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# A Model to Enhance Students Intention to Adopt and use Mobile Learning in Ugandan Universities

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**Abstract-** M-learning systems have become the order of the day for universities in countries like Uganda to conduct studies to their students. The main attention towards M-learning is the increase in the number of mobile devices such as mobile phones, PDAs, Smart Phones, laptops, and iPads as well as enhancements in the technological capabilities of these devices. The purpose of this study was to develop a model to enhance students' intention to adopt and use mobile learning. A number of factors have hindered the adoption and use of M-learning. Various solutions have been put forward but they have not adequately addressed the issue of adoption and use of M-learning in Ugandan Universities. In developing countries, M-learning adoption and use is also constrained by lack of information about its requirements. The need therefore remains, to determine requirements and customize existing M-learning adoption models to suit the needs of universities in developing countries.

**Keywords:** *m-learning, adoption and use, students' intention, m-learning systems.*

**GJMBR-G Classification:** *JEL Code: D83*



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# A Model to Enhance Students Intention to Adopt and use Mobile Learning in Ugandan Universities

Faisal Mubuke<sup>α</sup>, Geoffrey Mayoka Kituyi<sup>α</sup> & Cosmas Ogenmungu<sup>ρ</sup>

**Abstract-** M-learning systems have become the order of the day for universities in countries like Uganda to conduct studies to their students. The main attention towards M-learning is the increase in the number of mobile devices such as mobile phones, PDAs, Smart Phones, laptops, and iPads as well as enhancements in the technological capabilities of these devices. The purpose of this study was to develop a model to enhance students' intention to adopt and use mobile learning. A number of factors have hindered the adoption and use of M-learning. Various solutions have been put forward but they have not adequately addressed the issue of adoption and use of M-learning in Ugandan Universities. In developing countries, M-learning adoption and use is also constrained by lack of information about its requirements. The need therefore remains, to determine requirements and customize existing M-learning adoption models to suit the needs of universities in developing countries. This paper reports on a study that developed a model for enhancing student's intention to adopt and use M-learning services in Ugandan universities, as an example of a developing country.

**Keywords:** *m-learning, adoption and use, students' intention, m-learning systems.*

## 1. INTRODUCTION

A recent trend in Universities has been to seek out and integrate new tools into the educational process to facilitate student learning (MacCallum, 2011). Universities continually search for ways to support student learning that is both engaging and effective. Technology has often been viewed as a way to provide both of these things to the learner. The adoption of Mobile Learning technologies (M-learning) has fundamentally transformed a wide range of educational, administrative and support tasks (Dwumfuo, 2012).

According to MoES (2013), the government of Uganda is now encouraging alternative means of meeting the demand particularly of higher education, one of these being M-Learning, especially in higher institutions of learning. Subsequently Universities have tried to develop and implement M-Learning information systems (Muyinda, 2013). Mobile applications and devices such as Smartphone's and tablets are changing

the way that Universities conduct learning activities to provide information, deliver services and engage with the students (UCC, 2012). To keep up with the pace of change in technology, Universities need to adopt a strategic approach that implements these new technologies and integrates them with existing service, information and communication channels. (Kajumbula, 2006)

Universities in Uganda have implemented M-learning systems to support Distance learners particularly Makerere University is running distance education (DE) degree programmes managed by the Department of Distance Education to students scattered across Uganda (Kajumbula, 2009). However, Muyinda (2011) and Kajumbula (2009) reveal that Universities in Uganda that have implemented M-learning such as Makerere university, Kampala university among others have not registered the persistent and long term usage of these M-Learning systems, an indicator that M-learning systems have not been continuously adopted and utilized by students. Muyinda (2011) states that at Makerere University, only 85 users of M-learning system were found to be active out of the thousand students. Similar scenario was reported by Kamugisha (2015) that 18 students were found to be active on the M-learning system installed at Kampala University. This low usage of M-learning systems by students in these universities means that the adoption of such systems remains low yet maximum benefits can be realized from the M-learning system during and after its adoption (Chong et al., 2011).

Despite the wide acceptance of cell phones and mobile devices among university students, adoption of mobile learning in universities, and academic libraries is still low and the determinants of acceptance are not clear. M-learning adoption and usage has faced a number of challenges stated by different scholars, for example Ally (2009) urges that student have unwillingness or disinterest in using mobile devices for academic purposes. Chikh & Berkani (2010) states that students demonstrate a preference for traditional campus based education may resist mobile learning out of fear. According to Lawrence, et al., (2008) cites that students report the following negative issues with mobile technology: limited storage, small screens, limited access to online reference material, and slow

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downloading. Essegbey & Frempong (2011) asserts that usability barriers like small keyboards are barriers to mobile learning. Lawrence, et al., (2008) identify both the cost imposed by telecommunications for access and mobile devices to be primary cost barriers for students.

Therefore, this study aimed at developing a model for M-learning adoption and use in Ugandan universities, as an example of a developing country. A model defining dimensions of awareness and sensitization, user friendly M-learning systems, enhanced security, privacy and confidentiality, tax reduction on Mobile Devices, effective monitoring and evaluation, and M-learning usage policies and guidelines as pre-requisites that can enhance student's intention to adopt and use M-learning in Uganda was developed. The model describes requirements that are critical to successful adoption and use M-learning in Uganda. It therefore has potential to enhance students' intention to adopt and use M-learning services in Ugandan universities and other developing countries with similar contexts. The model is generic and can therefore be applied to other developing countries. Furthermore, understanding of requirements for M-learning adoption and use contributes to extending existing M-learning adoption and use models.

## II. LITERATURE REVIEW

### a) M-Learning adoption Models

This section presents a review of existing M-learning models with the aim of identifying the gap to be addressed in the new framework.

- i. *A Model for Mobile Learning Adoption:* Lu and Viehland (2008) developed a model for enhancing mobile learning adoption among University students in New Zealand. This model was developed with the expectation that mobile learning will enhance their learning activities if universities provide facilities for mobile learning. Lu and Viehland (2008) considered six key factors that influence the behavioral intention of users to adopt mobile learning; they are perceived usefulness of mobile learning, perceived ease of use of mobile learning, attitude toward using mobile learning, subjective norm, self-efficacy and perceived financial resources. The framework largely helped to improve Education delivery by use of mobile devices that enabled anywhere / anytime learning that allowed students to more closely integrate learning activities into their busy lives.

Lu and Viehland (2008) M-Learning model was based on Attwell's M-learning model (Attwell, 2005). Cohen (2010) shows that the Lu and Viehland (2008) model was successfully tried in New Zealand in 2009 and has since been introduced in other developed countries such as Canada, Malaysia where it is doing well. However, Lu and Viehland (2008) did not consider

the role of perceived enjoyment as a prior and reliable factor that influences the behavioral intention to adopt mobile learning. Besides, the model is only good for developed countries and is largely based on the assumption that mobile wireless technologies are available in a given University.

Further, Lu and Viehland (2008) ignored the variable of Students self-management of Learning in enhancing adoption and use of M-Learning by University students. Students can promote acceptance of m-learning by adding value to their traditional learning methods using m-learning. This is because Self-management of Learning comes as a result of developing competence and skill in learning how to learn.

- ii. *A model to investigate student's behavioral intention to adopt and use mobile learning:* Mtebe and Raisamo (2014) developed a model to investigate student's behavioral intention to adopt and use mobile learning in higher education in East Africa. The model was developed to widen access, increase flexibility and mobility to access learning resources in Universities of East Africa. Mtebe and Raisamo (2014) model was based on the original UTAUT model of Venkatesh et al. (2003) which was adopted and extended to examine students' behavioral intention to adopt and use mobile learning. The four constructs in the UTAUT model were specifically selected to develop the model to investigate student's intention to adopt and use Mobile Learning (Mtebe and Raisamo, 2014). The constructs included Performance expectancy, Effort expectancy, Social influence, Facilitating conditions. According to Prajapati & Jayesh (2014), the mobile Learning model was successfully applied in a few universities in Kenya and Tanzania which helped those who were involved in planning and developing mobile learning for higher education in East Africa to make mobile learning services relevant and acceptable to learners in their universities.

However, a critical look at Mtebe and Raisamo (2014) model for mobile learning adoption by Prajapati & Jayesh (2014) shows that Mtebe and Raisamo ignored and did not investigate the effect of Gender, Age or Experience in behavioral intention to use mobile learning were the majority of students in universities are not of the same age and have variations in technological experiences. Further, Mtebe and Raisamo (2014) did not consider adding new factors in the model for M-Learning in order to predict behavioral intention to adopt and use mobile learning in a given context. Some of the factors which can be considered are perceived enjoyment (Huang, 2014), self-management of learning (Huang, 2014; Prajapati & Jayesh, 2014), Self-efficacy (Lu & Viehland, 2008), and Perceived attainment of value (Huang, 2014) which can be integrated in to the

model to predict students' behavioral intention to adopt and use mobile learning.

iii. *A model for Students' Acceptance of M-Learning in Universities*

A model was developed by Abu-Al-Aish & Love (2013) for Students' Acceptance of M Learning in Brunel University. Abu-Al-Aish & Love (2013) states that the model was developed with a view of stirring M-learning to play an increasingly significant role in the development of teaching and learning methods for universities basing on the unified theory of acceptance and use of technology (UTAUT) (Venkatesh et al., 2003). Abu-Al-Aish & Love (2013) developed a model to identify the factors that influence the acceptance of m-learning in Universities and to investigate if prior experience of mobile devices affects the acceptance of M-learning.

Prajapati & Jayesh (2014) shows that the Abu-Al-Aish & Love (2013) model was successfully tried in Denmark in 2014 and has since been introduced in other developed countries such as India, china, where it is doing well. The model uses existing mobile devices which are widely used in developed countries to support universities in teaching and learning methods. Mobile devices moderate the effects of effort expectancy, lecturers' influence quality of service, and personal innovativeness on behavioral intention.

b) *Challenges to M-Learning adoption*

*Lack of acceptance to M-learning adoption:* Donaldson (2011) states that the lack of acceptance to M-learning adoption is due to a fear that it will reduce classroom interaction or cause miscommunication or confusion. This has hampered the adoption of M-learning among students. Despite the wide acceptance of cell phones and mobile devices among the teen and adults, faculty and support staff acceptance of mobile learning in universities, and academic libraries is still low and the determinants of acceptance are not clear (Lawrence, et al, 2008). Ally (2009) urges that student have unwillingness or disinterest in using mobile devices for academic purposes. Chikh & Berkani (2010) states that students demonstrate a preference for traditional campus based education may resist mobile learning out of fear. This fear may stem from perception that mobile learning will reduce classroom interaction or cause miscommunication or confusion due to inability to see facial, body, or voice cues from instructors and peers.

*Complexity of use:* Essegbey & Frempong (2011) asserts that it is complex to use M-learning initiatives on Mobile devices. This may result from issues like small keyboards which may pose a barrier to mobile learning. However, technology advancements in virtual keyboards may address this issue (Chikh & Berkani, 2010) Small screen size can make viewing complex, cause eyestrain, or be difficult for vision impaired individuals. In addition,

web pages are not always designed for small screens (Donaldson, 2011). Small keyboards, storage, and memory, and document editing capabilities may limit mobile academic activities (Muyinda, 2011).

*Cost:* The findings from the study carried out by Vosloo (2012) revealed that it's expensive to own and maintain mobile devices for purposes of M-learning. Personal ownership of mobile devices (for example smart phones) and the cost of unlimited Internet access are prohibitive for some students to fully adopt and use M-learning as a tool to improve on learning activities (Vosloo, 2012). Lawrence, et al., (2008) identify both the cost imposed by telecommunications for access and mobile devices to be primary cost barriers for students.

*Inadequate security, privacy and confidentiality:* According to Adedoja et al (2013), Mobile learning user information are meant to be confidential and secure, however the education sector is constrained by genuine concerns about privacy, security and confidentiality of education records of the students. This is consequently constraining the adoption and usage of M-learning in Universities (Muyinda, 2011). According to Lawrence, et al., (2008), for flawless sharing of students information to be realized, the relevant stakeholders have to be committed to security of information of the students and they have to assure students that their personal information will be secured and protected from unauthorized access.

*Inadequate top management support on the use M-learning systems:* According to Crescente & Lee (2011), without the existence of a leadership and governance structures, it is difficult to coordinate M-learning initiatives and align them with university priorities. This limits the necessary leadership needed to engage students so as to promote M-learning initiatives. Chikh & Berkani (2010) stated that insufficient top management support to adopt and use M-learning systems is a major challenge that is hindering M-learning adoption and use among university students. Further, Ally (2009) urge that without good leadership and governance from top management, then it can be difficult to provide for the necessary decision making rules and procedures that give direction to, and oversee M-learning initiatives thus hindering M-learning adoption and usage.

*Access to desired information:* Ngarambe (2013) states that access to information when and where an information seeker desires is seen as a potential barrier for instructors. For instance, ready access to mobile information during class may not be part of the instructor's agenda. Effective monitoring and evaluation of a mobile initiative is necessary for successful implementation (Kutluk & Gülmez, 2013).

### III. METHODOLOGY

#### a) Research Design

The study used Participatory Design approach mainly because it encouraged direct participation and active involvement of users during the study. Participatory design approach called for involving potential users which gave better insights that could not have been attained by not letting them participate. Descriptive statistics involving mean and standard deviation were used to understand the level of respondent agreement with the challenges and solutions to M-learning adoption and use. The purpose of this was find out if these challenges and solutions can later be used as design requirement for M-learning adoption model to enhance students intention to adopt and use M-learning systems. The study population from two selected universities comprised of 11, 363 students according to Muyinda (2013), Makerere University (2013) & Kampala University Strategic Planning Report (2014). The study scope was limited to two public and Private Ugandan Universities; Makerere University and Kampala University because they had earlier explored M-learning technologies with low rates of student's intention to adopt and use M-learning services. The sample size of 370 respondents out of a population of 11, 363 was target and arrived at basing on the table for determining sample size by Krejcie and Morgan (1970) which gives a fair representation of the study population. Myers (2009) supports this by stating that a researcher needs to get the appropriate sample size in terms of accuracy and cost and that for any population above 10,000 but less than 15,000 the sample size is constant (370). However, of the 370 questionnaires administered 232 were obtained giving us about 62.7% response rate. Purposive sampling was used to select the universities for carrying out the study and simple random sampling was used to select the 370 respondents from the total population of 11, 363 students as a unit of analysis. Based on the chosen sample, questionnaires were distributed to the students who are always involved and engaged in the use of M-learning services.

