by three different constructs: perceived behavioral control from (TAM), facilitating conditions from (MPCU), and compatibility from (IDT).

### **(5) Innovation diffusion theory (IDT)**

Another theory pertaining to the adoption of new technology is the Innovation Diffusion Theory by Rogers (1983). According to Rogers (2003), there are five perceived characteristics of innovation that can be used to form a favorable or unfavorable attitude towards an innovation, namely: relative advantage, compatibility, complexity, trialability, and observability.

#### **2.1.5 The Main Players of Mobile Banking**

In order to analyze mobile banking we have to define the different players who participate in mobile banking. These players' actions and practice are important in developing mobile banking industry. Mobile banking is a collective participation of four parties that is:

**1. Banking sector represented by operating banking institutions:** The banking sector is composed of various financial institutions like Commercial bank of Ethiopia, Dashen bank, United bank and other banks operating in the Ethiopian economy. These banks provide a network for accessing mobile banking services. The banking institutions have realized that there is need to increase financial inclusion by providing a network that helps the unbanked people to access financial services even without bank accounts (Daniel, et.al, 2014).

**2. Mobile network providers operating in the country:** Network providers are the diverse companies that provide mobile banking services which include banks and telecommunication companies. An example of a Mobile Network provider is Ethiopian Telecommunication Corporation the Ethiopian people to send and receive money with or without an account or mobile phone. These network providers charge a fee for using their financial services and hence, the reason for being in business (Daniel, et.al, 2014).

**3. Beneficiaries, businesses and private consumers:** Beneficiaries of the mobile banking services are the local Ethiopian citizens or other people in

Ethiopia using the mobile banking services and business people who intend to make their payments using mobile money. Businesses and private consumers always use mobile money services to send or receive money from different kinds of people who are either family members or business partners. Mobile banking improves these players' standards of living (Abdulatif, 2015).

**4. Regulating authorities (Country's Central bank):** The regulating authority is the Central Bank of Ethiopia which is the country's top most authority in banking matters. Central Bank of Ethiopia regulates fiscal and monetary activities that take place in the country. To operate in the country, the financial service providers have to follow all the regulations and terms set by the regulatory authorities (Daniel, et.al, 2014).

The most vital factors are considered to make M-Banking successful are policy and regulations. Any profit making business usually takes into account the performance of all parties involved in the line of business (Abdulatif, 2015).

### **2.1.6 Information technology and the Global Market**

The globe has more or less become a village; this is as a result of the internet and in fact the World Wide Web (www) whose impact has been felt by all sectors as well as all aspects of human endeavors. The ripple effect of globalization an offshoot of the internet and World Wide Web has breathed a new life into the way individuals and businesses communicate .It has also amalgamated various cultures as well as brought high level but stiff economic competition among various players in the global business arena. The banks and other financial institutions has leveraged the explosive powers of this super-high way and most banks now use it as the main vehicle of marketing, selling as well purchasing. The era of brick-and-mortar and high costs attached to its establishment are now gradually giving way to simple and lower cost form of business transactions simply over the internet and the worldwide-web mostly in the developed countries, and now creeping into the developing countries (Edwin, 2015).

### **2.1.7. Technologies Employed to Provide Mobile Banking Services**

Mobile banking services could be used through more than one channel such as short messaging service/messaging and application download (client-based) (Cudjoe et.al, 2015).

### **1. SMS-Short Messaging Service**

This is where the customers communicate with the bank through their mobile devices by sending an SMS (short messaging service) to the bank. The short messaging service (SMS) works in two ways, and it can be either a pull mode or a push mode. In the push mode, the mobile customer send a text message to the bank which contains a service command with a predefined request code to the bank's specific number. The bank also reply with SMS containing the specific information requested from the bank while the pull mode is when the banks sends a text message to the subscriber (customer) to inform the customer about certain transaction that have just taken place over the account. The message could be in the form of an MMS (multimedia message service) or SMS (short message service) they both work similarly even though the use of SMS is more popular) (Cudjoe et.al, 2015).

### **2) Client-Based**

This method requires the customers to use software installation, and this will serve as a user interface that can allow customers to use the mobile device while offline to access some basic transactions before going online. Typing details before connecting to the internet could reduce cost. This client based application is particularly useful because it allows customers to stay offline and while preparing transaction such as entry of account details and afterwards the transmission is made by sending out the data, this banking process conducted offline reduces online connection time and cost) (Cudjoe et.al, 2015).

### **3) Browser-Based**

Brower-based customer needs to be connected to the internet to use this service. The interface is generated from the server which is transported to mobile device, and this allows the content to be displayed through the browser. This method is extremely fast depending on the server that the customer is connected to but one its disadvantages is that, it requires the subscriber (customer) to stay online all through the transaction process and could lead to higher cost for the customers) (Cudjoe et.al, 2015).

## **2.1.8 Overview of factors influencing mobile banking**

User adoption of mobile commerce applications has been determined by many factors such as:

**1) Risk and security:** security and trustworthiness of a service was identified as one of the most important factors within every target customer segment when deciding on the use of a banking service delivery channel. Using mobile phone in banking is trustworthy. Fain and Roberts (1997) defined “risk is a perception of consumer, not a characteristics of a product”. It was found that the security factor could influence consumers’ attitudes towards online banking .Furthermore, it was considered to be one of the greatest concerns in adoption of mobile banking services, as individuals may worry about security issues during mobile banking service transactions such as data input and output mechanisms loss of connection risk and personal performance mistakes. As a result, many people may decide not to use this service and ignore the extra benefits of using mobile banking (Yu, 2009).

**2) Service characteristics:** The account balance service is one of the most promising mobile banking services, and is designed to help customers check their account balance and latest transactions immediately anytime/anywhere. Location free access created convenience in requesting account balances. Furthermore, accessibility and portability are classified as dimensions of convenience in the consumer behavior. Consequently the spatial and temporal distance between need recognition and need satisfaction can be considered important for doing banking via mobile phone. The ability to allow consumers to have more control over their financial situation is one attraction of mobile banking services, as the consumer prefers to act for himself/herself when dealing with his /her own monetary transactions through the mobile device. The flexibility of being able to use the service wherever and whenever the users want enables immediate completion of banking tasks (transferring money or paying a bill). This would save time and be perceived as convenient and efficient. The bank provides several services through mobile media, information based, transaction-based and personal services. The SMS service is the easiest way to check account balances and latest transactions via mobile phone. Speed of data transmission and the user interface impaired the added value of mobile services. Therefore, the characteristics of the service as perceived by the user and provided by the banking intuition and service

provider are important factors influencing the usage of mobile banking (Yu, 2009).

**3) Trust:** In business studies, trust has been found to be important for building and maintaining long-term relationships. Electronic exchanges are believed to present numerous risks to customers while trust appears to be especially important for creating loyalty when the perceived level of risk is high. This has been identified as key to customer loyalty especially in the area of e-commerce, because it is crucial wherever risk, uncertainty and interdependence exist. The banking sector is strongly associated with high levels of trust related to security and privacy issues in the physical environment. Therefore, trust is an important consideration in the development and fostering of e-commerce relations in the context of knowledge-based economy. Lowering perceived risks associated with online transactions as well as maintaining transaction trust is vital keys to attracting and retaining customers (Benjamin, 2015).

**4) Service Quality:** Service quality refers to reliability, content quality, personalization. Daft and Lengel (1986) suggested that accuracy, reliability, and quality of information exchanged across a medium were critical to the effectiveness. In the context of mobile, the content refers to information, features, or functions that are offered via mobile banking services. Such content should be constructed logically to help user find information and incorporate features such as accuracy, timeliness, relevance, and flexible presentation (Huizingh, 2000). A reliable mobile system should ensure the effectiveness of mobile banking.

**5) Perceived cost:** The degree to which an individual views that utilizing mobile banking will incur costs defend as perceive cost (Luarb & Lin 2005). These costs could typically include the cost of the mobile device, network charges, and transaction charges for bank costs as well as costs for data sent via the network infrastructure. The factor that had the least impact on mobile banking adoption in comparison to the other variables which includes perceived usefulness, perceived risk and compatibility, was perceived cost (wu and wang, 2005).

## **6) Behavioral intention**

Consistent to all models drawing from psychological theories, which argue that individual behavior is predictable and influenced by individual intention, UTAUT contended and proved behavioral intention to have significant influence on technology usage [Venkatesh et al. 2003]. Given that the ultimate goal of businesses (i.e. commercial banks) is to attract consumers to adopt their services.

### **2.2 Empirical review**

Building on the above literature review, empirical mobile banking and related studies were summarized below. The original UTAUT model proposed by Venkatesh et al. uses four moderators as determinants of intention and behavior with four core determinants, the moderators are sex, age, experience, and voluntariness of use.

#### **A. Sex**

Previous research showed that sex differences have shown to exist in technology acceptance (Venkatesh & Davis, 2000; Wolin & Korganmkar, 2003; Gefen & Straudb, 1997). Wolin and Korganmkar (2003) found that males and females differ significantly in several dimensions with 28 males exhibiting more positive beliefs and attitudes about E-commerce than females. In the UTAUT model, Venketash et al. (2003) proposed that gender would moderate the relationship between performance expectancy, effort expectancy, and social influence on intention to utilize the technology males exhibiting more positive beliefs and attitudes about E-commerce than females. They suggested that such differences stem from gender roles and socialization processes. Effort expectancy on intention was also moderated by gender. Previous studies have found a stronger proportion of perceived usefulness of mobile services among men than among women (Nysveen et al. 2005).

#### **B. Age**

Numerous studies have discussed the effects of demographics on new technology adoption. However, compared to traditional innovation diffusion studies (Rogers 2003) that reveal earlier adopters of technological innovations as typically younger in age, having higher incomes, better educated, and having higher social status and occupation, research findings in the context of electronic banking are not consistent. Similar to gender, age is theorized to

play a moderating role in the UTAUT model. In looking at gender and age effects, it is interesting to note that gender differences can be misleading without reference to age, Levy (1988). Venketash et al. (2003) proposed that the influence of performance expectancy will be moderated by both gender and age. Furthermore Age is confirmed as integral features of UTAUT.

### **C. Experience**

Several studies showed that prior similar experience, such as computer or internet use, strongly influence intention to use and usage behavior of a specific system (Venkatesh et al, 2003; Wu et al., 2007). Venkatehs et al. (2003) suggested that an increase in experience would decrease the influence of effort expectancy and social influence on behavior intention to use. Kim and Malhotra (2005) confirmed that when user experience increase, effort expectance and social influence decrease. People who have more experience 29 using similar system are more relying on instrumental basis rather than social basis because experience users of mobile devices or wireless internet are more skillful and easy to use M-commerce (Wang and Yang, 2005).

### **D. Voluntariness of use**

Voluntariness is the level to which an individual can choose to use a system; image is the extent to which individuals believe the use of a system will increase their social status within a group or how well others perceive them (Venkatesh and Davis, 2000). Yu (2012) on his study factors affecting to adopt mobile banking empirical evidence from the UTAT model, found that social influence, perceived financial cost, performance expectancy, and perceived credibility, significantly affect intentions toward mobile banking. The model employed for the study was Unified Theory of Acceptance and Use of Technology (UTAUT), distributing 441 respondents. This study discovered that gender significantly moderated the effects of performance expectancy and perceived financial cost on behavioral intention, and the age considerably moderated the effects of facilitating conditions and perceived self-efficacy on actual adoption behavior. On the same study, the determinants of the adoption and use of m-banking in Senegal. It was based on technology diffusion theories, particularly applied to households, existing within a general framework of technology leapfrogging by developing countries. They distinguish between the possessions (partial adoption) from the actual use

(total adoption) of m-banking. The study was based on a sample of 1052 households in the suburbs of Dakar. The main results are that the two decisions (adoption and use) are not independent from each other. Household's characteristics such as education and possession of a bank account are determinants of the adoption while age, gender and being a member of a tontine are determinants of the use.