#### b) Data collection

The main data collection instrument that was used included the questionnaire, with other tools such as literature review. Questionnaires contained structured series of questions and prompts relating to the study variables. Questionnaires were used to collect primary data on challenges hindering M-learning adoption and use in Ugandan universities and the possible solutions to these challenges. The data gathered from the questionnaire helped the researcher in deriving the requirements that were used in developing the model to enhance student's intention to adopt and use M-learning systems. The questions on the questionnaires were set up on an interval scale with respondents answering in line with the extent to which they strongly agree, Agree, Not Sure, Disagree, strongly disagree. Briefly and to the point, questions were designed addressing only a single variable at a time and avoiding expressions that could bring out unacceptable responses. Each challenge and solution was measured by at least five questions that were relevant. in terms of prior research ambiguous and vague question were either improved or deleted. Following the guidelines by Carcary (2008), the questionnaire contained a heading clearly informing respondents that results would be completely anonymous as means of seeking for honesty and avoiding exaggeration while.

### IV. RESULTS

#### a) Descriptive statistics for challenges and solutions to M-learning adoption and usage

In order to understand the challenges to M-learning adoption and the possible solutions, descriptive statistics involving mean and standard deviation were used to understand the level of respondent agreement with the challenges to M-learning adoption and use and the proposed solutions. The purpose of this was to blend these challenges and solutions later as design requirement for enhancing students intention to adopt and use M-learning systems as seen in tables 2, 3 and 4 as seen below;

*Table 2:* Descriptive statistics for challenges to M-Learning adoption and Usage

Items (N=232)	Mean	SD
There is lack of acceptance to M-learning adoption due to fear that will reduce classroom interaction or cause miscommunication or confusion	4.4979	0.67785
It is complex to use M-learning systems on Mobile devices	4.5883	0.69787
There is Inadequate security, privacy and confidentiality of M-learning System	4.4435	0.65394
It's Expensive to own and maintain a mobile devices for purposes of M-learning	4.4934	0.78857
Inadequate top management support on the use M-learning systems	4.3680	0.66748
Access to desired information by the students is a potential barrier to adopt M-learning	4.4787	0.68470

*Source: Primary Data*

From table 2 above, finding revealed that the most leading challenges to adoption and usage of M-learning systems are; complex to use M-learning

systems on Mobile devices (Mean=4.589, SD= .6979), followed by lack of acceptance (Mean=4.498, SD= .678), followed by It's Expensive to own and maintain a



mobile devices for purposes of M-learning (Mean=4.493, SD= .789), followed by access to desired information by the students is a potential barrier to adopt M-learning (Mean=4.479, SD=.685). Inadequate security, privacy and confidentiality of M-learning System (Mean=4.354, SD=.654), finally

Inadequate top management support on the use M-learning systems (Mean = 4.368, SD=.66748). These finding means that the above challenges should be considered and corrected by universities if they are to enhance student's intention to adopt and use M-learning systems to enable students attain learning outcomes

**Table 3:** Descriptive Statistics for Suggested solutions to challenges that confronts M-learning adoption and usage

Item (N=232)	Mean	SD
Create more awareness and sensitizations on the benefits of M-learning systems to student	4.2462	.87482
Develop user friendly M-learning systems suitable for student needs	4.2168	.87911
Enhance security, privacy and confidentiality of the M-learning systems	4.3766	.74070
Providing tax reductions to enhance increased possessions on Mobile devices	4.3386	.73059
There should be policies and guidelines in place to support effective and continuous use of M-learning systems	4.4346	.69327
There should be effective monitoring and evaluation of a mobile learning course content	4.4583	.73170

Source: Primary Data

From Table 3 above, the finding of the study revealed that the respondents agreed with the above suggested solutions to the challenges to M-learning adoption and usage. Most overriding solutions to the challenges to M-learning adoption and usage are; effective monitoring and evaluation of a mobile learning course content (Mean=4.458, SD=.732), followed by There should be policies and guidelines in place to support effective and continuous use of M-learning systems (Mean=4.435, SD= .693), followed by Enhance security, privacy and confidentiality of the M-learning systems (Mean= 4.377, SD=.741), Providing tax reductions to enhance increased possessions on Mobile devices (Mean=4.339, SD=.741), Create more awareness and sensitizations on the benefits of M-learning systems to student (Mean= 4.246, SD= .875) and finally Develop user friendly M-learning systems suitable for student needs (Mean= 4.217, SD=.879). These finding means that the above solutions should be considered by universities if they are to enhance student's intention to adopt and use M-learning systems to enable learners attain their learning goals. These

challenges and solutions can now be derived as design requirements for enhancing student's intentions to adopt and use M-learning system.

#### b) Discussion of the requirements for developing a model

The requirements for enhancing student's intention to adopt and use M-learning systems system in Ugandan universities are here then discussed based on the results in table 2 and 3. This was done in order to derive requirements from the solutions to the challenges to M-learning systems adoption and usage and there after use those as requirements for design specification for the Model to enhance student's intention to adopt and use M-learning in Ugandan universities. Therefore, the requirements for developing a model for enhancing students intention to adopt and use M-learning in Ugandan universities as presented in table 4 with codes CM1 to CM6 represent the challenges to M-learning adoption and usage while codes R1 to R6 representing the requirements which are also derived as solutions to the challenges.

**Table 4:** Matrix showing challenges and derived requirements that should be addressed by universities in developing countries like Uganda

Code	General challenges to M-learning adoption and usage	Code	Requirements (Solutions)
CM1	There is lack of acceptance to M-learning adoption due to fear that will reduce classroom interaction or cause miscommunication or confusion	R1	Create more awareness and sensitizations on the benefits of M-learning systems to student
CM2	It is complex to use M-learning initiatives on Mobile devices	R2	Develop user friendly M-learning systems suitable for student needs
CM3	There is Inadequate security, privacy and confidentiality of M-learning System	R3	Enhance security, privacy and confidentiality of the M-learning systems
CM4	It's Expensive to own and maintain a mobile devices for purposes of M-learning	R4	Providing tax reductions to enhance increased possessions on Mobile devices
CM5	Inadequate top management support on the use M-learning systems	R5	There should be policies and guidelines in place to support effective and continuous use of M-learning systems
CM6	Access to desired information by the students is a potential barrier to adopt M-learning	R6	There should be effective monitoring and evaluation of a mobile learning course content

Source: Primary Data

*Lack of acceptance to M-learning adoption (CM1):* This challenge hinders the adoption and usage of M-learning systems. The result in table 2 revealed that most students lack acceptance to M-learning system and this was hindering the adoption and usage of M-learning systems. This is in line with Donaldson (2011) who stated that lack of acceptance to M-learning adoption due to fear that will reduce classroom interaction or cause miscommunication or confusion has hampered the adoption of M-learning among students.

*It is complex to use M-learning systems on Mobile devices (CM2):* This challenge hinders the adoption and usage of M-learning systems. The result in table 2 revealed that most respondents find M-learning systems as complex to use and this was hindering the adoption and usage of M-learning systems. This is in line with Essegbey & Frempong (2011) who asserted that it is complex to use M-learning initiatives on Mobile devices. This may result from issues like small keyboards which may pose a barrier to mobile learning. Donaldson (2011) relates this challenge to small screen size which makes viewing complex, cause eyestrain, or be difficult for vision impaired individuals.

*Inadequate security, privacy and confidentiality of M-learning System (CM3):* This challenge hinders the adoption and usage of M-learning systems due to fear that student's information may be exposed to non authorized individuals. This is in line with Adedaja et al (2013) who asserted that the education sector is constrained by genuine concerns about privacy, security and confidentiality of education records of the students. This challenge is also in line with Muyinda (2011) who stated that security concerns are consequently constraining the adoption and usage of M-learning in Universities.

*Expensive to own and maintain mobile devices for purposes of M-learning (CM4):* The result in table 2 revealed that costs to acquire and maintain mobile devices for purposes of learning are high. This was hindering the adoption and usage of M-learning systems. This challenge undermines the abilities of the students to adopt and use M-learning for academic purposes. This is in line with Vosloo (2012) who stated that it's expensive to own and maintain mobile devices for purposes of Mobile learning.

*Inadequate top management support on the use M-learning systems (CM5):* This challenge hinders the users of M-learning system from knowing what they supposed to do with the system when and where (Chikh & Berkani, 2010). The findings in table 2 revealed that there is Inadequate top management support on the use M-learning systems. This is in line with the finding from Crescente & Lee (2011) who stated that Inadequate top management support on the use M-learning systems constrains the adoption and usage of M-learning. Crescente & Lee (2011) further states that without the existence of a leadership and governance structures to guide the use of M-learning, it is difficult to coordinate M-learning initiatives and align them with university priorities. This limits the necessary leadership needed to engage students so as to promote M-learning initiatives.

*Access to desired information by the students is a potential barrier to adopt M-learning (CM6):* This challenge affects student's ability to efficiently use M-learning system. The result in table 2 revealed access to desired information by students is a potential barrier and this was hindering the adoption and usage of M-learning systems. This is in line Ngarambe (2013) who stated that access to information when and where an information seeker desires is seen as a potential barrier for instructors. For instance, ready access to mobile information during class may not be part of the instructor's agenda which ends up affecting students need to access the desired information any time anywhere.

### c) Model Development

The model development Process was done with the aim of identifying the factors that are necessary for designing "MESIAUM" a model for enhancing student's intention to adopt and use M-learning In Ugandan Universities. This section presents the design of the model for adoption and use of mobile learning in Uganda. The Model was developed with stakeholders being identified and their roles outlined. The following stakeholders were identified so as to enable the researcher to develop the model;

The table 5 shows the role played by different actors in the process of designing Model to enhance student's intention to adopt and use M-learning:

Table 5: Stakeholders and Their Roles

Stake Holder	Roles
Telecommunication Companies	The Telecom companies include MTN, UTL, Airtel and Orange. They help to set-up mobile network infrastructure for mobile learning systems to operate on.
Mobile-learning users	Provide user requirements, test and use the designed Model
University Top Management	Setup the infrastructure, Identify stakeholders, Carry out evaluation, organize and train users, sensitize users , provide economic resources and bench mark M-learning system models elsewhere
Government	Set up the infrastructure through Ministries and bodies such as Ministry of ICT, NITAU



	for the case of Uganda, setting up the Mobile learning policies through Ministry of ICT and NITAU.
<b>ICT Personnel</b>	To train the users

i. *Derived Variables from Primary Data*

The below shows the variables that were extracted from the respondents' feedback. The derived variables were extracted from the challenges that were presented on the questionnaires (Table table 2 and table 3) This implies that awareness and sensitizations,

user friendly M-learning systems, Enhanced security, privacy and confidentiality, tax reductions, policies and guidelines effective monitoring and evaluation should were highly considered in development of a model to enhance students intention to adopt and use M-learning in Ugandan Universities.

*Table 6:* Derived Variables

Code	Requirements/solutions	Code	Derived variables
R1	Create more awareness and sensitizations on the benefits of M-learning systems t student	DV1	Awareness and Sensitization
R2	Develop user friendly M-learning systems suitable for student needs	DV2	User friendly M-learning systems
R3	Enhance security, privacy and confidentiality of the M-learning systems	DV3	Enhance security, privacy and confidentiality
R4	Providing tax reductions to enhance increased possessions on Mobile devices	DV4	Tax reduction on Mobile Devices
R5	There should be policies and guidelines in place to support effective and continuous use of M-learning systems	DV5	Provide M-learning usage policies and guidelines
R6	There should be effective monitoring and evaluation of a mobile learning course content	DV6	Effective monitoring and evaluation

ii. *Variables from the Literature Review*

In order to align the adoption and usage model to existing models, variables from existing models were also considered. These variables were also considered

appropriate in the factor analysis. These variables were subjected to factor analysis to be able to identify the most important factors that influence the adoption and usage of M-learning initiatives in Ugandan universities.

*Table 6.1:* Variables Adopted From Existing Models

Model	Variable	Source
UTAUT	Social Influence	Venkatesh et al.'s (2003)
UTAUT	Facilitating Conditions	Venkatesh et al.'s (2003)
UTAUT	Students Intention to use	Mtebe and Raisamo (2014)
UTAUT	Adoption	Venkatesh et al.'s (2003)

*Table 6.2:* Variables from Literature Review

Title	Variable	Author
Factors that influence student's intention to adopt and use M-learning	Self-management of Learning	Huang (2014)
Factors that influence student's intention to adopt and use M-learning	Perceived Enjoyment of learning	Wang and Li (2012)

d) *The Model to enhance student's intention to adopt and use M-learning in Ugandan Universities*

The Model to enhance student's intention to adopt and use M-learning was developed to incorporate the factors that influence M-learning adoption and usage from both the constructs identified in tables 6, 6.1 and 6.2 Further the model also put into consideration the stakeholders and the roles they play in ensuring that mobile learning systems can be adopted and used in Uganda.

The Figure 1 illustrates the developed model

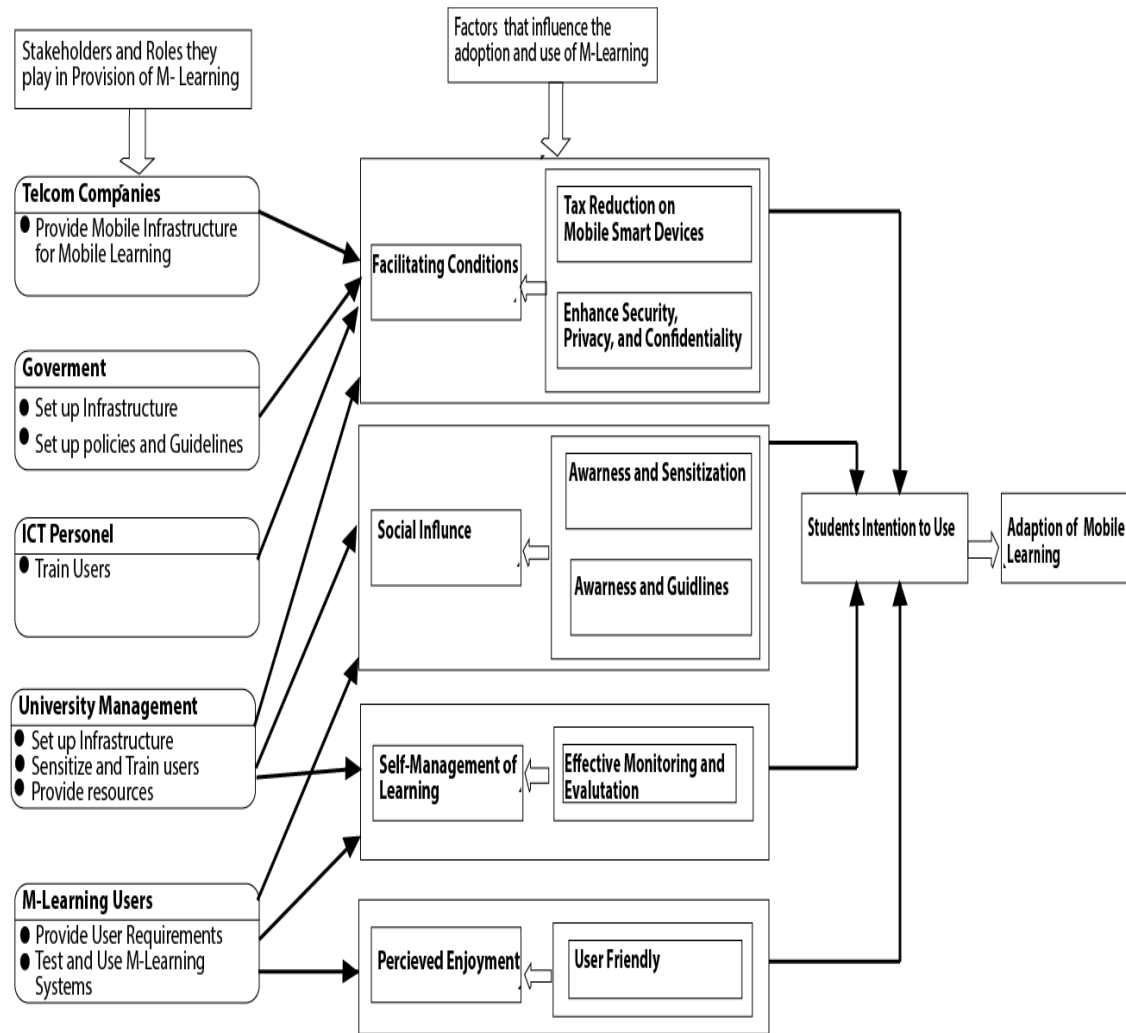


Figure 1: Model to enhance student's intention to adopt and use M-learning in Ugandan Universities

## V. CONTRIBUTIONS OF THE MODEL TO M-LEARNING ADOPTION AND USE

While the outlined model in Figure 1 extends an existing one as described by Mtebe and Raisamo (2014), it also makes a contribution by presenting new features useful for adoption and use of M-learning systems in the context of Ugandan universities as a developing country. The model provides for new dimensions required for the M-learning adoption and use process mentioned and discussed here under the themes of awareness and sensitization, user friendly M-learning systems, enhanced security, privacy and confidentiality, tax reduction on Mobile Devices, effective monitoring and evaluation, and M-learning usage policies and guidelines.

### a) User friendly M-learning systems

The primary challenge to M-learning adoption and use in Ugandan universities is complexity to use M-learning initiatives. The need therefore remains for the

university management to endeavor and ensure that user friendly M-learning systems suitable for student needs are designed to enable both learners and educators achieve their intended goals. The systems should not be complex to use because a complex system hinders efficient usage of a technology. Technologically, a user friendly system increases the end users ease of use of mobile learning systems. This is because complex mobile learning systems hinder students from using such services; if students find the systems can easily support self management of learning then it is perceived to be useful. Hence this can help solve the challenge of complex to use M-learning systems on Mobile devices

### b) Awareness and Sensitization

Lack of acceptance to M-learning adoption due to a fear that it will reduce classroom interaction or cause miscommunication or confusion is recognized as one of the main challenges for M-learning adoption and use in developing countries like Uganda. Following

successful user friendly M-learning systems, There is need for the university management to train, create more awareness and sensitize their students on how to Use M-learning systems and what are the likely benefits of adopting and using M-learning systems for academic purposes and this will go a long way in enhancing students intention to adopt and use M-learning systems. Hence this can help in solving the lack of acceptance to M-learning adoption due to fear that will reduce classroom interaction or cause miscommunication or confusion.

c) *M-learning usage policies and guidelines*

Setting up usage policies and guidelines are important as prerequisites for enhanced student's intention to adopt and use M-learning systems in universities in a developing country like Uganda. It is therefore important for universities to set policies and guidelines in place to support effective and continuous use of M-learning systems as one of the solutions to enhance adoption and use of M-learning systems in Ugandan universities. This is because, good leadership and governance from top management, provides for the necessary decision-making rules as well as procedures that give direction to, and on the use of M-learning. Good policies and guidelines build trust and confidence among the different education service, spells out roles and usage of system clearly, the functionality that must be met by the system among others. The policies have to also be reviewed on a regular basis to make sure that they remain aligned with the adoption and use of M-learning systems objectives of the universities. Hence this will help address the challenge of Inadequate top management support on the use M-learning systems.

d) *Effective monitoring and evaluation*

There is a need for Lecturers at the universities to routinely upload M-learning contents or materials that promote learning and create knowledge among the learners to ensure that there is mobility of learning any were any time. Availability of contents on M-learning systems makes students derive a sense out of the M-learning. Hence this would help address a challenge of Access to desired information by the students as a potential barrier to adopt M-learning.

e) *Tax reduction on Mobile Devices*

The Universities in collaboration through the Ministry of Education, sports and ICT, should request the government of Uganda to provide tax reductions on mobile smart devices for of academic purposes to increase on the possessions of smart mobile devices to ensure that university students can posses' mobile devices that can be used to carry out academic tasks and to promote learning activities.

f) *Enhance security, privacy and confidentiality*

Inadequate security, privacy and confidentiality hold back M-learning adoption and use in Ugandan

universities. The need therefore remains to provide adequate security, privacy and confidentiality in the M-learning systems used by students. Security and privacy measures should be considered in the design of M-learning systems. This is because security and privacy measures ensure confidentiality, integrity and availability of students' information as it is being exchanged across different M-learning modules. Authentication techniques such as password, fingerprints, retina scans and biometric devices such as finger print readers and voice scanning systems can be used to help ensure data security. To enhance security, privacy and confidentiality, it requires establishing the appropriate security and privacy measures and therefore, implies the need for the following steps:

- Identify the potential security threats
- Identify the available security measures
- Assess the strength and weakness of each security measure
- Determine the most appropriate security measure to use.

## VI. CONCLUSION

The existing M-learning adoption models have been of little use in enhancing the adoption and usage of M-learning systems in Ugandan universities for a case of Uganda as a developing country. This is largely because the models were developed based on requirements of the universities in developed country environments. Therefore, the requirements and motivation toward M-learning adoption is essentially different in developing countries due to these fundamental differences in the challenges that deter efficient adoption and usage of M-learning. For universities in a developing country like Uganda, The need remains for tailored M-learning models that will significantly enhance the adoption and use of M-learning. This requires identifying the major challenges that obstruct students from adopting M-learning initiatives, blend the identified challenges into viable requirements and incorporate them into the existing models that were designed based on the conditions in developed countries.

This study therefore identified requirements critical to an enhanced adoption and use of M-learning systems in universities in Uganda as a developing country. The model that was developed incorporates activities required for enhanced adoption and use of M-learning systems. These requirements include I) awareness and sensitization, II) user friendly M-learning systems, III) enhanced security, privacy and confidentiality, IV) tax reduction on Mobile Devices, V) effective monitoring and evaluation, VI) M-learning usage policies and guidelines. This model outlined the factors that can influence M-learning adoption and usage, the roles played by stakeholders in enhancing

the students' intention to adopt and use M-learning. This Model is therefore a step towards supporting Ugandan universities to enhanced adoption and use of M-learning initiatives in Uganda.

The model is generic and can be applied in other universities in developing countries with similar contexts. Furthermore, the understanding of requirements and development of a model for M-learning systems contributed to the extension of existing knowledge on M-learning adoption and usage models.

## VII. ACKNOWLEDGEMENT

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## Towards Managing the Beneficiaries Rights Via Writing a Will

By Zakiah, Samori, Mohammad Mahyuddin Khalid, Mohd Ashrof Zaki Yaakob,  
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**Abstract-** Wasiyyah or will is a legal document that outlines on how one's estate is to be distributed in the event of affairs after the death of the testator according to Islamic law. Recently, the abundance of wasiyyah property is getting increase year by year resulting the accumulation of these properties without proper distribution among the testator's beneficiary. Consequently, this wasiyyah caused detrimental to the testators' beneficiaries and indirectly indicates the failure to fully understand the whole concept of Islamic property management via wasiyyah. On top of that, the confusion between wasiyyah, hibah, waqf and other Islamic property management might also lead to the above situation. This study therefore will further examine the concept and the conditions of wasiyyah and provide the procedure involved in the documentation of wasiyyah with special reference to As-Salihin Trustee, one of renowned wills Management Company in Malaysia.

**Keywords:** wasiyyah, as-salihin trustee, beneficiaries, islamic property management.

**GJMBR-G Classification:** JEL Code: O39



*Strictly as per the compliance and regulations of:*



# Towards Managing the Beneficiaries Rights Via Writing a Will

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**Keywords:** wasiyyah, as-salihin trustee, beneficiaries, islamic property management.

## 1. INTRODUCTION

Islamic inheritance system is comprised of a number of micro institutions: faraid (law of inheritance), wasiyyah (will) and hibah (gift). Therefore, this section presents a discussion on faraid, wasiyyah and hibah in detail. Briefly, faraid is defined as the Islamic law of succession or the Islamic law of inheritance, which is one of the most important branches of Islamic jurisprudence. Hibah according to Islamic law is an aqd (contract) that entails granting ownership of a property to someone else during his lifetime without any reprisal

(iwad). (Zamro, n.d). Meanwhile, wasiyyah is defined as a gift from a person to another for example; wealth, property or benefit after the death of the testator. However, the transfer of ownership will only be effective after the death of the testator to the beneficiaries. Wasiyyah and hibah are the two most common supplementary mechanisms available within the comprehensive Islamic inheritance system for the devolution of property.

Wide range of literature point out that wasiyyah is a declaration in the prescribed form of the intention of the person making it (testator) of the matter which he wishes to take effect on or after his death, until which time is revocable (Zulkifli n.d). This denotes that it is a legal document which enables us to determine how our property to be distributed upon our death. Furthermore, it is neither a contract nor an agreement, which will only take effect upon the death of the testator. Some scholars further stress that wasiyyah is the granting of a right by the testator which could be done verbally or otherwise. Even so, all of the four Sunni schools of law are unanimously agreed that the execution of wasiyyah of the deceased should be only be permissible after the fulfilment of the payment for the funeral expenses and upon the settlement of the deceased debts. To further strengthen this point, there is evidence from Quran and Hadith that shows Islam permits and encourages Muslim to do their wasiyyah. Prophet Muhammad PBUH says, "It is not befitting for a Muslim to abide for three nights without having his (her) 'Will' with him (her)." Abdullah bin Umar RA said, "Since I heard this from Allah's Messenger PBUH, I have always had my 'Will' with me." (Hadith No. 3648, Book of Wills, Sunan An-Nasa'i, Vol. 4).

In spite of the recognition of making wasiyyah, this permissible of writing wasiyyah is limited to only certain situation. It denotes that according to general Islamic principle wasiyyah will not be applicable to beneficiaries since these beneficiaries have their own portion as have already stated in the Quran, which will be distributed accordingly according to faraid. Faraid could be considered as one of the asset redistribution mechanism in Islamic law. This article will provide an overview of wasiyyah and its authorities according to al-Quran and hadith (prophetic tradition) as well as wasiyyah practice in Malaysia. It will then analyse the documentation of wasiyyah with special reference at As-

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Salihin Trustee and subsequently discuss the implication for non-practicing documentation of wasiyyah in Malaysia. This article then presents recommendations on how the aforementioned issues may be addressed by suggesting a proper wasiyyah documentation process that complies with both Shariah and Malaysian law. Finally, the outcome of this paper signifies the documentation of wasiyyah is among the vital part that need to be taken into consideration within Muslim's life as this practice could uphold and maintain the established principle in Islam in ensuring the family's welfare are protected.

## II. DEFINITION OF WASIYYAH

Wasiyyah (will or bequest) is defined as the gift from a person to another; like material wealth, property or benefit to be owned after the death of the giver. Taking from its root word "wassa" it entails to order, advise, promise or give away property after death. Meanwhile, in a legal terminology, wasiyyah is a legal document that outlines how one's estate is to be distributed in the event of affairs after death. Shafii scholars on the other hand conclude that "wassa" as connecting or delivering (Zamro n.d) where it connects or delivers someone good deeds during his lifetime to be rewarded later after his demise. Similarly, it could be understand as a gratuitous gift of property by its owner to another, contingent on the giver's death (which gift takes effect on the giver's death).