In addition, the main sources of information leading to the adoption of M-banking are formal such as promotions from mobile operators and informal such as friends and family networks.

The study examined by Cudjoe et.al (2015) on the determinant of mobile banking adoption among bank customers in Ghana applied theoretical frameworks which have been developed from existing literatures on innovation and revealed that, awareness, usefulness, simplicity, compatibility, self efficacy and creditability of mobile banking service significantly affected consumer's intention to adopt and use mobile banking services provided by Access Bank. Additionally the study unveiled that, perceived credibility and perceived financial cost were the major setback with regards to customers adoption of mobile banking services provided by Access Bank, and as a result of this, Ghanaians have formed a negative behavioral pattern towards mobile banking. In addition, the findings showed that, perceived credibility and perceived financial cost have a stronger effect on consumer intention to adopt and use mobile banking service than perceived usefulness and perceived ease of use.

Ndumba et.al (2014) assessed the factors affecting the adoption of mobile banking in Kenya's commercial bank. This study employed a descriptive research design. The sample size for the research comprised of, data were collected from 67 customers through use of questionnaires. The research results indicated that the adoption rate of mobile banking in Kenyan commercial bank is below target. The main reasons behind the low adoption of mobile banking service were risk of loss and fear of system failure. Customers' perceived risk was found to negatively affect adoption of M-Banking service. On the other hand, perceived convenience, trust, the reliability of M-Banking services was found to positively affect adoption of these services. In the same topic Yu (2009) studied factors influencing the use



of Mobile Banking in the case of SMS-based Mobile Banking in New Zealand. The research adopted the basic concepts of the Technology Acceptance Model (TAM), as well as some constructs derived through a focus group discussion a survey questionnaire was developed and employed to collect data sample of 250 university students in New Zealand the results of the data analysis factors such as service quality and service awareness are influencing user perceptions about the usefulness of SMS mobile banking which in turn affect intention to use and adoption of mobile banking.

Laekemaryam (2015) examined factors affecting the adoption of mobile banking in commercial bank of Ethiopia based on the Unified Theory of Acceptance and Use of Technology (UTAUT) model to identify the causal relationships between adoption of mobile banking and Performance expectancy, perceived risk, perceived cost, effort expectancy, trust, mobile banking service quality and behavioral intention items. The data were analyzed using AMOS version 23 and SPSS version 20. And the data was analyzed through descriptive statistics such as frequency, correlation and ANOVA. Each variable is measured using five point likert scale using primary data collection method, questionnaire were distributed to target respondents of customers of commercial bank of Ethiopia for mobile banking users. The findings of this study revealed that performance expectancy, perceived risk, perceived cost, effort expectancy and trust, were the factors affecting users having intention to adopt mobile banking. Meanwhile, the Mobile banking service quality was found to be insignificant in that study. Furthermore, the study also manages to present demographic variables effects toward behavioral intention to adopt mobile banking, and found that gender is non-significant factor for mobile banking adoption. Age and occupation is found as significant factor for adoption of mobile banking but educational qualification was not a significant factor for adoption of mobile banking in Ethiopian mobile banking user context.

Worku (2015), also studied the factors affecting adoption of mobile banking the case of commercial bank of Ethiopia in Addis Ababa city using the technology acceptance model and analyzed the data gathered using descriptive statistics such as frequency, percentage, mean, mode, median and standard deviation. Besides binary logistic regression analysis is conducted to

understand the relationship of mobile banking adoption and perceived usefulness, perceived ease of use and perceived risk. The study found out that perceived usefulness and perceived ease of use have positive relationship with the adoption of mobile banking whereas perceived risk has negative relationship with the adoption of mobile banking.

Ayana (2012) examined the barriers and drivers of the adoption of electronic banking system in Ethiopia. The study was conducted based on the data gathered from four banks in Ethiopia; three private banks (Dashen bank, Zemen bank and Wegagen bank) and one state owned bank (Commercial bank of Ethiopia). A research framework developed based on technology-organization-environment framework and Technology acceptance model guided the study. The result of the study indicated that security risk, lack of trust, lack of legal and regulatory frame work, lack of ICT infrastructure and absence of competition between local and foreign banks as the major determinants of adoption of electronic banking system in Ethiopia. The study also identified perceived ease of use and perceived usefulness as a driver of adopting E-banking system.

Muhammad et.al (2015) studied the determinants of e-banking adoption in Pakistan by adopting the TAM model and the framework of structural equation modeling (SEM). For that purpose, they have used Analysis of Moment Structures (AMOS) to test the hypothesized model. Overall, the empirical outcome suggests that the enjoyment had a greater total effect on perceived usefulness (PU) and perceived ease of use (PEOU) while, subjective norm shows greater total effect on the intention to use the e-banking service. And also Kwame et al (2014) studied on Applying Logistic Regression to E-Banking Usage in Ghana to meet the objective the researchers was used 241 customers of three state-owned retail banks from Kumasi in Ghana, were used as sample for the survey. Responses gathered from the customers were mainly analyzed using a binary logistic regression and find that internet banking; ATM, and mobile phone banking were the commonly identified e-banking services offered by the banks. Among such services, ATM was the most frequently patronized service whereas internet banking recorded very low patronage. From the chi-squared test of association, customer's operational bank and occupational status were found

to have significantly informed the decision to use e-banking. With respect to the logit analysis, customer's operational bank, occupational status and monthly income were significant socioeconomic classification variables that informed customer's decision to use e-banking.

Edwin (2015) examined the empirical determinants of consumers' uptake of electronic banking in selected states of Nigeria. The research uses the consumer decision making process to identify factors that consumers use when deciding between electronic banking and non-electronic banking services. Factors include service quality dimensions, service product characteristics, perceived risk factors, user skill factors, and price factors. And the demographic variables include age, gender, marital status, ethnic background, educational qualification, employment, and income.

### **3. Research Methodology**

#### **3.1 Research Approach and Design**

The research approach used in this study is quantitative in nature which involves the use of primary and secondary data in order to answer the research questions to achieve its objective. And this research is about the determinants of the adoption of mobile banking services in Commercial Bank of Ethiopia South Addis Ababa District. The research adopted mainly causal/explanatory type of research design which relevant to achieve a research objective that aims at examining the relationship among the different factors adoption of mobile banking services. .

#### **3.2 Population and sampling**

There are four districts in Addis Ababa. All branches perform similar tasks, and share same role in achieving the Company's objectives. So, because of the homogeneity of those branches, the researcher used simple random sampling to select sample district. After selecting the sample district of south Addis Ababa the researcher used stratified sampling to select the branches. Under South Addis District of CBE, there are around 80 branches and differentiates in their grade level. Accordingly, since there are branches with grade level 1, 2, 3, and 4 and finally, since the willingness of respondents is very necessary, the researcher used convenience sampling technique and personal interview to select sample respondents. There were around

1,295,150 (in January, 2017) customers in South Addis District of CBE. And there are 80 branches in the District. For the purpose of this research, to get the sample size of these 1,295,150 customers, the researcher used the confidence level of 95% and error of margin 5 %, Z score 1.96, and population proportion 0.5. So, the sample size was 384 customers.

$$(1.96)^2(1295150*0.5)(1-0.5) / (0.05)^2(1295150-1) + (1.96)^2 0.5(1-0.5)$$

$$1243862.06/3238.7765=384$$

Sample size is determined based on Krejcie & Morgan (1970), which is presented as:

$$S = \frac{X^2 N p(1-p)}{d^2(N-1)} + p(1-p), \text{ where}$$

S= required sample size

X=Z value (1.96)

N= Population size

P=Population proportion

d=Error of margin

After determining the total sample size, the researcher used stratified sampling technique to decide on the sample size to be drawn from each stratum. Stratification was done based on the grades of the branches operating in south Addis Ababa district. There are about 80 branches under the District, and their distributions and the number of samples drawn from each stratum are presented in the table below.

**Table 3.1 Distribution of Samples by Grade and Branches**

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<b>Grade of</b>	<b>Number of</b>	<b>Total number of</b>	<b>Proportionate</b>
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<b>Branches</b>	<b>branches</b>	<b>customers</b>	<b>number of sample</b>
Grade 1	19	101205	30
Grade 2	50	554779	164
Grade 3	2	103442	31
Grade 4	9	535724	159
Total	80	1295150	384

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Source: Researchers

Convenience sampling technique was applied to select the customers to be interviewed. This was done when customers come to the branches to get banking services. While random sampling would have increased the representativeness of the sample, obtaining the addresses of the customers and reaching them where they are available was very difficult and costly, though not completely impossible. This could be taken as one of the limitation of the study in utilizing the findings of the research. The researchers asked the willingness of the customers to provide information about the status of mobile banking service usage and other relevant variables, before indulging on the interview.

### **3.3 Data Source and Data Collection Method**

The study is collected both secondary and primary data to examine the determinants of adoption of mobile banking services provided by commercial bank of Ethiopia. Secondary data are used mainly to have information about mobile banking customers and total bank customers. It was collected from Commercial bank of Ethiopia, and national bank of Ethiopia. Primary data were collected from customers of south Addis Ababa district by conducting personal interview with the customers of south Addis Ababa district. Variables included in the interview were demographic characteristics of sample customers, their perception about the usefulness of mobile banking technology, ease of use and risk associated with the use of mobile banking, etc.

### **3.4 Model specification and Data analysis method**

Based on the theoretical review and empirical considerations the following model is specified by using binomial logistic regression model. The mathematical (functional) expression of the model is given as follows:

$$\text{logit}(p_i) = \beta_0 + \beta_1 X_{1i} + \beta_2 X_{2i} + \dots + \beta_n X_{ni}$$

Where  $P_i$  is the probability of the presence of characteristic of interest. The functional form of the regression model estimating the factors that affect the usage of mobile banking in the commercial bank of Ethiopia presented as follows:

$$Y = f(X_1, X_2, X_3, X_4, X_5, X_6, X_7, X_8, X_9, X_{10}, X_{11}, X_{12}, X_{13}, E)$$

Where:

Y = Use of mobile banking; 1 if the respondent is mobile banking user; 0 otherwise

X1 = sex; 1 if male, 0 female.

X2 = Age level of the respondent( in years).

X3 = Monthly Income level of the respondent.

X4 = Year of schooling

X5 = Fear of misuse of personal data; 1 if respondent is afraid that his/her personal data will

be misused; 0 otherwise.

X6 = Perceived security; 1 if respondent perceives commercial Bank's as secure, 0

otherwise.

X7=Perceived usefulness (relative advantage); 1 if respondents perceive mobile banking is

useful, 0 otherwise.

X8= Perceived ease to use); 1 if respondents perceive mobile banking is easy to use, 0

otherwise.