Apart from that, a declaration in the prescribed form of the intention of the person making it of the matter which he wishes to take effect on or after his death, until which time it is revocable is another technical meaning of wasiyyah (Zulkifli n.d). As it undertakes as a legal document, it would enables us to determine how does our property shall to be distributed upon our demise. It is neither a contract nor an agreement and will only take effect upon the demise of the testator. According to some Muslim scholars, wasiyyah is the granting of a right that is implemented after the death of the testator, either verbally or otherwise. Based on explanation from Abdul Karim Zaydan (2013), wasiyyah is to grant ownership to someone voluntarily after the death of the testator in terms of possessions or benefits.

Islam encourages every Muslim do their wasiyyah before they are pass away. This is evidence based on various hadith Rasulullah SAW encouraging Muslims to make wasiyyah. In one hadith, Rasulullah SAW said, as narrated from Abdullah bin Umar RA that Rasulullah SAW said, "It is not befitting for a Muslim to abide for three nights without having his (her) 'Will' with him (her)." Abdullah bin Umar RA said, "Since I heard this from Allah's Messenger PBUH, I have always had my 'Will' with me." (Hadith No. 3648, Book of Wills, Sunan An-Nasa'i, Vol. 4). This respective hadith signifies

that wasiyyah is a gift to another party, either in the form goods, debts or benefits, to be owned by the recipient after the death of the testator dead.

### a) Authorities of Wasiyyah from Quranic verse and Hadith

Most of companions including Abu Bakar, Ali Ibn Umar and the four mazhabs (schools of thought), including Shafie perceive that the obligatory (wajib) law was repealed by the verses of al-mawarith in al-Quran 4: 176. This respective verse specifically provides the provision of the heirs' portion that should be distributed accordingly upon the distribution of the inheritance. In this effect, Allah SWT already states to the effect that;

*"It is prescribed for you, when death approaches any of you, if he leaves wealth, that he/she makes a bequest (a Will) to parents and next of kin, according to reasonable manners; a duty upon Al-Muttaqin."* (Al-Quran 2: 180).

In addition to that it is encouraged (consider as a permissible act) to execute a proper documentation of a wasiyyah to the poor families and orphan or other person that are not entitle to receive any inheritance. To reflects on this points, Allah SWT further mentions in another verse,

*"O you believed testimony (should be taken) among you when death approaches one of you at the time of bequest (that of) two just men among you or two others from outside. If you are travelling through the land and the disaster of death should strike you"* (Al-Quran 5: 106).

The above verse has been supported by one hadith narrated by Ibn Majah where Prophet Muhammad SAW states that:

*"The worst are those who do not have time to make a will". This hadith in line with another hadith when Prophet SAW further stresses "Anyone who dies leaving a will and he dies on the righteous road and follow the sunnah and he dies as a righteous and in Shahada and with his sin forgiven. (Narrated by Ibn Majah)*

Another hadith narrated by Ibn Umar (R.A) reported Rasulullah SAW as saying: "It is the duty of a Muslim who has something which is to be given as a bequest not to have it for two nights without having his will written down regarding it" (Hadith No. 3987, Book of Bequests, Sahih Muslim, Vol. 13). Similarly, analysing to the above authority from Quranic verse and hadith, it implies that the act of documentation of wasiyyah is very encourage and permissible in Islam provided that such recognition be only recognized towards non-beneficiaries. As mentioned before, no wasiyyah is permissible to beneficiaries. This is the general principle that Muslims should adhered to. However, there is fiqh ruling that give an exception to certain cases. This denotes that in some circumstances only, the

documentation of wasiyyah to beneficiaries are allowed but the portion received should not more than 1/3 of the deceased property and asset and should have prior consent from other heirs. This exception to the general ruling is relatively not repugnant from the general principle of Islam under the Islamic law of property but rather to uphold the principle of masalih mursalah (betterment of society) which consider as one of the established principle in Islam. Imperatively, the documentation of wasiyyah for the beneficiaries are permissible in the event where there might be a possibility for the respective beneficiary to only entitled for a small portion of property through the distribution of faraid. As such for he or her maslahah, this act is permissible especially those who are in poor and needy. It is further proven by one hadith narrated from Abu Hurairah that Rasulullah SAW said: "Allah (SWT) has been charitable with you over the disposal of one third of your wealth at the time of your death, so that you may be able to add to the record of your good deeds". This hadith is considered as dhaif (weak) hadith. (Hadith No. 2700, Book of Wills, Sunan Ibn Majah, Vol. 3) (Hadith No. 26210, Musnad Ahmad)

### III. WASIYYAH PRACTICE IN MALAYSIA

In general, Muslims in Malaysia are aware and familiar with the term wasiyyah and its functions as mechanism in managing the inheritance in Islam. However, the issues on abundance of wasiyyah property that are increasing year by year without proper distribution among the testator's beneficiary prove that the wasiyyah issues in Malaysia is not a straightforward assignment. The first hurdle lies in the rules and regulations that are related to estate administration and settlement. Interestingly, in Malaysia, dying intestate and testate is dealt under different legislations and authorized bodies. Even with the involvement of various authorized bodies and compliance with the provisions of legislations, it still does not assure that the process of estate administration and settlement will be smooth (Z.H Ghul et.al, 2015). Previous studies show that it is easier to administer and settle testate estate. It may take years to settle the case of dying intestate as it could lead to frozen estate problems and delays in the settlement period. Study conducted by Ahmad and Pyeman (2008) on the practice of making a wasiyyah among Malaysian Muslim found out that the respondent are aware and familiar with the term wasiyyah but they do not have a clear understanding about it. Most of the respondents agreed that wasiyyah is made to protect the welfare of those whom one wishes to give one's assets to but are not eligible under the faraid law such as adopted children. This is in line with the finding by Yaacob (2006) that the main reasons Malaysian Muslim community practises Wasiyyah is to protect adopted children, and

to get rewards for good deeds in the hereafter (Yaacob, 2006).

Other main influential factors that motivate a Muslim to make a wasiyyah are namely to ensure the transfer of the property as the testator intends, health factors, to rapidly carry out the process of property distribution, and to help the needy (Ahmad and Pyeman, 2008). Furthermore, a regression analysis which has been conducted shows that wasiyyah making among Muslims was influenced by three factors: knowledge about wasiyyah, objective of wasiyyah, and benefits of wasiyyah. The results revealed that these factors had a positive relationship with wasiyyah making. Muda et al. (2008) suggest four influential factors for wasiyyah writing practice in Malaysia namely demographic, religious, self-interest and awareness, and institutional factors. According to (Afiah et al., 2011), the law and the process of claiming estates is viewed by many people as a complex procedure because of the numerous regulations and involvements of several bodies in the distribution process. On top of this, the complexity has led to the overlapping powers and responsibilities of these entities. As a result of the complex law and procedures, heirs of the deceased may possibly be confused. This may affect their decision to claim the estate. (Afiah et al., 2011).

### IV. DOCUMENTATION OF WASIYYAH: AN OVERVIEW AT AS-SALIHIN TRUSTEE

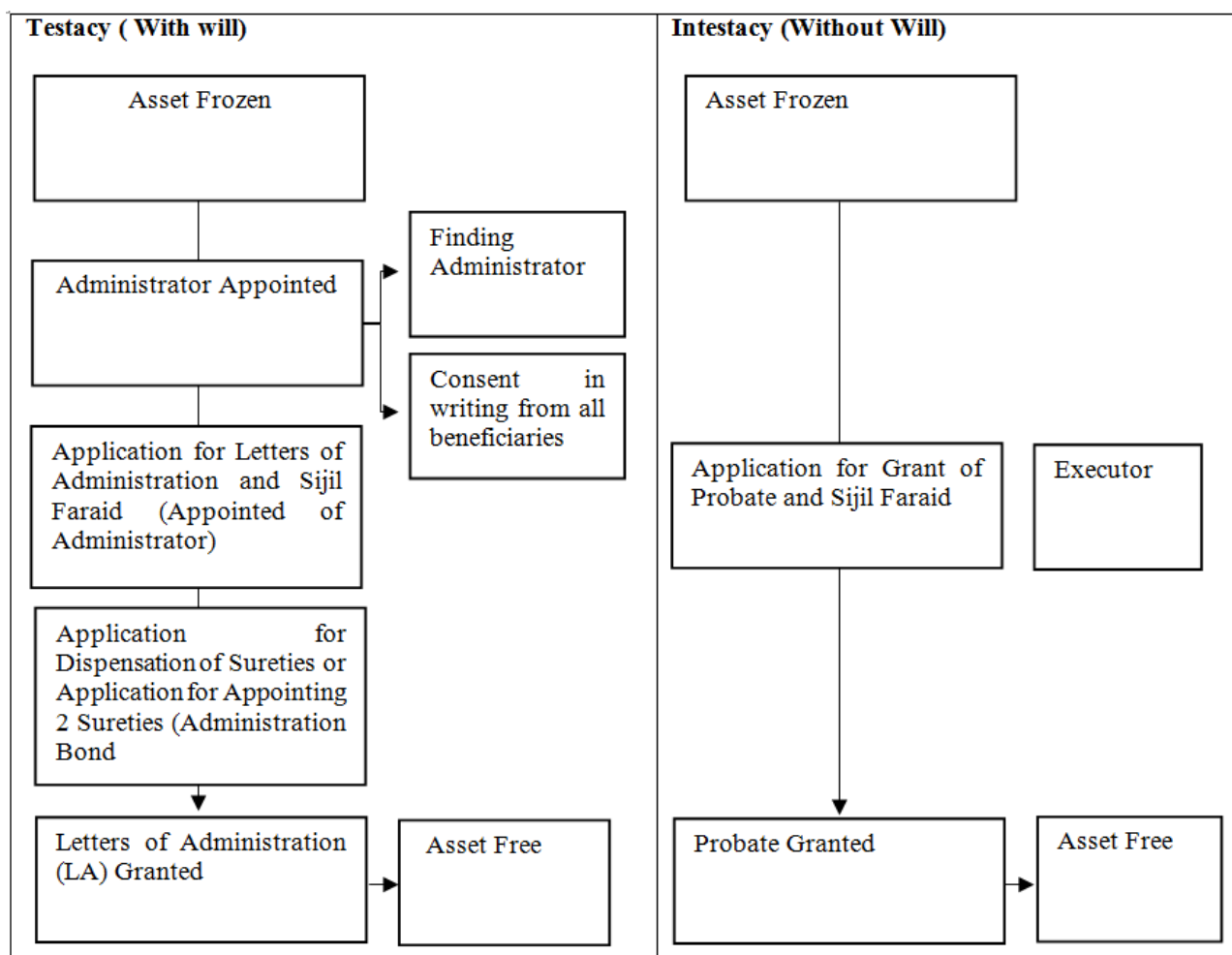
Drawing up a properly designed wasiyyah and appointing an executor could be seen as the essential product of Islamic estate planning as it is the main procedure a Muslims should prepare before proceeding with other means of estate planning. As-Salihin Trustee (As-Salihin) is a trust company incorporated under the Companies Act 1965 and registered under Trust Companies Act 1949. As-Salihin was established in 2005 to meet the needs of Muslims to preserve protect distribute their assets for the benefit of their heirs once they depart for the hereafter. As-Salihin aims to provide all its services relatives to estate planning in a manner based strictly on the shariah. It has its own mission and vision in strengthening their establishment; provide all its services, relative to estate planning, in a manner based strictly on the shariah. This indicates the principle of shariah is strictly adhered to in its operation, management and services. It is pertinent to further notes that few services provided by As-Salihin which include among others; wasiyyah writing services, declaration of hibah, golden age trust, business continuation plan and waqf documentation. In ensuring their operation are well manage, they also cooperate with some respective corporate alliance for example RHB Islamic Bank, Al-Rajhi Bank, Kuwait Finance House, United Overseas Bank and CIMB Wealth Advisor.



It is interesting to further points out that mutual confidence is the main element that should be greater emphasized by a Trustee company. In order to achieve this, As-Salihin has further developed their plan and laid down certain essential criteria, which could generate people's mutual trust and confidence in the process of documenting wasiyyah. The most important part is that this respective company guaranteed its perpetual existence and continuity, which means it, has a perpetual succession. With its team of full time legal staff, it will ensure continuity in the administration process until the final distribution. Apart from that, unlike individuals acting as trustee's accountability and impartiality is another crucial element is given greater care by this company. Since the company has been recognised as a regulated body, they are legally obliged to ensure that the moneys bequeathed are properly managed, accounted for and distributed to. On top of that, as a corporate body, As-Salihin will be independent and impartial towards all beneficiaries compared to individual trustees who may have emotional ties or other personal relationship with the beneficiaries. Professionalism and competence are also pertinent in order to gauge customer's perception and expectation. It provides reasonable cost for the overall administration and in this company has been supported and supervised by a respective Shariah Advisory Board. Meanwhile it is a norms practice that an executor will be appointed to carry out the testator's wishes and wasiyyah where in this situation, an administration bond is required in which case an administrator will be appointed and granted a letter of administration with wasiyyah annexed. In fact, this administration bond is required where the gross value of the estate exceeds RM50,000 unless a trust corporation is appointed as the administrator. Unlike this well know practice, as a trust company, As-Salihin is statutorily exempt from this requirement. In addition to that, the legal process to administer testator's estate after the demise is appreciably shortened since no contention among the beneficiaries arises on who should administer the estate. Therefore, these positives criteria's clearly indicates the seriousness of As-Salihin to carry out such responsibility and provide the best services for Muslims. As such in order to gain demand from the client, an active promotion is done via their Facebook, website and by organising certain event related to waqf and management of inheritance in Islam. Apart from the strong collaboration had been established with few banks for example RHB Islamic Bank. Flyers and pamphlet had been actively distributed to the customers by the hashtag "Leave your legacy behind for them". This active promotion by RHB Islamic Bank on behalf of As-Salihin could to certain extend generate awareness among Muslims customers.