X9=Occupation; 1 if the respondents are employed, 0 otherwise

X10=Experience on technology; 1 if the respondents are experience on technology, 0

otherwise

X11=Service quality; 1 if respondents perceived service quality is there, 0 otherwise

X12=Perceived cost; 1 if respondents perceived the service is costly, 0 otherwise

X13=Voluntarism to use; 1 if respondents are voluntary to use the service, 0 otherwise

$E$ =error term

The explicit estimable bi nominal logistic econometric model is formulated as follows:

$$User = \beta_0 + \beta_1x_1 + \beta_2x_2 + \beta_3x_3 + \beta_4x_4 + \beta_5x_5 + \beta_6x_6 + \beta_7x_7 + \beta_8x_8 + \beta_9x_9 + \beta_{10}x_{10} + \beta_{11}x_{11} + \beta_{12}x_{12} + \beta_{13}x_{13} + E$$

### 3.4.2. Data analysis method

A logistic regression technique was employed to examine the factors influencing the adoption of mobile banking products. This technique will be employed to find the model which would best fit in describing the relationship between the dichotomous characteristic of interest (adoption intentions) and the thirteen independent variables.

### 3.5 Multicollinearity Test

A test of Multicollinearity has conducted to determine the correlation of the independent variables. Multicollinearity refers to the extent to which an

independent variable could be explained by other independent variables in the analysis and if too high this can have harmful effect on regression. Multicollinearity occurs when two or more predictors in the model are correlated and provide redundant information about the response. It is a situation where the variables are too highly correlated. The correlations between constructs were checked for Multicollinearity and the results showed that the correlations between all constructs were measured by variance inflating factor(VIF) which is greater than 10 multicolliniarity problem is there (Maddala,1992)

#### **4. Results and Discussion**

In this section analysis and discussion of the data gathered based on the research methodology designed for the research is conducted. For this purpose, statistical instruments called descriptive statistics as well as logistic regression analysis is used to perform data analysis. Besides the descriptive analysis inferential statistics is applied to find out the relationship of mobile banking adoption with determinant factors hypothesized in the research model.

##### **4.1 Results of Descriptive Statistics**

The age of majority of the respondents was between 18-30 years of age numerically 64.08 percent. Whereas 20.44 percent falls between the ages of 31-40 and that means more than 92.5 percent of the customers were within the age of 18- 50 years. The fact that the majority of the respondents were young and adult implies it is an opportunity for mobile banking adoption in the coming periods. Because the youth are often more adventurous and more fascinated by technology than the old.

Year of schooling attained by respondents were between grade 11 to 15 years, which accounts 62.71 percent of the total respondents followed by those who attained 16 to 20 years of schooling (15.19 percent). This indicates that most of CBE customers in south Addis Ababa district have higher educational status which is an opportunity to CBE to provide advanced services such as mobile banking since ease of use of the service will be better. Among the total sample respondents, 35.36 percent of them earn a monthly income between 5001-10000 birr. Whereas 25.97 percent of the respondents earn monthly



income between 1001-3000 birr and also 21.27 percent of the respondents earn monthly income between 3001-5000. Hence most of the customers have income above the poverty line which is (1300 ETB) by international standard (World Bank, 2016). These is a good opportunity for mobile banking adoption as Jayawardhena (2000) claimed that high-level income customers are more likely to use electronic banking.

**Table 4.1 Descriptive statistics result for binary variables**

<b>Variables</b>	<b>Frequency</b>	<b>Percentage</b>
<b>Cell phone Ownership</b>		
Yes	350	96.68
No	12	3.32
<b>Total</b>	<b>362</b>	<b>100</b>
<b>M-banking awareness</b>		
Yes	302	83.42
No	60	16.58
<b>Total</b>	<b>362</b>	<b>100</b>
<b>Mobile Banking Adoption</b>		
Yes	235	64.92
No	127	35.08
<b>Total</b>	<b>362</b>	<b>100</b>
<b>Sex</b>		
Male	197	54.42
Female	165	45.58
<b>Total</b>	<b>362</b>	<b>100</b>
<b>Work status</b>		
Employed	306	84.53
Unemployed	56	15.47
<b>Total</b>	<b>362</b>	<b>100</b>

Source: Survey data and own computation (2017)

Among the respondents who adopted mobile banking service 40.61 percent of them mentioned that they used all mobile banking service provided by Commercial Bank of Ethiopia. The most frequently used services are

checking account balance which accounted 21.55 percent and money transfer service, which accounted 18.23 percent implying that payments using mobile banking needs to be promoted. So that customers will exploit the benefit of m-banking services by effecting payment wherever they are without incurring transportation and time cost. Summary of the descriptive statistics of the independent variables used in the model show that the average age of respondents is 31.41 years with standard deviations of 11.34. The average monthly income of the respondents is 4512.508 birr. The average years in formal education are 12.84807, indicating that respondents on average are high school leavers.

With regard to cell phone ownership and usage as shown in table 4.1 above 96.68 percent of the sample respondents replied that they have cell phone and use it. On the other hand 3.32 percent of the respondents replied that they do not have cell phone personally. The implication of this finding is that cell phone ownership is not hindrance for mobile banking adoption since the majority of bank customers in south Addis Ababa have cell phone. The respondents' response with regard to the awareness of customers about the existence of mobile banking services as stated in table 4.1 above, 83.42 percent of respondents are aware of the existence of mobile banking service whereas only 16.58 percent of the respondents lack awareness about the existence of mobile banking service. This implies that most CBE customers in south Addis Ababa know the existence of m-banking but this does not mean that customers have adequate information about m-banking since among those who respond that they know the existence of the services they need additional information about its usefulness, ease of use and risk.

In terms of usage of mobile banking services the respondents reply indicate that among the total respondents 64.92 percent use mobile banking as can be seen from the table 4.1 above. Whereas 35.08 percent of respondents replied that they totally not interested to use mobile banking service. This shows us commercial bank of Ethiopia specifically south Addis Ababa district needs to work hard to make customers understand about m-banking advantages in detail. The respondent's gender profile indicates, as shown in the table 4.1 above, the majority of the respondents are male which accounts 54.42 percent of the sample respondents where as female respondents account for 45.58

percent of the sample respondents. This shows that women lag behind men in using banking services which may also affect adoption of mobile banking adoption since the base for mobile banking adoption in the bank led model of mobile banking is bank customers. It is similar with the study done by Kohsay (2009), more males than females tend to adopt self service technology such as mobile banking and other similar technologies.

The work status of the respondents, most of them are employed which is 84.53 percent of the total respondents. And 15.47 percent are unemployed this is a good opportunity for mobile banking adoptions because those who are employed have time constraint since most of them are at work place when the bank branches are operational (have less time freedom). Hence, mobile banking will give them time saving advantage by enabling customers to make banking transactions and payments such as payment of utilities and other bills, money transfer etc. without traveling to the bank branches. This confirms the previous studies that said those who belong to the upper middle class and have high-level occupations are more likely to use electronic banking (Jayawardhena and Foley, 2000).

#### **4.2 Results of Logistic Regression**

To examine the suitability of the logistic regression model, Omnibus Tests were conducted. The Omnibus Tests of Model Coefficients gives an overall indication of how well the model performed (Pallant, 2011). This is referred to as a 'goodness-of-fit' test. The results in Table 11 show that the test is highly significant ( $p < 0.01$ ). Hence, the relationship between the independent variables and the dependent variable is verified. To diagnose the presence of multicollinearity in the logit model, the tolerance test or variance inflating factor (VIF) was performed it shows how much of the variability of the specified independent variable is not explained by the other independent variables in the model. All the observed tolerance values are greater than 0.10, or the mean of VIF are less than 10 indicating that there is no problem of multicollinearity in the logistic regression model.

#### **Table 4.2 Results of Logistic regression Model**

The predictive power of the model was tested using pseudo R square tests. The result from this table indicates that 75.85 percent of the variations in the dependent variable are explained by the model or explanatory variable.

Number of obs = 362  
 LR chi2 (13) = 355.83  
 Prob > chi2 = 0.0000  
 Log likelihood = -56.6483  
 Pseudo R<sup>2</sup> = 0.7585

Variables	$\beta$	Std. Error	Z	P> Z	VIF
Constant	-9.72***	1.98	-4.91	0.000	
Sex	1.87***	0.69	-2.72	0.007	1.20
Age	-0.045	0.033	-1.37	0.172	1.53
Income	0.003**	0.00	2.38	0.017	1.89
YSC	0.043	0.08	0.53	0.593	1.61
FPD	0.49	0.59	0.84	0.398	1.40
PS	2.07***	0.67	3.05	0.002	2.24
PU	2.46**	1.187	2.08	0.038	2.41
PEU	0.90	0.71	1.28	0.202	2.49
OCC	0.90	0.89	1.01	0.312	1.63
EOT	3.13***	0.66	4.74	0.000	2.09
SQ	0.27	0.61	-0.44	0.661	1.65
PCO	-0.78	0.89	0.88	0.380	1.30
VTU	4.72***	0.92	5.11	0.000	2.75

\*\*\*, \*\*, and \* represent 1%, 5% and 10% level of significances respectively.

Source: Survey result (2017)

From Table 4.2 above the coefficient of sex ( $X_1$ ) is 1.865 and the probability of the Wald statistic for the variable sex ( $X_1$ ) is significant at one percent ( $P < 0.01$ ). Thus, the null hypothesis that the  $\beta$  coefficient for sex ( $X_1$ ) is equal to zero is rejected. It can be deduced from the result that males are more adopted than females. This confirms the hypothesis that male use of mobile banking innovations increases adoption. The finding is in agreement with that of previous research (Venkatesh & Davis, 2000) found that males and females differ significantly in several dimensions males exhibiting more positive beliefs and attitudes about E-commerce than females. They suggested that such differences stem from gender roles and socialization processes. Effort expectancy on intention was also moderated by gender. Previous studies have

found a stronger proportion of perceived usefulness of mobile services among men than among women (Nysveen et al. 2005).

The hypothesis that higher incomes amongst customers increase the likelihood of adopting mobile banking innovations is accepted. This is because of the positive  $\beta$  value of 0.003 as we can see from regression table 4.2 above. It is often postulated that customers with higher income levels are more likely to adopt mobile banking products than their counterparts with low income levels (Kolodinsky *et al.*, 2004). A study conducted in South Africa cited in Daniel (2014) by Singh (2004) also found that adopters of e-banking innovation are those in the high-income bracket. Although this finding confirms what is often found in the literature, it nonetheless makes a lot of sense since the interplay of income level and the other factors influencing innovation adoption could determine whether or not an innovation is adopted by higher-income clients.

Perceived security was found to be a significant factor for facilitating customers' adoption of mobile banking. As indicated by the  $\beta$  value of the regression result which is 2.06 which is significant at one percent. Thus, the hypothesis that perceived security has positive relation with the likelihood of mobile banking adoption is accepted. The results indicate that the level of perceived security is positively related to the likelihood of consumers adopting mobile banking. The finding is different from the previous research showing that perceived security is an insignificant factor for predictor of mobile banking adoption that are done by (Bucevska et.al, 2011) in Ghana.

The study also finds that perceived usefulness (PU) of mobile banking innovations increases adoption of its services. This is indicated by a significant level of five percent and a beta ( $\beta$ ) value of 2.46, which can be observed in logistic regression table (see Table 4.2). This shows that perceived usefulness has a significant and positive effect on the intention to adopt mobile banking products. The result supports studies by Kolodinsky *et al.* (2004) who established a positive relationship between perceived usefulness and the adoption of mobile banking services. This study also found that experience on technology has a positive and significant factor of mobile banking adoption at one percent level of significance. As we can see from table 4.4 experience on technology coefficient of beta ( $\beta$ ) was 3.13 it can be deduced from the result that experienced customer has more adopted than non

experienced customer in using mobile banking technology. The greater the level of experience on technology associate with the use of a particular self service product, the more likely they are to adopt it.

Several studies showed that prior similar experience, such as computer or internet use, strongly influence intention to use and usage behavior of a specific system (Venkatesh et al, 2003; Wu, Tao, & Yang, 2007), Venkatehs et al. (2003) suggested that an increase in experience would decrease the influence of effort expectancy and social influence on behavior intention to use. Kim and Malhotra (2005) and Venkatesh et al. (2003) confirm by showing that when user experience increase, effort expectance and social influence decrease. People who have more experience using similar system are more relying on instrumental basis rather than social basis because experience users of mobile devices or wireless internet are more skillful and easy to use mobile banking (Wang and Yang, 2005).

The results in Table 4.2 also indicate that voluntarism to use mobile banking technology has increases the likelihood of mobile banking adoption. The logistic regression result of beta ( $\beta$ ) 4.72 which is significant at one percent level of significance indicates that bank customers who are voluntaries to use mobile banking are more likely to adopt (continue to use) than non voluntary customers to use mobile banking products. Voluntariness is the level to which an individual can choose to use a system, image is the extent to which individuals believe the use of a system will increase their social status within a group or how well others perceive them (Venkatesh and Davis, 2000).

## 5. Conclusion and Recommendations

The research paper uses descriptive statistics as well logistic regression analysis model with additional variable of experience on technology and voluntarism to use mobile banking technology to understand customers' perception of the factors that affect adoption of mobile banking technology in the commercial bank of Ethiopia in case of south Addis Ababa district customers and following are the summary of the findings of the research and its implication. The responses of the sample respondents indicate that most of the respondents 83.42 percent of the respondents are aware of the existence of mobile banking. On the other hand even if most of the respondents are aware of the existence of mobile banking service only 64.92 percent of respondents use mobile banking services. However, 35.08 percent of sample respondents do not use mobile banking services. The main objectives of this research are to understand the factors affecting mobile banking adoption in commercial bank of Ethiopia. The first specific objective of this research work is to examine the effect of demographic factors on the adoption of mobile banking technology by bank customers. The finding of the research shows that only sex is the significant factor for mobile banking adoption which are males are 1.865 more times used than females due to some factors.

The second objective of this research is to examine the effect of customers experience on technology and voluntarism to use, on the adoption of mobile banking in commercial bank of Ethiopia. The finding of the research shows that customers experience on technology and voluntarism to use has a positive relationship with mobile banking adoption and the most significant factor; customers has an experience on technology and have voluntarism to use the technology then based on empirical evidences about the research potential customer are ready to adopt the technology.

The third objective of this research work is to examine the influence of user's perceived risk on the adoption of mobile banking. The finding of the research shows that perceived risk such as fear of personal data has an insignificant factor for mobile banking adoption based on regression result. And also the logistic regression analysis conducted in the research shows perceived usefulness has positive relationship with mobile banking adoption and customers also perceive mobile banking as useful. And if mobile technology is perceived as useful then based on the empirical evidences about research

potential customer are ready to adopt the technology. The finding also perceived security and income of the customer has positive relationship with mobile banking adoption and customers perceive mobile banking is secured for using the service and if mobile technology is perceived as secured to use and customers have higher income then based on empirical evidences about the research potential customer are ready to adopt the technology.

The study identified six important factors that influenced the adoption of mobile banking technology in commercial bank of Ethiopia. Mobile banking system is a new financial evolution in Ethiopia, but it's an important issue, because it has a great impact on the whole banking system, at the same time it's difficult and need a lot of efforts to be adopted and accepted by the banking industry, so it need a lot of efforts to succeed. Based on the above summery and conclusion, the researcher recommends the following points.

- Hence, policy makers of commercial bank of Ethiopia should concern on regulation about security issues, the manner in which mobile banking are implemented, identifying users, protecting users and how much money can be transacted, should be a major area the regulation should address.
- Ethio telecom as mobile network service provider shall give special attention to mobile banking technology from its side to provide reliable network to commercial banks specifically Commercial Bank of Ethiopia as the customers perceive the mobile network is not risky to adopt mobile banking.
- The banks have to initially target, the high income customers and male users to promote services such as mobile banking, so that the probability of adoption is more. Later on they can target other potential segments.
- Commercial bank of Ethiopia shall produce user guide for mobile banking services using various means such as booklets, flyers, and in electronic means such as website based electronic documents to make users more experienced and knowledgeable about mobile banking so that the probability of adoption is more.
- Commercial bank of Ethiopia shall broaden the service portfolio under mobile banking technology to make the service more useful and as well to be perceived useful in the minds of its customers.



- Commercial Bank of Ethiopia in general and its south Addis Ababa districts in particular shall promote mobile banking services to its customers using various promotional tools appropriate to the target market so that it can increase the awareness and voluntarism to use the service and these increases the adoption level of the mobile banking technology.

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# Determinants of Project Success in NGOs: The Case of PACT Ethiopia

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## Abstract

*This study is designed to investigate the determinants of project success in an international non-governmental organization in Ethiopia. It adopted a cross sectional research design and collected both quantitative and qualitative data from a total of 36 projects that were implemented between 2004 and 2016 by Pact-Ethiopia. Project success was conceptualized as a function of efficiency and effectiveness. It was measured employing a composite index comprised of cost and schedule performance indices as well as performance of the project against key indicators. Accordingly, while two-third of Pacts projects were successfully completed, 22% and 11% were found to be moderately successful and challenged projects respectively. A range of independent variables were regressed against the dependent variable (project success) using the ordered logit model. The result revealed that comprehensiveness of the work plan, procurement, project team building and monitoring and evaluation were found to be statistically significant.*

**Keywords:** *Project, project success, determinant, International NGOs, Pact-Ethiopia*

## 1. Introduction

### 1.1 International NGOs in Ethiopia

Civil associations began to emerge in Ethiopia during the 1930s as a factor of urbanization and economic development. Civil society entities in general, however, were slow to take root under the emperor's regime and then restricted during the Derg period (1974–91). Non-Governmental Organizations (NGOs) began to appear in Ethiopia in the 1960s, when neither the self-help groups found in all levels of Ethiopian society nor the government were able to meet the growing demands of the population (Jeffrey, 2000). Most International Non-Governmental Organizations (INGOs) trace their Ethiopian roots to the catastrophic famine crises of 1973–

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74 and 1984–85. The NGOs of those years were overwhelmingly focused on emergency relief operations and were largely foreign entities (ICNL, 2015).

The international NGO sector has gradually diversified its engagement from relief to development projects (ICNL, 2015). The growing importance of NGOs in the development process is attributed to many factors. Mkoba (2002) indicated that NGOs are considered as an alternative approach to development in pursuit of participatory grassroots development and self-reliance in the third world for two major reasons: Firstly, they use of innovative development strategies including cost-effective approaches, assisted self-reliance or participatory development. Secondly, their small-scale oriented operations, flexibility, adaptability, quick response to peoples' need than governments and great capacity to mobilize resources and to organize people to solve their own problems (Lekorwe and Mpabanga, 2007).

Since the 1984 famine, Ethiopia has seen a large influx of International NGOs. As of December 2014, there were 3,181 CSOs operating in Ethiopia (ICNL, 2015). Overall, as of February 2012, the Charities and societies registered at Federal level were implementing over 113,916 projects, of which 57% were implemented by Ethiopian Resident Charities followed by foreign charities (23%) and Ethiopian Resident Societies (15%) (UNDP, 2014b). These NGOs have been investing billions of dollars in wide range of sectors including food security, emergency, water development, health, education, agriculture, women and children development etc. It is too plain to see that projects are central to the existence and success of International NGOs. Consistent with this, Meskendahl (2010) equate projects as the central building block used in implementing organizational strategies, and further explain that organizational success is determined by the success of their projects. As a result, project success and its determinants are topics of great interest.

Pact is amongst the foreign charities that has been engaged in the implementation of myriad of development projects in Ethiopia since 1996. Therefore, in this study an attempt was made to assess the extent to which Pact was successful in implementing its projects using project success criteria measured objectively in a composite index. The research also investigates

factors contributing to the successful completion of development projects by regressing project success against a range of explanatory variables.

## **1.2 Background of the Organization**

Pact is United States based, non- governmental and not for profit international organization operating around the globe to see a world where those who are poor and marginalized discover and build their own solutions and take ownership over their future (Pact Inc., 2014). It aspires to achieve its vision through three impact areas, namely health, livelihood and natural resource management by enabling: (1) vulnerable people access the health products, services and information needed to enjoy a healthy life; (2) people with limited livelihood choices gain the resources needed to be income secured; and (3) resource dependent communities gain lasting benefit from the sustainable use of the natural resources around them. Capacity development, governance and business and market constitute Pact's three core approaches for the achievement of the aforementioned strategic goals. With 50 years of experience across more than 60 countries, Pact is viewed as a leader in the capacity development field. Its approach, methods, and tools have been taken up by the United States Agency for International Development (USAID) and implementing partners (Pact Inc. 2012).

## **1.3 Statement of the Problem**

The development project undertaken by NGOs in the 1990s was estimated to have cost 2.3 billion Birr and was believed to have benefited 26 million people in the country (Kassahun, 2002). Similarly, in the period 1997-2001, NGOs benefited a total of 23.2 million people in five regions of Ethiopia. A total of 360 projects were implemented by 271 NGOs (188 Local and 83 International) in development programs. These NGOs spent a total of USD 392, 222,200 of which 90% was spent on development programs and the remaining 10% on relief and rehabilitation operations (CRDA, 2004 cited in Ayele, 2008).

Despite their tremendous involvement and contribution, the success of NGO projects was not as intended. A recent McKinsey-Devex survey indicated that 64% of donor-funded projects fail (Hekala, 2012). The Standish Group's

CHAOS Summary (2009) revealed a decrease in project success rates in 2008, with 32% of all projects succeeding (delivered on time, on budget, with required features and functions); 44% were challenged (late, over budget, and/or with less than the required features and functions); and 24% failed compared to the corresponding figures of 35%, 46% and 19% respectively for the year 2006. Consistent with this, Dugger (2007) revealed that while the World Bank has invested more than US\$5 billion in more than 700 projects in Africa over the past 20 years, its project failure rate was found to be over 50%. The failure rate was found to be greater than the 40% failure rate observed in other poor regions of the world showing that African projects are lagging behind.

Compared with public sector organizations, NGOs have received less research attention at the empirical level thus making the NGO related literature somewhat underdeveloped (Ahsan and Gunawan, 2010; Ika et al., 2010). In particular, very little has been written on international development project success, success criteria, critical success factors and factors affecting success of international NGOs projects in Sub-Saharan Africa (Khang and Moe, 2008; Ika et al., 2010; Ika, 2012; Daniel, 2013). International NGOs operating in Ethiopia, the significant majority of whom are engaged in playing an intermediary role between international donors and local implementing agencies are not exceptional to this. They had not often been the subject of such studies in many parts of the world in general and that of Ethiopia in particular. Furthermore, NGOs are extremely diverse group of organizations, which can make meaningful generalization very difficult. NGOs play different roles and take very different shapes and forms within and across different country contexts (Riddell, 2007). The internal and external environments in which international NGOs operate vary from organization to organization. This calls the need for a closer investigation and understanding of correlates of project success at individual organization level.