Having established on this respected company managing intestate will once should bearing in mind and fully understands on the reason why do Muslims need to have proper planning to our properties. Are the any differences between intestacy (without will) and the testacy (With will) in the event to liquidate the asset leave behind? The table below indicates the procedure involved in the process of liquidation of Muslims property after his death.

## 1. Procedure to Liquidate Asset

*Table 1:* The Procedure to Liquidate Asset between Intestacy (Without will) and Testacy (With will)

It should be further notes that in terms of typical time frame, in the case of testacy that make a wasiyyah the duration period starting from petition, probate obtained and estate distributed will last for about 18 month which equivalent to 1 year 6 month. Meanwhile, the duration period for the settlement of intestacy (without will) estate up to the estate being distributed will

consume for about 5 years. This fact shows that unlike the intestacy who did not make a wasiyyah, the period for those who make wasiyyah (testacy) is shorter than those who not.

Testacy (With Will)

Intestacy (Without Will)

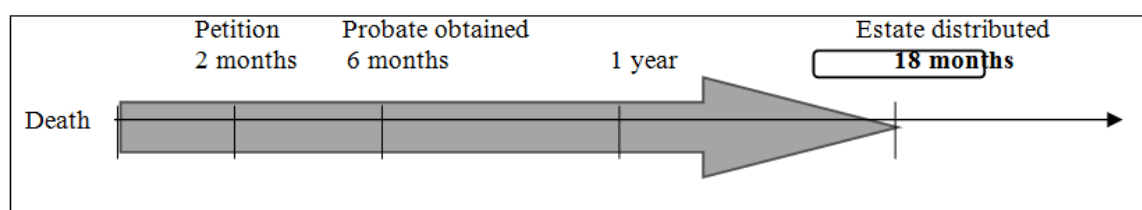
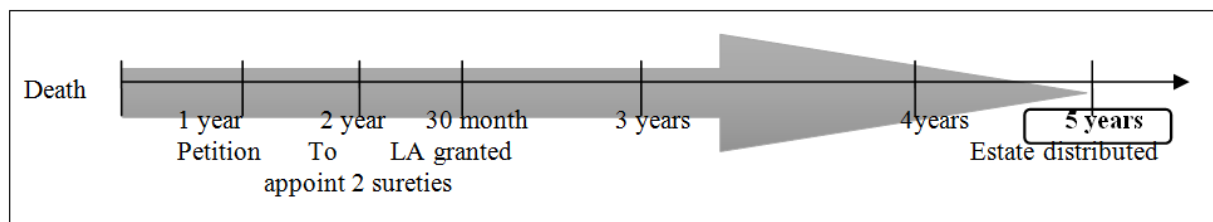
*Table 2:* The duration period for the liquidation of Testacy (With Will)'s asset



Table 3: The duration period for the liquidation of Intestacy (Without Will)'s asset



## V. THE IMPLICATION FOR NON-PRACTICING DOCUMENTATION OF WASIYYAH

Wasiyyah is one of the methods that can be applied to distribute property after the death of giver to non-beneficiaries. Even though the original ruling said wasiyyah will only be effective towards non beneficiaries, this general ruling has still subject to exception where some scholar agreed that wasiyyah will also be applicable towards beneficiaries provided that all of the beneficiaries unanimously agreed to such implementation.

Via interview session conducted with Mr. Irwan of As-Salihin, the findings reveals that the failure on the part of Muslims to have proper documentation of wasiyyah would be amounting to the accumulation of frozen asset. He further adds that the beneficiaries would be detrimental causing by non-documented wasiyyah. In this situation, it will lead to conflicting among those beneficiaries and tension will occurs stressing for their rights. Amanah Raya Berhad has given the same view where it was stated that RM 52 million of property had frozen because of lack of awareness on documentation of wasiyyah (Utusan Malaysia, 2013). Noh Gadut, former Mufti of Johor in his press statement also gives the same idea where a lot of problem like fight among beneficiaries, frozen property and non-beneficiaries will not get their right will arise (Harian Metro, 2012). It surprising facts nowadays the amount of frozen asset that unable to distribute increasing year by year and the most surprising, the asset that unable to distribute almost 50 years (Abdul Aziz Peru, 2013).

## VI. CONCLUSION & RECOMMENDATION

The abandonment of wasiyyah property seems to increase year by year causing the accumulation of these inheritance properties. Also, the absence of proper distribution among the testator's beneficiary would worsen the situation. Hence, understanding on the concept and the documentation of wasiyyah as well as the procedure involved in the documentation of wasiyyah would provide the best mechanism and option to manage the properties particularly the inheritance via wasiyyah accordingly. Apart from that, this would serve as useful information for the stakeholders particularly Muslim community on the importance of documentation

of wasiyyah for the protection of their beneficiaries. Future studies could embrace on quantitative study based on a larger sample and over a longer period of time in order to get more respondents who are involved with wasiyyah. By conducting questionnaires and interviews, more in depth information can be gathered to examine the factors that can increase wasiyyah adoption among Malaysian Muslims. The analysis would be more accurate in determining the factors that can influence people in writing a wasiyyah. It is also recommended that the government institutions undertake research on these particular topics on a larger scale, since the case study method is relatively restricted due to several and confidentiality constraints.

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# Factors Affecting Procurement Performance in the Case of Awassa Textile Share Company

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**Keywords:** *procurement performance, staff competency, procurement procedure and resource allocation on procurement.*

**GJMBR-G Classification:** *JEL Code: P49*



*Strictly as per the compliance and regulations of:*



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Senait Beyan Hamza <sup>α</sup>, Asefa Gerbi <sup>σ</sup> & Seid Hussien Ali <sup>ρ</sup>

**Abstract-** The main objective of the study was to assess factors affecting procurement performance in Awassa Textile Share Company. The study was conducted to examine the impacts of staff competency, procurement procedure and resource allocation on procurement performance. Descriptive research design was used in executing the study. The targeted group of the study was top level managers, middle level managers and procurement staffs who are pertinent to the process, function and decision making of procurement. These were the entire group of interest for study consisting 40 employees. Accordingly, the sampling technique was purposive sampling. Primary data was collected using questionnaire. Descriptive and inferential data analysis methods were used. All respondents filled in and returned the questionnaire, making the response rate 100%. Pearson Correlation Coefficient computed and tested indicated that a positive relationships ( $r = 0.138$ ) between procurement planning and procurement performance. The same thing is true for staff competence ( $r = 0.415$ ) and the relationship to be statistically significant at 1% level ( $p = 0.008, < 0.01$ ). There is a positive relationship ( $r = 0.093$ ) between procurement procedures and procurement performance. Computation for resource allocation indicated that there is a strong positive relationship ( $r = 0.714$ ) and procurement performance. It was also found that the relationship to be statistically significant at 1% level ( $p = 0.000, < 0.01$ ). The study conducted a multiple regression analysis so as to determine the influence of the independent variables on procurement performance. The significance level of staff competence and resource allocation were 0.016 and 0.00 respectively ( $p < 0.05$ ). The two factors were the most related factors affecting procurement performance. Procurement planning with  $p = 0.183$  and procurement procedure with  $p = 0.781$  were the least related factors affecting procurement performance. Based on the ANOVA, the significance value 0.000 is less than 0.05 thus the model is statistically significant in predicting how the independent variables influence the procurement performance in Awassa Textile SC. The F critical at 5% level of significance was 2.64. The F calculated from the ANOVA table is 13.075, which is greater than the F critical (2.64). This shows that the overall model was significant.

**Keywords:** *procurement performance, staff competency, procurement procedure and resource allocation on procurement.*

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## I. INTRODUCTION

Procurement practices are a set of activities undertaken by an organization to promote effective management of its supply chain (Sollish & Semanik, 2012). It is the foundation for private firm's success. Its proper practices lead to competitive purchase and getting quality materials. The main goals of procurement are related with quality, financial and technical risks reduction, creating integrity in the organization and safeguarding from competition (Walter et al, 2015). Procurement is vital to organizations and its strategies have become part of a business success. It boosts efficiency and competitiveness and to realize these, it is vital to give emphasis about the strategic factors that affect the performance of the procurement function.

Internal and external forces are influencing the ability to recognize the procurement goal. Relations among different elements like professionalism, staffing levels and budget resources, organizational structure whether centralized or decentralized, procurement regulations, rules, guidelines, and internal control policies, all have impact on the performance of the procurement function and needs consideration (Kim et al, 2013). For the development of African countries it is vital to have efficient public procurement system and tangible commitments should be exerted to make the best possible use of public resources (Kabaj, 2003).

In the private sector procurement performance caused financial loss due to delivery of poor quality work materials, loss of value for money and inflated prices. Decrease in Profitability of private sector adds up due to poor procurement performance (Juma, 2010). According to Migai (2010), in the private sector, poor procurement performance is the problem for its growth and it becomes the causes for delay in delivery, increase defects, and delivery of low quality goods or no delivery at all. In the private sector poor procurement performance has been a problem because of traditional procurement procedures, incompetent staff, poor coordination of procurement activities, failure to embrace e-procurement, absence of quality assurance policies and proper regulations (Juma, 2010).

Activities of procurement usually suffer from neglect, poor co-ordination, lack of open competition and transparency. Corruption may also occur in the various processes of procurement. It is common to



observe lack of trained and qualified procurement specialists who are competent to conduct and manage procurements in various private companies. Inflexible and bureaucratic systems of procurement contribute to contract delays, increased costs and lack of fair competition, all of which affect the procurement process and performance negatively.

Different challenges drawn from internal and external factors in the organizations affect private sector procurement. Attracting and retaining talent in the procurement space is among the top concerns for companies already dealing with the current complex pricing pressures (Berger & Humphrey, 2007). According to Dale (2010), procurement is still realized as supplement rather than essential to business operations in most organization. As a result, in the private sector this affects the level of resource allocation and investment to procurement function.

The influence of certain factors on procurement performance has been in focus for years, together with their impact on the overall organizational efficiency. Poor procurement performance is usually due to incompetent staff, traditional procurement procedures and poor coordination of procurement activities and lack of proper regulations. Despite the fact that there are various studies that focus on procurement performance in other countries, it seems there is no known study that has been conducted on factors affecting procurement performance in textile industries of Ethiopia. This prompted the researcher to conduct the study in Awassa Textile Share Company with a view to establish factors affecting procurement performance.

For the study the following basic research questions were designed: What are the effects of procurement planning, procedures, staff competency, and resource allocation on procurement performance in Awassa Textile Share Company? What kind of relationship exists between the factors and procurement performance in Awassa Textile Share Company?

The overall objective of the study was to assess and examine factors affecting procurement performance in Awassa Textile Share Company of Ethiopia.

## II. LITERATURE REVIEW

### a) *Procurement*

Procurement is referred to as acquisition of goods, services, capabilities and knowledge required by businesses, from the right source, the right quality, in the right quantity, at the right price and at the right time to maintain and manage a company's primary and support activities (Giunipero et al. 2006; Hines, 2006; Porter 1998; Triantafillou (2007), Van, 2000). According to Mangan et al (2008), procurement is a process of identifying and obtaining goods and services. It includes sourcing, purchasing and covers all activities from

identifying potential suppliers to delivery to the beneficiary.

### b) *Factors Affecting Procurement*

The following are major factors affecting procurement performance. These are:

#### i. *Procurement Planning*

Procurement planning is the purchasing function through which organizations obtain products and services from external suppliers (Burt et al, 2004). A procurement plan defines and documents the details of purchases from suppliers needed for a particular department. According to Basheka (2008), procurement planning is the major function that sets the stage for successive procurement activities. Likewise, James (2004) describes that the principles of planning can be implemented in an atmosphere of complete harmony. He further states that, as a function, procurement planning endeavors to answer the questions as to what one wants to procure; when to procure it; where to procure them from; when the resources be available; the methods of procurement to be used; how timely procurement or failure will affect the user of the items; the procuring and disposing entity; efficiency in the procurement process; and the people to be involved in the procurement.

Peter (2012) states that good procurement plan should describe the process in detail to appoint pertinent suppliers contractually. At the beginning, the items needed to procure are defined, and then the process for acquiring those items is expounded in detail. Finally the timeframe for delivery is scheduled.

Moreover based on Quentin (2003), procurement planning is important due to the following reasons: it helps to decide what to buy, when and from what sources; it allows planners to determine if expectations are realistic; particularly the expectations of the requesting entities, which usually expect their requirements met on short notice and over a shorter period than the application of the corresponding procurement method allows; it is an opportunity for all stakeholders involved in the processes to meet in order to discuss particular procurement requirements.

#### ii. *Staff Competency in Procurement Process*

Armstrong and Baron (1995) explain that competency is the application of knowledge and skills, performance delivery, and the behavior required to get things done very well. Besides competency indicates adequacy of knowledge and skills that enable someone to act in various situations (Aketch and Karanja, 2013). According to Russell (2004), absence of adequate knowledge in procurement matters, may end up with serious consequences including breaches of codes of conduct.

According to Banda (2009), many organizations do not have staff with the right competence critical to good procurement process management. As a result

considerable and continuous investment is incurred in training and development (Sultana, 2012) and there is a need for extensive external training for human resources to be able to improve and contribute to the efficiency of organizations (Appiah, 2010).

Moreover, Saunders (1997) advises that multi-skilling offers employees with a variety of skills and should be developed extensively. Hence, all employees need broad and continuous education and training.