Pact is amongst the international NGOs engaged in the implementation of development projects in Ethiopia. In the past 22 years, it has implemented over 50 projects with a total budget of over 179 million dollar in a range of sectors including education, health, livelihood, emergency, peace building,



orphans and vulnerable children. The organization has reached millions of Ethiopians, most of whom were disadvantaged and living in the peripheral areas. Despite this, no study was conducted to gauge the rate of project success and factors contributing to it in a holistic, objective and systematic way. This research, therefore, attempts to fill the existing gap on the correlates of project success in an international NGOs in Ethiopia and thereby add a brick to the project management body of knowledge in general and to the development endeavor of Ethiopia in particular. Specifically, the study attempts to answer the following research questions:

- i. To what extent was Pact successful in implementing its projects?
- ii. What does the overall project success rate of Pact look like?
- iii. What are the planning-phase related factors determining successful completion of projects?
- iv. What factors determine project success in relation to the execution phase?
- v. Does monitoring and evaluation determine project success?
- vi. To what extent do the identified factors influence the successful completion of projects?

#### **1.4 Scope and Limitation of the Research**

The study was conducted on development projects implemented by Pact Ethiopia. Being confined in one organization, the external validity of the study may be questioned for not being too strong to generalize for INGOs. The research was confined deliberately on projects completed within the last 13 years (2004-2016) just for two reasons: i) the longer the time span, the more difficult it will be to trace key project documents and ii) given the temporary nature of project staff employment, it will be too difficult to find the majority of the then project staff who will serve as key informants. As a result, the number of projects subject to the study was limited to 36, which is not much, if not too small to conduct hypothesis testing.

## **2. Conceptual Framework of the study**

A project is said to be successful if it is completed on schedule, within the budget and in conformance with predetermined performance specifications (Ioana et.al, 2015; Paul, 2008; Smith, 2007; Lewis, 2001; APM, 1995, Pinto and Slevin, 1988 and Gaddis, 1959). This implies that project success is pegged on whether or not these parameters are met. From this it is too plain to see that project success entails both effectiveness and efficiency. This

research, therefore, equate project success as a function of effectiveness and efficiency, where:

**Effectiveness:** Refers to the degree to which objectives of the project are achieved. More specifically, it refers to the extent to which the project manages to achieve its target in terms of key indicators set from the outset.

**Efficiency:** Refers to completion of the project within schedule and approved budget. To this end, Schedule Performance Index (SPI) and Cost Performance Index (CPI), which are measures of schedule and cost performance of a project (PMI, 2008) were employed.

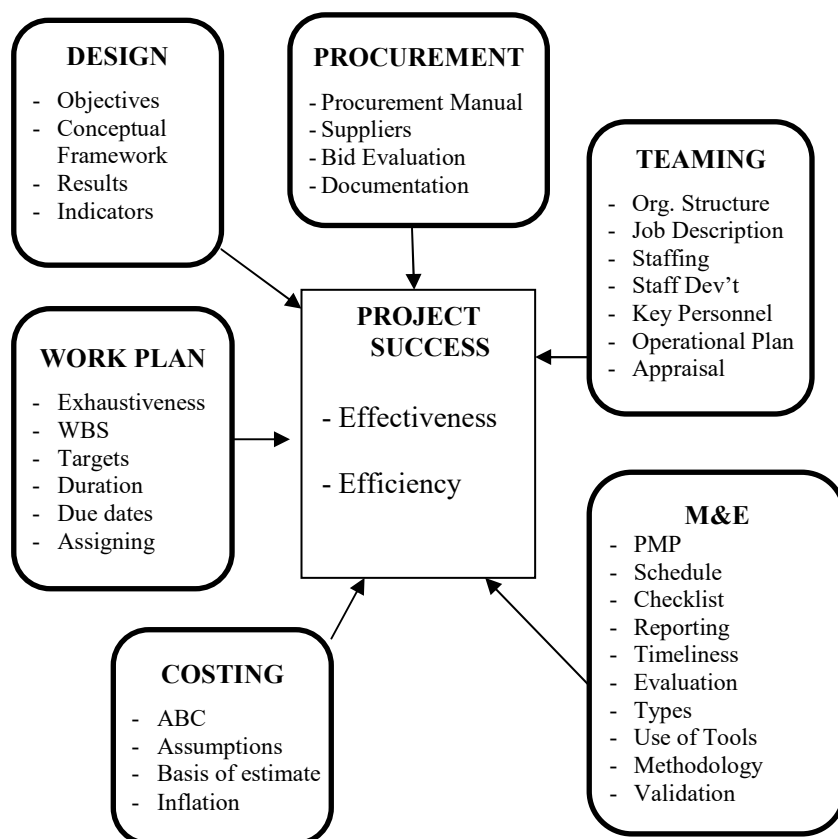


Figure 2.1: Conceptual Framework for the study

Source: Authors' construction based on literature (2017)

Project success is a variable that depends on myriad of independent variables, known as project success factors. These independent variables determine success in the different stages of the project cycle. A total of six independent variables (technical design, work plan, cost breakdown, project team building and monitoring and evaluation) were run in the ordered logistic regression model. The other group of independent variables including scope creep, pre-award assessment, risk management and project communications management were dropped from the ordered logistic regression model for absence of data variability. See the conceptual framework presented in figure 2.1.

### **Hypotheses**

Project success is determined by myriads of independent variables. This research was therefore be undertaken with the following hypotheses.

**Hypothesis 1:** Projects with appropriate technical design are expected to have high probability of success.

**Hypothesis 2:** Projects with detail work plan are expected to have high probability of success.

**Hypothesis 3:** Projects with detail cost breakdown are expected to have high probability of success.

**Hypothesis 4:** Projects with good practice of team building are expected to have high probability of success.

**Hypothesis 5:** Projects with clear procurement procedures/manuals have high probability of success.

**Hypothesis 6:** Projects with properly functioning monitoring and evaluation system have high probability of success.

## **3. Research Methodology**

### **3.1 Research Design and Approach**

The cross sectional research design is often called a social survey design. It entails the collection of data on more than one case and at a single point in time in order to collect a body of quantitative and qualitative data, which are then examined to describe characteristics and/or explore patterns of associations among variables (Bryman, 2016). Hence, this research employed cross sectional design. Triangulation of data source has a number of advantages that no single source could have. Carvalho and White (1997), in

this regard, pointed out that use of integrated approaches helps in implementing better measurements, confirming, enriching, and explaining the findings thus resulting in better analysis. White (2002) also indicates that using quantitative and qualitative approaches together yields synergy. Thus for the purpose of attaining objectives of the research both quantitative and qualitative data were used.

### **3.2 Source of Data and Instrument**

The data for the study was collected both from primary and secondary sources. Data on whether or not the project was successful from the perspective of the three pillars (cost, time and performance) was collected from secondary sources including project financial reports, baseline, mid-term and end line evaluation reports, terminal reports and Performance Monitoring Plan (PMP). Primary data was collected from the then project managers or program officers using the tool developed for the purpose. Monitoring visit reports, pre-award assessment reports, evaluation and learning review reports and periodic program reports were also used to complement the primary data.

### **3.3 Sampling procedure**

The units of analysis for the research were projects completed by Pact Ethiopia in the last 13 years (2004-2016). The organization has completed a total of 36 projects in the education, health, livelihood and peace building sectors. Given the manageable size of projects, data for the research was collected from all of the 36 projects completed in the aforementioned period.

### **3.4 Measuring Project Success**

The extent to which projects were efficient and effective were objectively measured given that project success is conceptualized as a function of effectiveness and efficiency.

**EFFICIENCY:** In a bid to measure efficiency in an objective way, performance index including Schedule Performance Index (SPI) and Cost Performance Index (CPI) were computed for projects. SPI is a measure of progress achieved compared to progress planned for a project. While SPI value of less than 1 indicates less work was completed than was planned, SPI value of greater than 1 indicates more work was completed than planned. CPI measures the value of the work completed compared to the actual cost or progress made on the project. While CPI value of less than 1 indicates cost

over run for the work completed, CPI value of greater than 1 indicates cost under-run or work was accomplished for less cost than budgeted (PMI, 2008; Deborah et al., 2013).

$$EV = (\% \text{ completed})(PV) \dots\dots\dots(1)$$

$$SPI = \frac{EV}{PV} \dots\dots\dots (2)$$

$$CPI = \frac{EV}{AC} \dots\dots\dots(3)$$

Where, *PV* is *Planned Value*, *EV* is *Earned Value*, *SPI* is *Schedule Performance Index*, *CPI* is *Cost Performance Index* and *AC* is *Actual Cost*

**EFFECTIVENESS:** Performance of the project’s specific indicator was computed by comparing the cumulative achievement of that specific indicator against what was originally planned.

$$Performance \ of \ an \ indicator = \left( \frac{Cumulative \ achievement \ of \ the \ indicator}{Original \ target \ of \ the \ indicator} \right) * (100) \dots\dots(4)$$

The overall effectiveness of the project is therefore computed by taking average achievements of all key indicators, presented as follows:

$$Project \ effectiveness = \sum_{i=1}^n X_1 + X_2 + \dots \dots X_n \dots\dots\dots (5)$$

Where: X: Key Indicator      N: Number of Key Indicators

The composite index of project success is computed by taking average of the aforementioned three parameters as follows:

$$Project \ success = \sum_{i=1}^n \frac{X_i + Y_i + Z_i}{3} \dots\dots\dots (6)$$

Where:

*X* = The rate at which the project was completed compared to the approved schedule

*Y* = The level of budget utilization at project completion

*Z* = Mean accomplishment of the project on key indicators.

Paul (2008) explains the conventional approach of determining project success as “an assessment of performance based on whether the project was completed “on time, within budget and to specification. If each was achieved within a narrow range of tolerance then the project is deemed a success.” The Standish Group (1995) categorized projects into three. Accordingly, Type 1, (Successful Projects) include those projects completed on-time and on-budget, with all features and functions as initially specified, Type 2, (Challenged Projects) comprise of those completed and operational but over-budget, over the time estimate, and offers fewer features than originally specified. Type 3 (Impaired Projects) include those projects cancelled at some point during the development cycle. Pact uses 4 categories<sup>3</sup> to rate projects based on their level of accomplishment (0-25%, 26-50%, 51-75% and 76-100%). Taking inputs from this, the wide range of literature discussed and the actual practice of Pact, which is in line with Paul’s conventional approach, the research considered five categories of projects to gauge project completion status:

**Type – 1 Projects: Successful Projects:** Refers to projects that were completed on-time and on-budget, with the key indicators achieved 90 percent<sup>4</sup> or more of their targets. Accordingly, a successful project will have a composite index of 96.7% or more.

**Type – 2 Projects: Moderately Successful Projects:** Refers to projects that were completed and operational but with some extension period and/or over budget while meeting 75 to 90 percent of the originally specified key indicators. Accordingly, a moderately successful project is the one with an index score of 76 to 96.6 percent.

**Type – 3 Projects: Challenged Projects:** Refers to projects that were completed and operational but with significant extension period and/or over budget while meeting 50 to 75 percent of the originally specified key indicators. Accordingly, a challenged project is the one with an index score of 51 to 75 percent.

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<sup>3</sup> *Pact’s Promise Indicator/Balanced Score Card (BSC) Tracking Instruction Sheet*

<sup>4</sup> *Pact, among other parameters, considers a project successful if it manages to achieve 90% or more of its targets on key indicators. Source: Pact’s Promise Indicator (BSC) Tracking Instruction Sheet.*

**Type – 4 Projects: Impaired Projects:** Refers to projects that were cancelled at some point during the implementation process.

**Type – 5 Projects: Failed Projects:** Refers to projects that were completed with a very significant extension period and/or over budget and might/might not be operational, with the project achieving less than 50 percent of the originally specified key indicators. Accordingly, a failed project is the one with an index score of 50 percent or less.

### 3.5 Data Analysis Techniques

The data collected from projects was also analyzed employing descriptive statistics. Statistical Package for Social Science (SPSS) software was used to compute frequency, mean and percentages. The outputs of the descriptive analysis was presented in tables, graphs, bar chart and pie-charts. Moreover, data collected from secondary sources including baseline, mid-term and end line evaluations, monitoring visit reports and program progress and terminal reports was used to complement results of the quantitative analysis.

The relationship between an ordered dependent variable and independent variables can be computed using ordered logit or probit models. Logit and probit distributions are very close to each other and using one or the other will not result in substantial differences (Maddala, 1983). In so many cases, logit is preferred to the probit due to its link to other models and its simpler interpretability (McCullaah and Nelder, 1989). Mukherjee et al. (1998) pointed out that in a wider context, using a logit model allows bringing out patterns in the data that might be obscured. Thus, ordered logit model fit by ologit, was employed for the study using stata software, version 11. Detail of the model extracted from Richard (2015) is presented below.

#### 3.5.1 Model Specification

- 1 In the ordered logit model, there is an observed ordinal variable,  $Y$
- 2  $Y$ , in turn, is a function of another variable,  $Y^*$ 
  - a) In the ordered logit model, there is a continuous, unmeasured latent variable  $Y^*$ , whose values determine what the observed ordinal variable  $Y$  equals.

b) The continuous latent variable  $Y^*$  has various threshold points. The value on the observed variable  $Y$  depends on whether or not you have crossed a particular threshold.

3. So, what does  $Y^*$  equal? How do you estimate this model?

a) In the population, the continuous latent variable  $Y^*$  is equal to

$$Y^*_i = \sum_{k=1}^K \beta_k X_{ik} + \varepsilon_i = Z_i + \varepsilon_i$$

b) The Ordered Logit Model estimates *part* of the above:

$$Z_i = \sum_{k=1}^K \beta_k X_{ik} = E(Y^*_i)$$

c) The  $K$   $\beta$ s and the  $M-1$   $\kappa$ s are parameters that need to be estimated. Once you have done so, using the corresponding sample estimates for each case you compute

NOTE THAT THERE IS NO INTERCEPT TERM. THE ESTIMATED  $M-1$  CUTOFF TERMS WILL BE USED TO ESTIMATE THE PROBABILITY THAT  $\Gamma$  WILL TAKE ON A PARTICULAR VALUE. THE FORMULAS ARE

$$P(Y_i > j) = \frac{\exp(X_i\beta - \kappa_j)}{1 + [\exp(X_i\beta - \kappa_j)]}, j \quad \text{Which implies}$$

$$P(Y_i = 1) = 1 - \frac{\exp(X_i\beta - \kappa_1)}{1 + [\exp(X_i\beta - \kappa_1)]}$$

$$P(Y_i = j) = \frac{\exp(X_i\beta - \kappa_{j-1})}{1 + [\exp(X_i\beta - \kappa_{j-1})]} - \frac{\exp(X_i\beta - \kappa_j)}{1 + [\exp(X_i\beta - \kappa_j)]}, j = 2, \dots, M-1$$

$$P(Y_i = M) = \frac{\exp(X_i\beta - \kappa_{M-1})}{1 + [\exp(X_i\beta - \kappa_{M-1})]}$$

In the case of  $M = 3$ , these equations are simplified to

$$P(Y = 1) = \frac{1}{1 + \exp(Z_i - \kappa_1)}$$



$$P(Y = 2) = \frac{1}{1 + \exp(Z_1 - \kappa_2)} - \frac{1}{1 + \exp(Z_1 - \kappa_3)}$$

$$P(Y = 3) = 1 - \frac{1}{1 + \exp(Z_1 - \kappa_2)}$$

### 3.5.2 Definition of the Dependent Variable

The research employed Ordered Logit model to identify correlates of project success in Pact-Ethiopia. In the model, the success status of projects (ProSS) was designated by a value of:

- 5: If the project was successful (Type – I)
- 4: If the project was moderately successful (Type – II)
- 3: If the project was challenged (Type – III)
- 2: If the project was impaired (Type – IV)
- 1: If the project was failed (Type – V).

Success status of the project was regressed as dependent variable against the independent variables mentioned below.

### 3.5.3 Definition of the Independent Variables

**TECD:** Represents the composite score of the project against technical design. The expectation is that projects that pass through a well thought design process have high probability of successful completion. The composite score was computed from the score of the project against constituents of the variable including clarity of objectives (SMART), conceptual framework/Theory of Change (ToC), logical framework and identification of key.

**WOPL:** Represents the composite score of the project against work plan. The expectation is that projects with detail work plan have high probability of success. The composite score was computed for each project against constituents of the variable including exhaustiveness of the activities, development of work breakdown structure, inclusion of targets against key indicators, estimation of duration for each activity and inclusion of due dates and responsible entity for each activity.

**COBR:** Represents the composite score of the project against cost breakdown. The expectation is that projects with detail cost

breakdown structure have high probability of success. The composite score was computed for each project against constituents of the variable including use of Activity Based Costing (ABC), assumptions, basis of estimate and taking account of inflation across time.

**TEAM:** Represents the composite score for the project team. The basic assumption is that people are central in project success, because it is people who deliver projects. Therefore, a composite index was developed and score computed for each project against constituents of the variable including availability of governance structure, job description, timeliness and adequacy of staff recruitment, placement and replacement, training, availability of key personnel and the practice of individual operational plan and performance appraisal.

**PROC:** Represents the composite score for the practice of procurement. The expectation is that projects with proper procurement practice can avail goods and services on the right time and within the budget thus contributing to successful project completion. Therefore, a composite index was developed and score computed for each project against constituents of the variable including availability of procurement policy both at Pact and implementing partners' level, the practice of identifying vendors, tender evaluation and documentation.

**MOEV:** Represents the composite score for the monitoring and evaluation practice of the project. The expectation is that projects with properly functioning M&E system are better positioned to learn, identify limitations and take timely rectifying measures to keep the project on track. A composite index was developed for the purpose and score computed for each project against constituents of the variable including availability of PMP, monitoring schedule, monitoring checklist, monitoring visit reporting template, type of evaluation, consistent use of tools, timeliness of the evaluation, methodology and validation processes

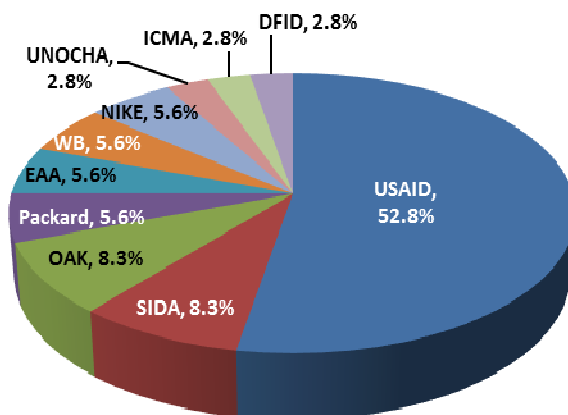
### 4. Results and Discussion

#### 4.1 Distribution of Projects by Donor

Pact-Ethiopia had implemented a total of 36 projects in the last 13 years (2004 – 2016) at a total cost of USD 183.3 million. The fund for the implementation of these projects were drawn from 10 donors of which the lion’s share accounting for over half of the projects was from the United States Agency for International Development (USAID) followed by Swedish International Development Agency (SIDA) and OAK foundation accounting for 8.3% each. While Packard foundation, Education Above All (EAA), World Bank (WB) and NIKE foundations financed 5.6% of the projects each, UNOCHA, International City Management Association (ICMA) and DFID financed each 2.8% percent of projects. Proportion of projects financed by different donors is presented in Figure 4.1.

#### 4.2 Source of Finance for Projects

USAID holds the lion’s share in terms of financing Pact’s projects. Accordingly, over nine-tenth of the total project cost accounting for USD 163.9 million was financed from USAID followed by SIDA (3.7%), EAA (1.7%) and Packard and NIKE foundations each accounting for 1.2% and 0.7% respectively. The remaining 5 donors contributed to only 1.3% of the total cost of projects. Detail source of finance for projects is portrayed in table – 4.1.



*Figure - 4.1: Number of Projects by Donor*

Source: Authors' analysis from survey data (2017)

### **4.3 Size of Projects**

Size of projects implemented in the last 13 years vary widely. It ranges from as high as USD 92 million for Yekokeb Berhan HVC project to as low as USD 50,000 for a project to support the establishment of alternative childcare secretariat. The largest slice of projects accounting for two-third of Pact's projects were implemented with a total cost of less than USD 2 million. The number of projects with a total cost of USD 2 to 5 million and over USD 5 million constitute 16 % and 17% respectively (see figure 4.2).

**Table 4.1: Project Finance by Donor**

<b>Donor</b>	<b>Project Fund (in USD)</b>	<b>%</b>
USAID	163,852,277	91.4%
SIDA	6,672,922	3.7%
OAK	497,965	0.3%
Packard	2,200,000	1.2%
EAA	3,134,592	1.7%
WB	765,833	0.4%
NIKE	1,202,193	0.7%
UNOCHA	466,600	0.3%
ICMA	321,956	0.2%
DFID	154,639	0.1%
<b>Total</b>	<b>179,268,977</b>	<b>100%</b>

**Source:** Authors' analysis result based on survey data (2017)

### **4.4 Duration of Projects**

The life span of projects implemented in the last 13 years vary widely. It ranges from five projects (working on education, highly vulnerable children, HIV prevention and peace building) with life of 72 or more months to the shortest one with a planned life of 4 and 11 months (working on acute watery diarrhea and control and rehabilitation of abandoned artisanal and small scale mining sites respectively). While a quarter of projects were found to have life of over 4 years, two-fifth and a quarter of the remaining projects had life of 2 to 3 years and 2 years or less respectively.

#### 4.5 Sectoral Distribution of Projects

Pact-Ethiopia's projects implemented in the last 13 years can be categorized into six broad sectors. It implemented a total of 18 projects in the health and livelihood sector accounting for half of Pact's projects followed by peace building and governance constituting over a quarter of projects. While education is the third largest portfolio with a total of 6 projects accounting for about 17%, projects in the mining sectors follow with 2 projects accounting for 6%. Sectoral distribution of projects is presented in Table 4.2.