Leenders and Fearon (2002) noted that qualifications are crucial for value-based management which requires employees to assess and improve processes while contributing to team performance. Baily et al, (2005) suggested that the existence of top-down objectives with related performance measures, and process guidelines link individual or group performance to the firm's goals and expectations of upper management which require good qualifications.

Banda (2009) stated that many organizations lack competent staffs with the proper knowledge for good procurement process management. He further noted that authorities should give greater emphasis for developing competence to adopt best practice more widely. According to Berger & Humphrey (2007), a procurement function that is carried out professionally is the core of delivery of any service on value for money principle. Furthermore, Sultana (2012) stated that in order to sustain economic growth and effective performance, it is important to optimize the contribution of employees to the aims and goals of the organizations.

Therefore, competence can ensure that the benefits of new products and services are brought to the attention of the right person in the organization.

### iii. *Procurement Procedures*

Moncska et al (2010) stated that procedures provide guidance to staffs what to follow in the execution of activities put constraints on behavior and show how the procurement function should work to achieve strategic objectives. Organizations need standard procurement procedures which cover all aspects of the procurement cycle, including supplier selection, contract negotiations, order placement and payment (Ouma and Jennifer, 2014). Procedural procurement ensures orderliness and efficiency in any procurement department. Baily et al (2005) discussed that public procurement procedures tend to be characterized by high levels of bureaucracy independent of order value; poor communications and focusing on unit price rather than long-term relations. Ineffective procurement procedures would end up with failure of the objectives of government policy.

Burt et al. (2004) stated that every organization is expected to develop procedures to enable its personnel implement policies and plans; designed to meet objectives.

Jones and George (2009) noted that bureaucratic mechanisms are controlled by a comprehensive system of formal rules and standard operating procedures that shapes and regulates the behavior of divisions, functions and individuals.

Moncska et al (2010) noted that the procurement function has a significant impact on business performance. As a result, traditional procedures are becoming obsolete in modern organizations.

Finally based on (Eriksson and Westerberg, 2011), procurement perceptions are affected by the existing organizational structure, quality of internal communication system, past experience and resources available. Without elaborate and effective procurement procedures, government policy objectives would fail to meet the desired objectives.

### iv. *Resource Allocation*

Resource allocation is the process of determining the best way to use available assets or resources in the execution of a given project. Companies attempt to allocate resources by minimizing costs and maximizing profits using strategic planning methods, operational guidelines and implement policies and procedures that move the business toward the achievement of its goals (Shantanu et al, 2012).

Resource allocation begins at strategic planning when a company formulates its vision and goals for the future. Most of the public entities lack clear accountability on how the resources provided impact on their performance therefore going against the fundamental principles of public procurement, Ouma Danis et al, (2014). Tangible resources are assets that can be seen and quantified such as production equipment, manufacturing plants, and formal reporting structures. Intangible resources include assets that typically are rooted deeply in the firm's history and have accumulated over time (Michael and Hoskisson, 2007).

### c) *Procurement Performance*

Smith and Conway (1993) identified seven key success factors which influence procurement, namely: a clear procurement strategy, effective management information and control systems, development of expertise, a role in corporate management, an entrepreneurial and proactive approach, co-ordination and focused efforts.

Furthermore, Ombaka (2009) outlined that effective procurement process is one which utilizes good practices by avoiding corruption. Evaluation of suppliers before selecting them can significantly improve the performance of the procurement function in carrying out its mandate (Martin, 2004). Private enterprises evaluate suppliers before awarding contracts to supply different goods, services or carry out works. Choy and Lee (2002) stated that supplier selection consists of a five phase process: the



realization of the need for a new supplier, determination and formulation of decision criteria; prequalification; final supplier selection and monitoring of the supplier selection.

Similarly, Van (2006) stated that there is a link between procurement process, efficiency, effectiveness and performance. Performance is a key driver for competitiveness and for improvement of quality of services. Assessment of procurement performance helps organizations to reduce cost, enhance profitability, assured supplies, quality improvements and competitive advantage.

However, Batenburg and Versendaal (2006) noted that use of inappropriate means can be a barrier to change and may lead to a deterioration of procurement operations. Migai (2010) also describes that a number of private sector organizations are losing out because of their failure to develop quality preventive and quality assurance models within the supply chain.

Base on the above literature review and by adopting from Triantafillou (2007), a research conceptual framework was designed.

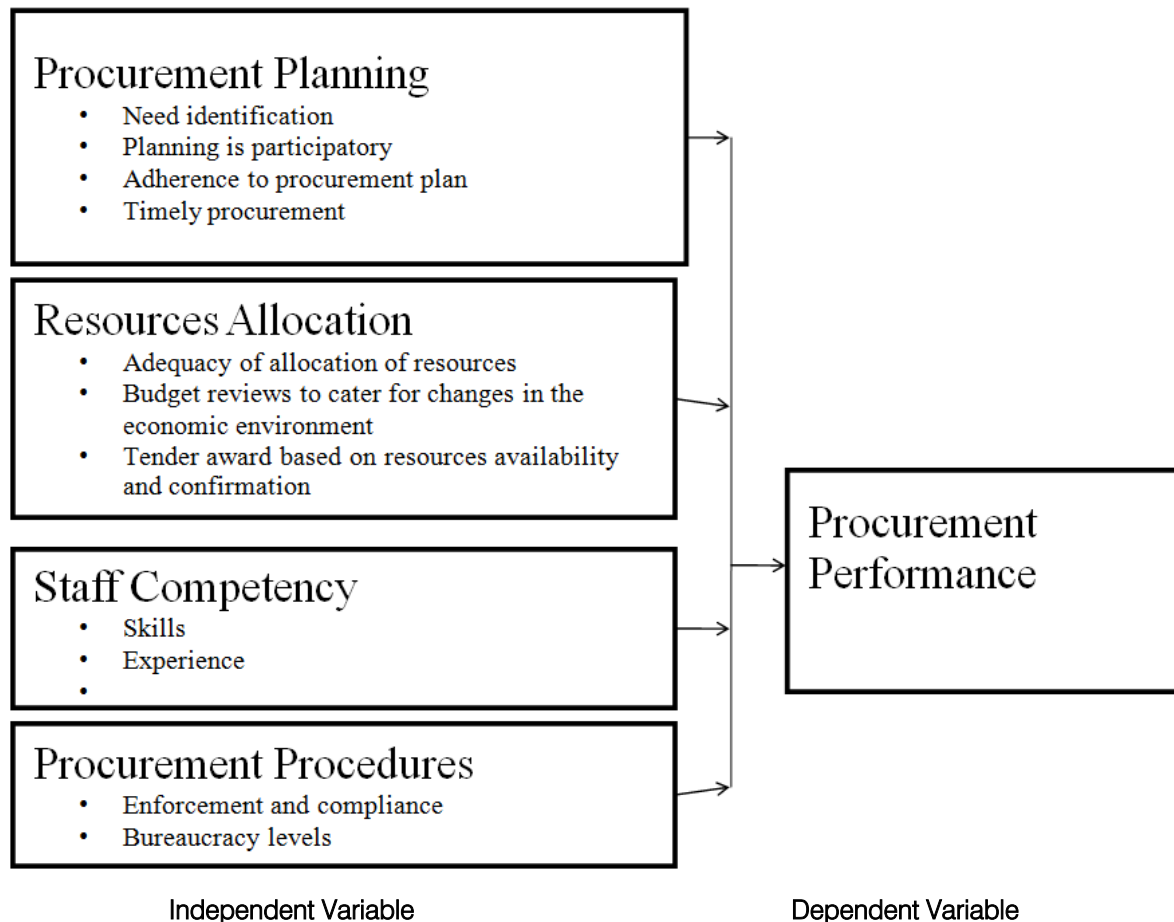


Figure 1: Conceptual Framework

(Source: Triantafillou, 2007)

### III. RESEARCH METHODOLOGY

The study adopted quantitative research method. The researcher followed a descriptive inquiry along with causal research design to examine the influence of one variable over other. The design was used to describe the characteristics of the independent variables (procurement planning, staff competency, procurement procedures and resource allocation) and the dependent variable/procurement performance.

#### a) Target population and Sampling technique

Top level managers, middle level managers and procurement staffs were pertinent to the process, function and decision making of procurement function in Awassa Textile Share Company. These were the entire group and target group of the study. This group of interest consisted of 40 employees. Other employees were not related with procurement process at all, so they were irrelevant to the study. Accordingly, the sampling method was purposive non probability sampling technique.

#### b) Sources of Data and data collection tools

Primary data was collected using questionnaires targeting top and middle level managers as well as procurement staffs. Secondary data included literature (journals, magazines, other past studies, books and other relevant documents) on major research about procurement performance in Ethiopia and abroad. A closed-ended questionnaire and Likert scale was used to measure the responses from the respondents.

#### c) Method of Data analysis and Presentation

Descriptive and inferential statistics were used for data analysis. Statistical Package for Social Sciences (SPSS Version 20) was utilized as the main descriptive statistical tool to analyze the data and determine the extent of relationships between the independent and dependent variables. Inferential statistics (correlations and multiple regression analysis) were used to give a measure of the relationships between two or more variables and establish if there was any relationship or there existed a cause-effect relationship between the variables. Analyzed Data is presented using graphs (frequency tables, means and standard deviation) and figures.

## IV. RESULTS AND DISCUSSION

### a) Reliability Analysis

The four (4) constructs representing the independent variables recorded a Cronbach's alpha statistics of more than 0.7. The reliability statistics are presented in Table 1 below.

Table 1: Reliability Test

Independent variables	Cronbach's Alpha
1. Procurement planning	0.701
2. Staff competence	0.810
3. Procurement procedure	0.710
4. Resource allocation	0.877

### b) Demographic information

#### i. Gender of the respondents

Regarding gender, 80% of the respondents were males while 20% of the respondents were females (Table 2).

Frequency Table

Table 2: Gender of respondents

Gender	Frequency	Percent	Valid Percent	Cumulative Percent
Male	32	80.0	80.0	80.0
female	8	20.0	20.0	100.0
Total	40	100.0	100.0	

The dominant number is males comprising 80% of the staffs. Only one fifth of the respondents were females.

#### ii. Academic qualification

The level of the respondent's education was also part of the questions in the questionnaires. From

the research findings 42.5% of the respondents acquired university degrees, while 47.5% were college (diploma) graduates and 10% of the respondents were secondary school certificates.

Table 3: Education level of respondents

Level of education	Frequency	Percent	Valid Percent	Cumulative Percent
secondary	4	10.0	10.0	10.0
college	19	47.5	47.5	57.5
university	17	42.5	42.5	100.0
Total	40	100.0	100.0	

Only 10% of the staffs are at secondary education level. The remaining 90% are of college and university graduate background. Therefore Awassa Textile share company employees were educated well enough to understand the questions and thus have given credible results.

## iii. Status of respondents in Awassa Textile SC

Table 4: Job status of respondents

Job status	Frequency	Percent	Valid Percent	Cumulative Percent
1. Top level manager	3	7.5	7.5	7.5
2 Middle level manager	26	65.0	65.0	72.5
3. Procurement staff	11	27.5	27.5	100.0
Total	40	100.0	100.0	

The study requested the respondent to indicate whether they are from management level or from procurement staff in the organization. From the study findings majority of the respondents (65%) are middle level managers. Procurement staffs comprise 27.5% and

top level managers 7.5%. These findings depict that all the management levels and procurement staff in Awassa Textile Share Company were represented in this study.

Table 5: Service year of respondents in the company

	Frequency	Percent	Valid Percent	Cumulative Percent
1.0 to 5 year	3	7.5	7.5	7.5
2.6 to 10 year	1	2.5	2.5	10.0
3.11 to 15 year	9	22.5	22.5	32.5
4.16 to 20 year	3	7.5	7.5	40.0
5. 21 year and above	24	60.0	60.0	100.0
Total	40	100.0	100.0	

The study requested the respondent to indicate the number of years they had served in the organization. From the research findings Sixty per cent of the staffs involved in the study served in the company 21 years and above and the ones who served up to 5 years were only 7.5 years. Majority of the staffs served for quite a number of years (21 years and above). The ones who

served for 16 to 20 years comprise 7.5%. Those who served for 11 to 15 years comprise 22.5% of the respondents. This implies that majority of the respondents in Awassa Textile share company, had worked for a considerable period of time and therefore they were in a position to give credible information relating to this study.

Table 6: Statement related to effects of procurement plan on procurement performance at Awassa Textile Share Company

	N	Minimum	Maximum	Mean	Std. Deviation
procurement plan identify materials as per the company needs	40	2	5	3.87	.853
Procurement plan helps to decide when to buy	40	1	5	3.18	.903
procurement planning helps in resource allocation	40	1	5	4.15	.770
procurement planning helps to determine a total value of the anticipated cost of the requirement	40	1	5	3.53	1.037
poor procurement planning leads to big budget deficits	40	1	5	4.25	.899
procurement planning results into compliance to set procedures	40	1	5	3.35	.949

procurement involves functional units	planning concerned	40	1	5	2.50	1.301
procurement is carried out according to set plan		40	1	5	2.93	1.289
Procurement planning helps to estimate the time required to complete the procurement process		40	1	4	2.33	.888
Valid N (list wise)		40				

As observed from Table 6 above, majority of the respondents agreed that procurement planning did not help to estimate the time required to complete the procurement process as shown by mean of 2.33. Respondents understood that procurement planning helps in resource allocation and also recognized that poor procurement planning leading to big budget deficits as shown by with mean of 4.15 and 4.25 respectively. Majority of the respondents further agreed that procurement was not carried out according to set plan as shown by mean 2.93. Respondent also agreed that procurement planning did result into compliance to set procedures as shown by mean 3.35. Besides

respondents answered that procurement plan did not involves concerned functional unit as shown by mean 2.5.