**Table 4.2: Number of Projects by Sector**

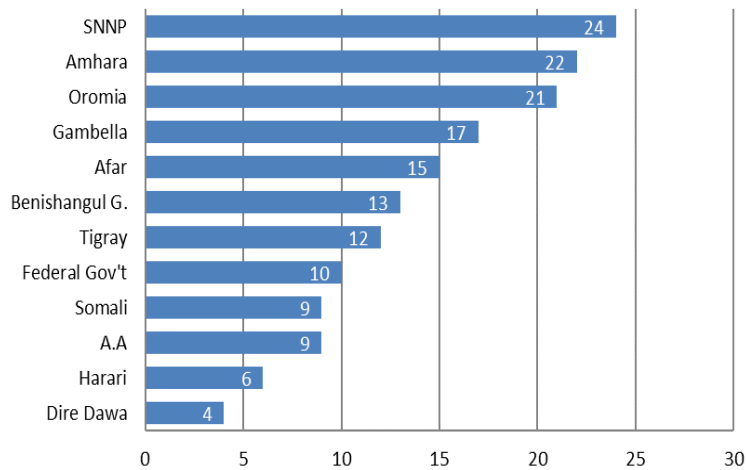
<b>Donor</b>	<b>No. of Projects</b>	<b>%</b>
Health	10	27.8%
Livelihood	8	22.2%
Peace Building	7	19.4%
Education	6	16.7%
Governance	3	8.3%
Mining	2	5.6%
<b>Total</b>	<b>36</b>	<b>100%</b>

**Source:** Authors' analysis based on survey data (2017)

#### 4.6 Geographic Distribution of Projects

Pact had been implementing projects in all the nine national regional states and two city administrations. The largest slice of projects accounting for two-third were implemented in three regional states, namely, South Nations, Nationalities and Peoples Region (SNNPR), Amhara and Oromia regions that constitute 80.2<sup>5</sup>% of the country's population. While Gambella and Afar regional states each received support from about half of Pact's projects, Benishangul Gumuz, Tigray and the Federal Government each benefited from the implementation of one-third of projects. About a quarter of Pact's projects were also implemented in Somali regional state and Addis Ababa City Administration. Details of the geographic distribution of Pact's projects is portrayed in figure 4.2.

<sup>5</sup> Central Statistics Agency (CSA, 2008) in its 2007 census report indicated that the population of the three regions constitute 80.2% of Ethiopia's population.



**Figure 4.2:** Geographic Distribution of Pact's Projects

**Source:** Authors' analysis based on survey data (2017)

## **4.7 Success Status of Pact's Projects**

### **1. Success Status of Projects based on Time Dimension**

The Mean SPI of Pact's projects was found to be 0.91 indicating that projects were 91% on schedule. The research revealed existence of variation in the mean SPI value by the level of project success. While mean SPI score of successful projects reached 0.98, moderately successful and challenged projects scored 0.85 and 0.58 respectively. Results of the research revealed that four fifth of Pact's projects implemented in the last thirteen years were completed as scheduled. Close to a quarter of Pact's projects, were not completed as scheduled. Of the projects that were not completed as scheduled, a little over one third were completed with a significant extension period accounting for 76 to 100% of the originally approved schedule. While a quarter of the delayed projects were completed with an extension of 26-50% period, the remaining were completed with an extension of 25% or less of the originally approved schedule. The detail is presented in Table 4.4.

**Table 4.4: Completion Status of Projects by Time**

Completion Status	No. of Projects	%	Delay Status of Projects		
			Delay %	No. of Projects	%
On Time	28	77.8	0	0	0
Delayed	8	22.2	<25%	3	37.5
			26-50%	2	25
			51-75%	-	-
			76-100%	3	37.5
<b>Total</b>	<b>36</b>	<b>100</b>	<b>Total</b>	<b>8</b>	<b>100</b>

**Source:** Authors' analysis based on survey data (2017)

## 2. Success Status of Projects based on Cost Dimension

The Mean CPI of Pact's projects were found to be 1.16. Over two-third of the projects (77.8%) scored CPI value of 1 or more indicating cost under-run or project activities were accomplished for less cost than budgeted. A little less than a quarter of the projects were found to have CPI score of less than 1 indicating cost over-run. The research revealed existence of variation in the mean CPI value by the level of project success. While mean CPI score of successful projects reached 1.29, moderately successful and challenged projects scored CPI value of 1.01 and 0.69 respectively. Only two of the projects accounting for 5.5% of the projects were completed over the total approved budget, one with variation of 5% and the other with 49%. Detail of the cost performance is presented in Table 4.5.

**Table 4.5: Completion Status of Projects by Cost**

CPI Score by Category			Project Completion Status by CPI	
CPI Score	No. of Projects	%	Project Completion Status	Mean CPI
>=1	28	77.8	Successful	1.29
0.76 – 0.9	3	8.3	Moderately Successful	1.01
0.50 – 0.75	5	13.9	Challenged	0.69

**Source:** Authors' analysis based on survey data (2017)

Pact's projects are financed from external sources in United States dollar. The value of dollar against the Ethiopian Birr has been ever increasing since the 1990s. The exchange rate, which stood at Birr 8.64 in 2004 tripled in 2016 hitting a rate of Birr 22.25, with annual average growth rate of 8.6%<sup>6</sup>. Pact's projects have therefore, been enjoying foreign exchange gains, which partly contributed for projects to have relatively relaxed budget.

### **3. Success Status of Projects Against Key Indicators**

Average performance of Pact on key project indicators was found to be 91.05%. While the vast majority of projects accounting for 88.9% managed to achieve 76 – 100% of their targets on key indicators, 8.3% of the projects achieved 51-75% of their targets. Pact Global, in its promise indicator tracking system, defines a project successful among other things if 76-100% of key indicators achieve 90% or more of their targets. By this definition, 75% of Pact-Ethiopia's projects were found to be successful achieving 90% or more of targets against key indicators. Detail of project accomplishments on key indicators is presented in Table 4.6.

Table 4.6: Performance of Projects on Key Indicators

By Performance Category			By Success Status of Projects	
Performance Level (%)	No. of Projects	%	Success Status	Performance Level (%)
90 or more	27	75	Successful	98.4
76–89	5	13.9		
51–75	3	8.3	Moderately	85.4
26–50	1	2.8	Successful	
0–25	-	-	Challenged	57.9
<b>Total</b>	<b>36</b>	<b>100</b>		

**Source:** Authors' analysis based on survey data (2017)

### **4. Overall Success Status of Projects**

The large majority of Pact's projects accounting for two third achieved a composite score of 96.7% or more. Thus, these projects belong to Type – I

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<sup>6</sup> US Dollar to Birr exchange rate extracted from the website:  
<http://www.exchangerates.org.uk/USD-ETB-exchange-rate-history.html>



projects, which were completed on-time and on-budget, with key indicators achieving 90 percent or more of their targets. About 22% of Pact's projects were found to be in a composite score interval of 76 to 96.6%. These projects belong to Type – II projects, which were completed and went operational but with some extension period and/or over budget, while meeting 76 to 90 percent of the originally specified targets on key indicators. A little over a tenth of Pact's projects were found to fall in a composite score interval of 51-74%, and hence belong to Type – III projects. These projects were completed and went operational but with significant extension period and/or over budget while meeting 51 to 75 percent of the originally agreed targets against key indicators. Of the five project success status, Pact's projects were found to fall into the first three, namely, successful, moderately successful and challenged project types. Therefore the independent variables were regressed against these three levels of project success status



Figure 4.3: Project Success Status of Pact

Source: Authors' analysis based on survey data (2017)

Descriptive analysis was conducted to assess the success states of projects across the different sectors. Accordingly, all projects implemented in the education sector were found to be successful, followed by 87.5%, 71.4 and 60% of the livelihood, peace building and health sector projects respectively. Projects implemented in the mining sector were found to be moderately successful, which is encouraging given that the two mining projects were the first mining portfolio for Pact Ethiopia. Two of the projects in the health sector and another two in the governance sector were found to fall in the

category of challenged projects. Detail of the project success status by sector is presented in Table 4.7.

Table 4.7: Project Success Status by Sector

Sector	No. of Projects	Project Success Status		
		Successful	Moderately Successful	Challenged
Health	10	6 (60%)	2 (20%)	2 (20%)
Livelihood	8	7 (87.5%)	1 (12.5%)	0 (0%)
Peace Building	7	5 (71.4%)	2 (28.6%)	0 (0%)
Education	6	6 (100%)	0 (0%)	0 (0%)
Governance	3	0 (0%)	1 (33.3%)	2 (66.7%)
Mining	2	0 (0%)	2 (100%)	0 (0%)
Total	36	24 (66.67%)	8 (22.2%)	4 (11.1%)

**Source:** Authors' analysis based on survey data (2017)

#### **4.8 Determinants of Pact's Project Success: Results of Ordered Logistic Regression Model**

The likelihood ratio chi-square of the model was found to be 51.2, which was statistically significant at  $p < 0.01$ . As depicted in table 4.8, the relation between the dependent variable (project success) and the independent variables (work plan, project team, procurement and Monitoring and Evaluation) was found to be statistically significant ( $p < 0.05$ ). The coefficient of determination stood at 0.68 indicating that 68.34% of the project success could be attributed to the aforementioned four independent variables. The signs of the coefficients were found to be as expected in the hypotheses. The log-likelihood, which is the difference between successive iterations of Stata stood at -11.85. This indicates that the difference between successive iterations was sufficiently small, and hence, the aforementioned ordered logistic regression output table was generated at iterations that fits the full model.

**Table 4.8: Results of Ordered Logistic Regression**

Independent Variables	Coef.	Std. Err	Z	p> Z
Technical Design	1.74	2.32	0.75	0.452
Work Plan	-7.0	3.53	-1.97	0.049**
Cost Breakdown	-3.42	2.72	-1.25	0.210
Project Team	28.73	13.3	2.16	0.031**
Procurement	16.9	8.43	2.00	0.045**
Monitoring and Evaluation	8.8	4.25	2.07	0.039**
<b>Model Summary</b>				
Number of obs =	36		LR chi2(6) =	51.17
Pseudo R2 =	0.6834			
Prob > chi2 =	0.0000		Log likelihood =	-11.853442

\*\* Statistically significant at  $p < 0.05$

**Source:** Authors' analysis based on survey data (2017)

#### 4.8.1 Determinant of Project Success in the Planning Phase

Marginal effect analysis was conducted employing Stata software to extract the extent to which the independent variables that were found to be statistically significant determine the level of project success. Detail of the marginal effect is presented in the Table 4.9.

**Table 4.9: Marginal Effect of Work Planning Practice**

Independent Variables	Ordered Logit Marginal Effect for		
	Successful Projects	Moderately Successful	Challenged Projects
Work Plan	-1.74	1.74	0.0000827
Project Team Building	7.18	-7.18	-0.0003413
Procurement	4.22	-4.22	-0.0002007
Monitoring and Evaluation	2.2	-2.2	-0.0001045

**Source:** Authors' analysis based on survey data (2017)

## 1. Project Technical Design as Determinant of Project Success

The mean composite score of projects for the variable, technical design, was found to be 4.38 with the corresponding value of 4.8, 3.9 and 2.9 for successful, moderately successful and challenged projects respectively. However, results of the ordered logit regression analysis revealed that the variable technical design was not found to be statistically significant. As a result, the null hypothesis “projects that pass through a well thought design process have high probability of successful completion” is rejected. The finding was found to be contrary to Pinto and Slevin (1987) and Ika (2011) who in their research revealed existence of positive relation between the two variables.

## 2. Project Work Plan as Determinant of Project Success

The research established that work plan preparation and successful project implementation exhibited a positive and statistically significant relationship ( $p < 0.05$ ). Consequently, projects that pass through rigorous work planning process were found to be more likely moderately successful and not likely to be in the challenged project type. Accordingly, such projects were found to be 1.73 fold more likely to be moderately successful and 0.008 probability of falling in the challenged project type. The result was found to be consistent with Ioana et.al (2015) and Stephen and Daniel (2016).

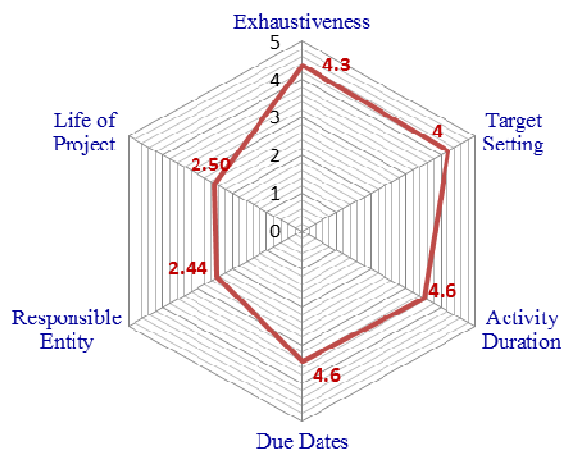


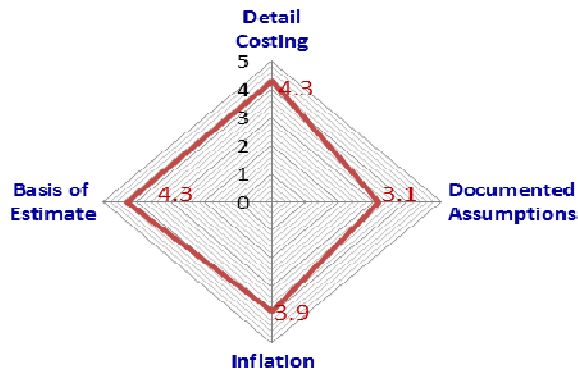
Figure 4.4: Mean Score of Projects on Work Plan

Source: Authors' analysis based on survey data (2017)

Results of the descriptive analysis presented in figure 4.4 is also found to be consistent with the aforementioned results of the ordered logit regression analysis. The mean composite score of projects for the variable was found to be 3.41 out of 5 with scores of 3.8, 3.1 and 1.8 for successful, moderately successful and challenged projects respectively.

### 3. Project Cost Breakdown as Determinant of Project Success

The mean composite score of projects for the variable, cost estimation practice, was found to be 3.9 with the corresponding score of 4.3, 3.5 and 2.4 for successful, moderately successful and challenged projects respectively as depicted in Figure 4.5.



**Figure 4.5: Mean Score of Project Costing Practice**

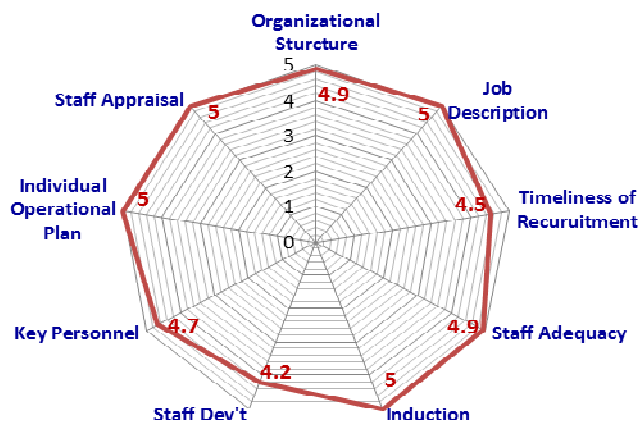
**Source:** Authors' analysis based on survey data (2017)

However, results of the ordered logit regression analysis revealed that the variable cost break down preparation was not found to be statistically significant. As a result, the null hypothesis “Projects with detail cost breakdown have more probability of success” is rejected. The finding was found to be contrary to Morteza and Kamyar (2009).

## 4.8.2 Determinants of Project Success in the Implementation Phase

### 1. Project Team Building as Determinant of Project Success

Results of the ordered logit regression analysis revealed that project team building practice and successful project implementation exhibited a positive and statistically significant relationship ( $p < 0.05$ ). Consequently projects that pass through rigorous team building practice were found to be more likely successful and less likely to be in the challenged project type. Accordingly, such projects were found to be seven fold more likely to be successful and 0.03% probability of falling in the challenged project type. The result was found to be consistent with Dugger (2007) and Ika (2012). Results of the descriptive analysis was also found to be consistent with the aforementioned results of the ordered logit regression analysis. The mean composite score of projects for the variable was found to be 4.8 out of 5 with scores of 4.9, 4.6 and 4.4 for successful, moderately successful and challenged projects respectively (See Figure 4.5).



**Figure 4.6:** Mean Score of Project Team Building

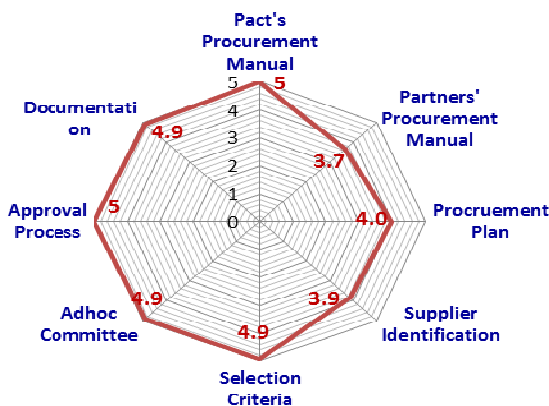
**Source:** Authors' analysis based on survey data (2017)

Review of secondary data revealed that Pact is a capacity developing organization with a motto “Building capacity worldwide”. It is engaged in the capacity development of its staff, implementing partners and the target communities. The Organizational Development (OD) evaluation report revealed that the overall impact of Pact Ethiopia’s capacity building activities

has been positive. Significant number of partners indicated this by saying “Pact Ethiopia’s approach to capacity building was different from other donors – innovative and productive” (Pact, 2008). Review of secondary data also revealed a recent trend of increasing staff turnover. Decreasing trend of staff development and less competitive benefit packages for staff were amongst the major weaknesses indicated in the SWOT analysis exercise of the 2017 – 2020 strategic plan of Pact Ethiopia.

**2. Project Procurement Practice as Determinant of Project Success**

The research established that procurement and successful project implementation exhibited a positive and statistically significant relationship ( $p < 0.05$ ). Consequently, projects that pass through a systematic procurement process were found to be more likely successful and less likely to be in the challenged project type. Such projects were found to be four folds more likely to be successful and 0.02% probability of falling in the challenged project type. The result was found to be consistent with Stephen (2014) and Peter and Jane (2015). Results of the descriptive analysis were found to be consistent with the aforementioned results. The mean composite score of projects for the variable was found to be 4.53 with scores of 4.7, 4.5 and 4.1 for successful, moderately successful and challenged projects respectively (see Figure 4.7).



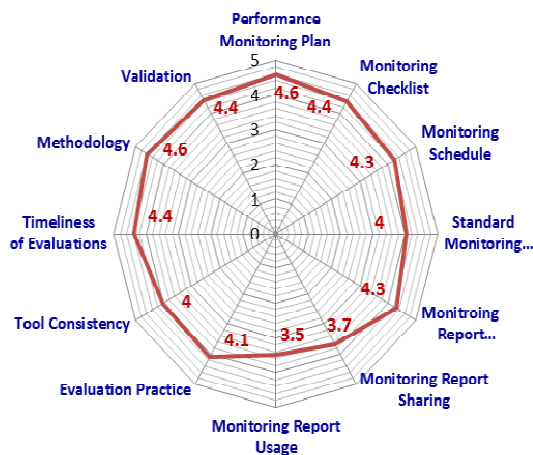
**Figure 4.7:** Mean Score of Project procurement Practice

**Source:** Authors' analysis based on survey data (2017)

### 4.8.3 Determinants of Project Success in the M&E Phase

Results of the ordered logit regression analysis revealed that monitoring and evaluation and project success exhibited a positive and statistically significant relationship ( $p < 0.05$ ) supporting the null hypothesis. Consequently, projects with properly functioning monitoring and evaluation system were found better positioned to learn, identify limitations and take timely rectifying measures to keep the project on track. Such projects were found to be more likely successful than others. Accordingly, such projects were found to be two fold more likely to be successful and 0.01% probability of falling in the challenged project type. The result was found to be consistent with Pinto and slevin (1987), Ika et al, (2011); Ioana et al, (2015), Stephen and Daniel (2016) and Aaron and Daniel (2016).

Results of the descriptive analysis was found to be consistent with the aforementioned results of the ordered logit regression analysis. Accordingly, the mean composite score of projects for the variable was found to be 4.19, with scores of 4.6, 4.1 and 2.3 for successful, moderately successful and challenged projects respectively (see Figure 4.8).



**Figure 4.8:** Mean Score of Project M&E Practice

**Source:** Authors' analysis based on survey data (2017)

Review of secondary data revealed that Monitoring, Evaluation, Reporting and Learning (MERL) are central components of sound programming for



Pact. It firmly believes that the strength of M&E system is not just its ability to report on results, rather its ability to provide performance information that is used to manage for results. Accordingly, Pact practices results based management by ensuring that its processes, products and services contribute to the achievement of clearly stated results. Review of the secondary data also revealed that the commitment and strong buy-in of Pact's top management was amongst the major factors that contributed to a properly functioning MERL system.

## **5. Conclusions**

Evidences presented in the result and discussion part of the paper indicated that a very significant proportion of projects were completed on schedule, within budget and meeting targets on key indicators. Project success rate, measured against the aforementioned three criteria concludes that Pact is in good shape in terms of project success. The research concludes that the process of work plan preparation affects successful completion of projects. The research established positive and statistically significant relationship between project team building and successful project implementation. Intentionally planned and properly implemented human resource management activities enables projects to be responsive to issues related to organizational structure and staff retention including key personnel, which are critical towards ensuring the continuity of the management practices, organizational culture and maintenance of institutional memory.

Results of the ordered logit regression analysis also revealed that project procurement practice affects successful completion of projects. Availability of procurement manual, procurement plan and rational bidding process enable projects to have an effective procurement process that ensures availability of goods and services at the right time, right quality and quantity, for the right unit at a reasonable price. The research also concludes that monitoring and evaluation is a determinant of project success. Development of performance monitoring and monitoring visits conducted using standard checklist and reported using standard reporting templates provides critical inputs that enables the project to be on track. Evaluations conducted systematically helps projects to know whether or not the project is on track against key result areas and to take rectifying measures that ensures successful completion of the project.

Results of the ordered logit regression analysis revealed that the relationship between project success and technical design of projects as well as project success and building cost breakdown structure were not found statistically significant. This was found to be contrary to the descriptive statistics which reveals differences in mean score against the three levels of project success. Results of the descriptive analysis also revealed that the lion's share of project fund comes from a single donor, the USAID. It is just like putting all eggs in one basket. Furthermore, review of secondary data also revealed that the volume of fund that Pact gets from USAID has shown declining trend. This could be further compounded by President Trump's "America First" policy, which might lead to significant cut to foreign aid that could in turn have a negative trickling down effect to Pact's current as well as future portfolio.

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