#### Correlation Coefficient

The first research question sought to establish the effect of procurement planning on procurement performance in Awassa Textile SC. Pearson Correlation Coefficient computed and tested. The result indicates (Table 7 below) a positive relationships ( $r = 0.138$ ) exist between procurement planning and procurement performance. The relationship was not however statistically significant.

**Table 7:** Relationship between procurement planning and procurement performance

		Procurement performance	Procurement planning
Procurement performance	Pearson Correlation	1	.138
	Sig. (2-tailed)		.396
	N	40	40

The result indicates a positive correlation (13.8%) between procurement planning and procurement performance. However the relationship was not significant at 95% significant level.

#### c) Effects of Staff competence on procurement performance investigate

From the study findings, as observed from Table 8 below, majority of the respondents agreed that staff training improves procurement performance as

shown by mean 4.35. Respondents understood that loss of key competencies affects procurement performance as shown by mean 4.25. Majority of the respondents further disagreed that the organization does motivate staff, organization does value skills and experience, organization did deploy staff based on their skills, as analytical skill exist and the ability to leverage interpersonal skills exist as shown by mean 2.43, 2.68, 2.95, 2.85, 2.75 respectively.

**Table 8:** Statement related to effects of staff competence on procurement performance at Awassa Textile Share Company

	N	Minimum	Maximum	Mean	Std. Deviation
staff training improves procurement performance	40	3	5	4.35	.622
staff understand procurement procedure	40	1	5	3.63	.868
organization motivate staff	40	1	5	2.43	1.152
organization value skills and experience	40	1	5	2.68	1.163

loss of key competencies affects procurement performance	40	1	5	4.25	.899
procurement negotiation skills exist	40	1	5	3.25	.899
staff creativity improves procurement performance	40	1	5	3.28	1.086
organization deploy staff based on their skills	40	1	5	2.95	1.300
Analytical skill exist	40	1	5	2.85	.975
The ability to leverage interpersonal skills	40	1	4	2.75	.927
Valid N (list wise)	40				

### Correlation Coefficient

The second research question sought to establish the role of staff competence in procurement performance in Awassa Textile SC. Pearson Correlation Coefficient computed and tested. The results as tabulated in Table 9 indicates that there is a positive

relationship ( $r=0.415$ ) between staff competence and procurement performance. In addition, it was found that the relationship to be statistically significant at 1% level ( $p=0.008$ ,  $<0.01$ ).

**Table 9:** Relationship between staff competence and procurement performance

		Procurement performance	Staff competence
Procurement performance	Pearson Correlation	1	.415**
	Sig. (2-tailed)		.008
	N	40	40

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

### d) Effects of procedures on procurement performance

From the study findings, as observed from Table 10 below, majority of the respondents neutral about 'procurement procedure monitors procurement process', 'procurement procedure helps in solving legal problem' and 'procurement procedure enhances transparency' as shown by mean of 3.18, 3.15, and 3.10 respectively. Respondents also understood that without

procurement procedures it would be difficult to come up with efficient procurement as shown by mean 4.10. All respondents did not agree that procedure in place influence the procurement performance as shown by mean 2.45. Respondent also agreed that procurement procedure have caused delays in decision making and service delivery as shown by mean 3.57 and 3.60 respectively.

**Table 10:** Statement related to effects of procurement procedure on procurement performance at Awassa Textile Sh.C

	N	Minimum	Maximum	Mean	Std. Deviation
Procurement procedure monitors procurement process	40	2	4	3.18	.675
procurement procedure have caused delays in decision making	40	1	5	3.57	1.259
procurement procedure have caused delays in service delivery	40	1	5	3.60	.928
It is important that all are aware of the set procurement procedures	40	1	5	3.82	.984
Without procurement procedures it would be difficult to come up with efficient procurement	40	2	5	4.10	.871

Procurement procedure helps in solving legal problem	40	2	4	3.15	.580
Procedure in place influence the procurement performance	40	1	3	2.45	.639
Procurement procedure enhances transparency	40	1	4	3.10	.709
Valid N (list wise)	40				

#### Correlation Coefficient

The third research question sought to establish the effects of procurement procedures on procurement performance in Awassa Textile SC. Pearson Correlation Coefficient computed and tested. The results as

tabulated in Table 11, indicates that there is a positive relationship ( $r=0.093$ ) between procurement procedures and procurement performance. However the relationship was not statistically significant at 5% level ( $p=0.567$ ,  $> 0.01$ ).

**Table 11:** Relationship between procurement procedures and procurement performance

		Procurement performance	Procurement procedure
	Pearson Correlation	1	.093
Procurement performance	Sig. (2-tailed)		.567
	N	40	40

#### e) Effects of resource allocation on procurement performance

From the study findings, as observed from Table 12 below, majority of the respondents disagreed on allocation of resources was adequate as shown by mean 2.10. Further the respondent disagreed that budget was reviewed to cater for changes in the

economic environment as shown by mean 2.10. The respondents further disagreed that 'Tender float based on resource availability and confirmation', 'tender award based on resource availability and confirmation', and 'competent staff is appointed' as shown by mean 2.45, 2.85, and 2.33 respectively.

**Table 12:** Statement related to effects of resource allocation on procurement performance at Awassa Textile Sh.C

	N	Minimum	Maximum	Mean	Std. Deviation
allocation of resource is adequate	40	1	5	2.10	1.172
budget reviews to cater for changes in the economic environment	40	1	5	2.10	1.033
Tender float based on resource availability and confirmation	40	1	4	2.45	.986
Tender award based on resource availability and confirmation	40	1	5	2.85	1.001
competent staff is appointed	40	1	4	2.33	.764
Valid N (list wise)	40				

#### Correlation Coefficient

The fourth research question sought to establish how resource allocation influence procurement performance in Awassa Textile SC. Pearson Correlation Coefficient computed and tested at 1% significance level. The results as tabulated in Table 13, indicates that there is a strong positive relationship ( $r=0.714$ ) between resource allocation and procurement performance. In addition, the researcher found the relationship to be statistically significant at 1% level ( $p=0.000$ ,  $<0.01$ ).



Table 13: Relationship between Resource Allocation and procurement performance

		Procurement performance	Resource allocation
Procurement performance	Pearson Correlation	1	.714**
	Sig. (2-tailed)		.000
	N	40	40

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

#### Regression Analysis

The study conducted a multiple regression analysis to determine the relationship between independent variables and the dependent variable.

#### Coefficient of determination

The coefficient of determination clarifies the extent to which changes in the dependent variable can

be explained by the change in the independent variables.

The four independent variables that were studied (procurement planning, staff competence, procurement procedure and resource allocation), explain 55.3% of the procurement performance as represented by the Adjusted R square.

Table 14: Model Summary, R square

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.774 <sup>a</sup>	0.599	0.553	0.522

The R square was 0.599, and the adjusted R square was 0.553. Since the Adjusted R square was 0.553, there was evidence that the data used in analyzing the relationship between the independent variables and procurement performance was closely related.

#### ANOVA

Analysis of Variance (ANOVA) was used to establish whether there was difference between the

independent variables and procurement performance. The significance value (p-value) 0.000 in the study is less than 0.05 thus the model is statistically significant in predicting how the independent variables influence the procurement performance in Awassa Textile SC. The F critical at 5% level of significance was 2.64. The F calculated from the ANOVA table is 13.075, which is greater than the F critical (2.64). This shows that the overall model was significant.

Table 15: ANOVA<sup>a</sup>

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	14.243	4	3.561	13.075	.000 <sup>b</sup>
Residual	9.532	35	.272		
Total	23.775	39			

The regression model was as follows:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \alpha$$

Where:

Y is the dependent variable (Procurement performance),  
 $\beta_0$  is the regression coefficient/constant/Y-intercept,  
 $\beta_1, \beta_2, \beta_3, \beta_4$  are the slopes of the regression equation,  
 $X_1$  is the Procurement planning  
 $X_2$  is the Staff competence,  
 $X_3$  is the Procurement procedure  
 $X_4$  is the Resource allocation while  
 $\alpha$  is an error term at 95% confidence level.

The regression was:

$$Y = 0.163 + 0.265X_1 + 0.448X_2 + 0.057X_3 + 0.634X_4$$

The above equation established that taking all factors into account (procurement planning, staff competency procurement procedures and resource allocation) constant at zero, procurement performance would be 0.163. The findings further indicate that taking all other independent variables constant, a unit increase in staff competence will lead to a 0.448 increase in procurement performance. The p-value was 0.016 which is less than 0.05 and thus the relationship was significant. It was also indicated in the study that a unit increase in resource allocation leads to a 0.634 increase in procurement performance. The p-value was 0.000 and thus the relationship was significant. The result from the study indicates that resource allocation contributed most to the procurement performance.

Table 16: Regression Analysis of Factors and Procurement Performance - Coefficients<sup>a</sup>

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	.163	.745		.219	.828
Procurement planning	.265	.195	.177	1.357	.183
Staff competence	.448	.177	.351	2.530	.016
Procurement procedure	.057	.205	.034	.280	.781
Resource allocation	.634	.106	.665	5.967	.000

The study conducted a multiple regression analysis so as to determine the influence of the independent variables on procurement performance. The significance level of staff competence and resource allocation were 0.016 and 0.00 respectively ( $p < 0.05$ ). The two factors were the most related factors affecting procurement performance. Procurement planning with  $p = 0.183$  and procurement procedure with  $p = 0.781$  were the least related factors affecting procurement performance.

## V. CONCLUSIONS AND RECOMMENDATIONS

### a) Conclusions

The study revealed that staff competence and resource allocation were the most related factors affecting procurement performance. Staff competence factor was measured in terms of training, motivation, procurement negotiation skills, creativity, interpersonal and analytical skills and deployment of staff based on their skills. Resource allocation factor was measured in terms of adequateness of resources, flexibility of budget allocation to fit changes in the economic environment, tender award and tender float based on resource availability and confirmation. The study indicated that a unit increase in the resource allocation would lead to a 0.634 increase in the scores of procurement performance. The study also found that a unit increase in the staff competence would lead to 0.448 increases in the scores of procurement performance.

Pearson Correlation Coefficient computed and tested. A positive relationships ( $r = 0.138$ ) was observed between procurement planning and procurement performance. The relationship was not however statistically significant at 5% level ( $p > 0.05$ ). Regarding the effect of staff competence on procurement performance, there is a positive relationship ( $r=0.415$ ) between staff competence and procurement performance. In addition, it was found that the relationship to be statistically significant at 1% level ( $p=0.008$ ,  $<0.01$ ). Pearson Correlation Coefficient analysis on the effects of procurement procedures on procurement performance computed and tested there is a positive relationship ( $r=0.093$ ). However the relationship was not statistically significant at 5% level

( $p=0.567$ ,  $> 0.05$ ). The influence of resource allocation on procurement performance in Awassa Textile SC was also observed. Pearson Correlation Coefficient computed and tested at 1% significance level indicated that there is a strong positive relationship ( $r=0.714$ ) between resource allocation and procurement performance. The relationship was statistically significant at 1% level ( $p=0.000$ ,  $<0.01$ ).

The study conducted a multiple regression analysis to determine the relationship between independent variables and the dependent variable. The R square was 0.599, the adjusted R square was 0.553 and standard error was 0.522. Since the Adjusted R square was 0.553, which was significant enough to evidence that the data used in analyzing the relationship between the independent factors and procurement performance was closely related.

The study conducted a multiple regression analysis so as to determine the influence of the independent variables on procurement performance. The significance level of staff competence and resource allocation were 0.016 and 0.00 respectively ( $p < 0.05$ ). The two factors were the most related factors affecting procurement performance. Procurement planning with  $p = 0.183$  and procurement procedure with  $p = 0.781$  were the least related factors affecting procurement performance.

Analysis of Variance (ANOVA) was used to establish whether there was difference between the independent factors and procurement performance. The significance value 0.000 is less than 0.05 thus the model is statistically significant in predicting how the independent variables influence the procurement performance. The F critical at 5% level of significance was 2.64. The F calculated from the ANOVA table is 13.075, which is greater than the F critical (2.64). This shows that the overall model was significant. Moreover, the p-value in the study was 0.000 which was less than 0.05 thus the model was statistically significant in predicting how the independent variables influence procurement performance in Awassa Textile SC.

b) *Recommendations*

The following are basic recommendations:

1. Staff awareness through training should be carried out to achieve superior knowledge in entire procurement process in Awassa Textile Share Company.
2. The procurement department is advised to carry out periodic market surveys so that the information can be shared with pertinent departments in order to help them prepare procurement plan based on the existing market conditions.
3. It is recommended that relevant staffs to procurement be involved in the process of plan preparation. It is advised that preparation of annual procurement plans be participatory, frequently reviewed so as to improve on the company's performance.
4. It is worthwhile that staffs be adequately trained and sensitized in order to boost the skills and competency levels required by staffs involved in the procurement process. The company would benefit if the management (at the top and middle level), support the procurement department by allocating more resources and encourage trainings to improve the skills and knowledge of the procurement staff.
5. It is advisable that the company has to put in place to practice the procurement procedures in order to monitor the procurement process and improve procurement performance.
6. It is recommended that adequate resource be allocated and the resource frequently reviewed to fit with the changing environment in order to make the procurement performance more effective and efficient.

c) *Future Research Direction*

The research observed four independent variables (planning, resource allocation, staff competency and procurement procedures) which according to the study contribute to 60 % of the variations in procurement performance at Awassa Textile Share Company. Further research is recommended to investigate the other factors that affect procurement performance. The study pursued the effects of four independent variables on procurement performance in Awassa Textile Share Company. Further research is recommended to ascertain whether these findings would be the same or different in other textile firms of Ethiopia.

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# How to Keep the Talent You Have Got; Constructing Factors Related to Worker Retention

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**Abstract- Purpose:** The purpose of this paper is to examine the effect of individual-based, firm-based, and market factors on job retention, basing its hypotheses on human capital theory and signalling models.

**Design/methodology/approaches:** Cluster sampling method was utilized for this research. This research is conducted to determine the employee retention factors in selected industries.

Upon selecting the 4 industry and 4 organizations, the designed questionnaires were equally distributed to all the 4 organization with 50 questionnaires for each. Again, from many organizations in one industry we select the most accessible organization and distributed the questionnaires to 50 respondents. This would be the applicable for all other 3 industries and organization.

**Findings:** Growth and development, working culture and environment, remuneration, recognition and empowerment are motivating factors in an organization that are primary causes of job satisfaction leading to retention.

**Keywords:** retention, labour mobility, employee turnover, human capital.

**GJMBR-G Classification:** JEL Code: J61



*Strictly as per the compliance and regulations of:*





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**Findings:** Growth and development, working culture and environment, remuneration, recognition and empowerment are motivating factors in an organization that are primary causes of job satisfaction leading to retention. Based on the findings and results all the factors leading to employee retention in an organization are highly correlated with each other.

**Research limitations/implications:** This study examines worker mobility from the perspective of actual length of job retention, complementing existing streams of research based on intention to leave. Because a few unexamined psychological and sociological factors may confound the findings and because only examine one firm is examined, care should be used when generalizing the findings to other firms.

**Practical implications:** The study provides evidence useful in the creation of human resource management practices aimed at retaining competent employees.

**Originality/value:** This study's research questions and methods are new to the line of turnover studies, making it a starting point for further lines of exploration.

**Keywords:** retention, labour mobility, employee turnover, human capital.

## 1. INTRODUCTION

In today's rapidly changing business world, employees are critical for business success. High attrition rates – such as are common in information technology and IT-enabled services in India – reduce profits and hold back growth. They damage the economy at a national level, too. A study by MyHiringClub.com, an Asian and Gulf/Middle East

recruitment company reveals that around a third of workers in the Indian IT and information-technology enabled service (ITeS) sectors leave their jobs each year. According to Assess people, while compensation is the fifth most important factor in causing people to leave their current jobs, it is the No. 1 factor in attracting them to work elsewhere. Other factors that surveys reveal push employees to seek work elsewhere are the attitude of their immediate boss, concerns over career development and a lack of "connection" with the current employer.

The MyHiringClub.com survey shows that employees with up to five years of experience are most likely to leave their jobs (39 per cent). Those with between five and ten years' service are less vulnerable to attrition (27 per cent), and the trend continues the longer people have served with one employer. Thus, for example, only 22 per cent employees with 10-15 years of service move on each year, and 15 per cent of those with more than 15 years' experience.

A loyalty study at Czech IT-recruitment firm Advanced Search Technology reveals that more than half of software developers remain in their job for four years. After five years, the number goes down to 37 per cent. After four years, it seems, programmers are more likely to look for new challenge. A mini-survey conducted at the LinkedIn Q&A board about the average tenure of an IT employee confirms that around four years is typical.

Of course, wider economic conditions affect attrition rates. Broadly speaking, the more buoyant the international economy, the more likely people are to seek jobs with another employer. Yet there remains much that individual employers can do to retain their most highly skilled people.

### a) Problem Statement

Globalization has intensified the competition between organizations more than ever. McKinsey (2001) notes that in today's knowledge economy an organization's significance or value is no longer assessed based on the tangible assets it holds but the intangible assets such as human intellectual capital, value proposition and innovation. Best talents unleash the potential in a company. 'Better talent is what will separate the winning companies from the rest'

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(McKinsey, 2001). Generally organizations regardless of the size spends a large sum of money in recruiting and training staffs which starts from the initial induction program to introduce the company, job specific trainings to self-development programs. Talents are certainly very precious to the organization especially the corporate top talents.

Hence, high turnover of employees is deemed to be costly to organizations. This is well supported in a publication by Accenture (2009) stating that huge amount of money is being wasted every year on rehiring and retaining entry-level staffs and the attrition of these staffs certainly hurts the performance of the organization. When employees leave they substantially take away with them the knowledge, expertise and experience possessed before and also gained in the organization. As much as knowledge management is being extensively encouraged and practiced at present, these tools may not be able to capture all the knowledge, expertise and experience residing in the leaving staff.

According to Sinha (2012, cited in Davidow & Uttal, 1989), the cost of retaining the employees in an organization is far cheaper compared to repeating the entire recruitment and training process all over again. Organizations are losing tremendously because talents leave the company even before they are able to deliver their best performance to the organization. However, the motive behind the turnover rate is still debatable. Big pay cheque can no longer make employees stay loyal to an organization. The talents nowadays are in exploration for many other fundamentals to be fulfilled in a job. In order to stay competitive, it is vital for organizations to retain its top talents and roll out extensive initiatives in talent management and retention.

#### *b) Research Objectives*

- a) To identify the work-related factors influencing employee retention.
- b) To study the relationship between the factors identified.
- c) To determine the retention in different group of employees based on the factors identified.
- d) To validate the influence of age, seniority level, educational background, industry functioned and gender on employee retention.

## II. LITERATURE REVIEW

Retention is something that becomes very important subject in all the organization. It is basically about using the employee service continuously. Based on the survey done it reflects about factors of employee retention. Those factors are as follow organizational values, communication policy, reimbursement and welfares, flexible working timetable and career development system (Logan, 2000). Due to the globalization most of the organizations are involved in

merging and acquisition so that these organizations can be very competitive in the industry and economy. The issue over here is the employees just being abandoned as of not sure whether they still have the job or no. Moreover, it's a common thing of not having all the employees to work in the merged organization. It is important for the employee to plan for good career moves so that they can ensure the job is there and fulfill their need for security. It also has been proved that the entity which conducts employee development programs tend to be successfully retain more employees (Logan, 2000). Basically, if the existing employee yet to be send for employee development or talent management programs the expenditure will be lesser compared to hire fresh talented worker and the most importantly to consider is the increasing cost of hiring new worker (Davidow & Uttal, 1989). There is also very good understanding where the worker's whom are happy with their work tend to present a good performance and develop competitive organization performance (Denton, 2000). The staffs whom feel happy of working in the company tend to stay and give their support which results in lower turnover percentage (Mobley et. Al., 1979).

Other researchers also figure out that the main factor which contributes towards employee retention (Cappelli, 2000). Those factors identified are job prospect, working environment, work life balance, organizational justice and others. Variables selected to measure job satisfaction need to represent all aspects of the work environment: human relations, the job itself, personal feelings, and membership within the organization (Syptak et al., 1999). Porter and Lawler (1968) divided influences on job satisfaction into internal satisfactory factors related to the work itself, such as: feeling of achievement, feeling of independence, self-esteem, feeling of control and other similar feelings obtained from work, and the external satisfactory factors not directly related to work itself, such as: receiving praise from the boss, good relationships with colleagues, good working environment, high salary, good welfare and utilities.

All these workers stay in the organization is of the remuneration scheme, progression and improvement, pay package and work life balance. The matter of retention is a complex for all the entity meanwhile employing a capable is very important for the company and when it comes to retaining which is vital than appointing people. High consideration is being given as of high expenditure occurs for the orientation and training of fresh employed worker. Based on the findings it shows high cost involved when it comes to replacement of old worker with new especially that expected to twice the employee annual salary. Normally, when these workers steps down the company is not only losing them as well the loyal customer and client with the employee which will affect the business.

There has been a lot of hard work done by companies in attracting workers and ensure they are retained in the organization. As per the research, it is shown that the salary and designation doesn't really help in retaining the workers yet there are some other things to be done so that it brings benefits for the employee and also the company. It also has been identified human resource management has the biggest contribution towards worker's retention. The scope of human resource management approach in reimbursement, job security, training & improvements, superior support principles, work atmosphere and organization justice helps in reducing truancy, employee retention and performing well in the task assigned (Meyer and Allen, 1991; Solomon, 1992; Snell and Dean, 1992; Arthur, 1994; Snell and Youndt, 1995; MacDuffie, 1995; Delaney and Huselid, 1996; Ichniowski, Shaw and Prenzushi, 1997).

The effect of job satisfaction on employee retention may be just an equation in general; however, it is important to explore and understand the key factors of job satisfaction and individual characteristics that differentiate individual levels of satisfaction (Franek and Vecera, 2008).

### III. METHODOLOGY

#### a) *Theoretical Framework*

Based on the literature studies conducted, the framework was formulated with four independent variables influencing the dependant variable. Founded by the writings of other researchers, the factors that seem to have a major influence in employee retention in an organization are growth and development, recognition and empowerment, remuneration packages and benefits, working environment and culture. Various studies also states that an employee who is satisfied with the working environment and the remuneration offered by the employer is usually very satisfied and this satisfaction level certainly influences the service towards the organization.

Hence, satisfaction is an outcome of the remuneration packages and benefits, working environment and culture in an organization. Satisfaction in an intervening variable in the framework consequential from the stated independent variables and has a strong impact on employee retention. Besides that, studies also reveal that an employee will respond positively to encouraging words and praises. Their motivation and commitment level very much depends on the recognition and the need to be felt wanted in an organization. Employees always want their contribution to be recognized and appreciated. Therefore, commitment level is also an intervening variable in this research as it is an outcome of the empowerment and recognition received by an employee

in an organization which directly impacts the dependent variable being measured.

The dependent variable to be measured for this research is employee retention. To be more explicit the dependent variable is the number of years an employee serviced the company, intention to leave in the near future and also the rate of retention. Besides that, the correlation between the independent variable, working environment and culture and its influence towards employee retention very much depends on the employee's preferred management style. The correlation between all the independent variables and its influence towards employee retention can be impacted by additional factors such as age, seniority level, educational background, gender of employee and the industry functioned.

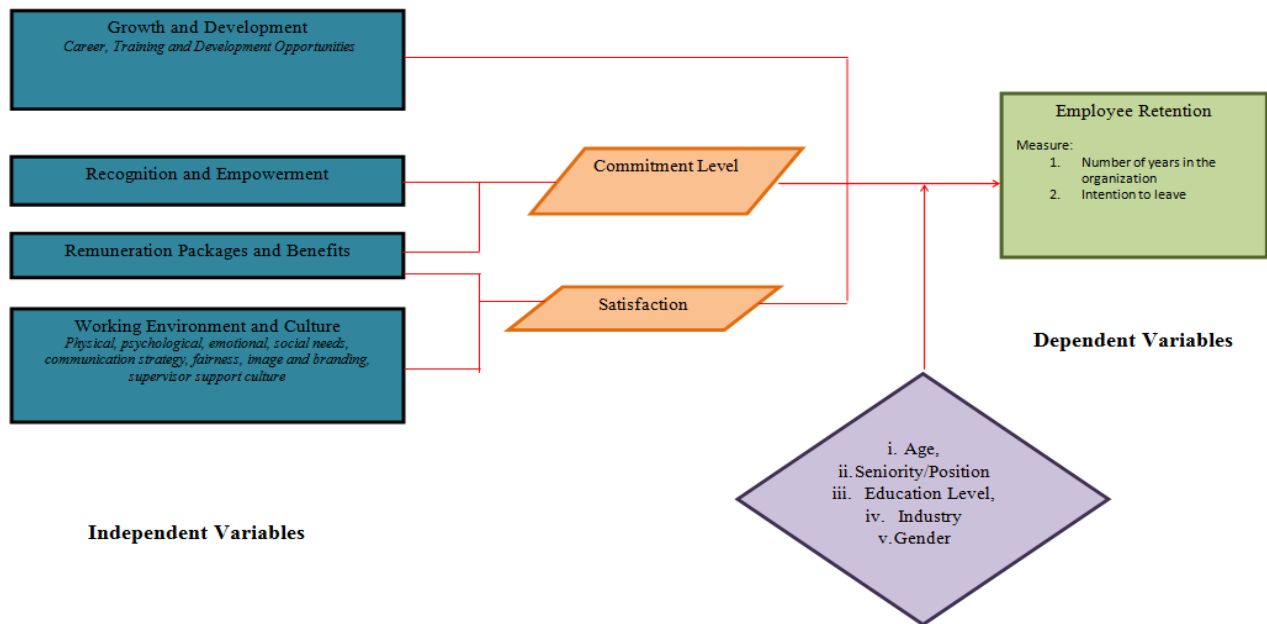


Figure 1: Research Theoretical Frameworks

Source: Self-built (2016)

## b) Sampling Method

Cluster sampling method was utilized for this research. According to Ahmed (2009), cluster sampling is by grouping the population elements which consists the sampling unit. This research is conducted to determine the employee retention factors in selected industries.

Upon selecting the 4 industry and 4 organizations, the designed questionnaires were equally distributed to all the 4 organization with 50 questionnaires for each. Again, from many organizations in one industry we select the most accessible

organization and distributed the questionnaires to 50 respondents. This would be the applicable for all other 3 industries and organization.

The organization will be the 'primary sampling units' and is called the clusters. Meanwhile the 50 respondents are the 'secondary sampling units'.

## c) Study Population

The population for this study is the corporate employees of selected industries. The industries selected for this study are Oil and Gas, Manufacturing, Services and Education. To be more specific, the details of the organization are tabled below:

Table 2: Study Population Industries and Companies

Oil and Gas	Manufacturing	Shared Services	Education
Petronas	Shell Refinery	Schlumberger GFH	INTI International University
		Shell BSC	
Petron	Global Manufacturing Solution	BHP Billiton	
		Steelcase GSS	

## d) Sample Selection

Around 200 sets of questionnaires were distributed equally between the 4 industries. 50 sets were distributed for each industry. The respondents for the questionnaire can be varying according to the industry and there are no specific restrictions on type of respondents. The questionnaires were given personally to the employees and given a time line about 1 week to get it completed. The respondents were very much willing to participate in the research and support the research.

## e) Analysis Method

To analyse the gathered data statistical software is used in this research. The software is known as SPSS which stands for Statistical Package for the Social Sciences. This is a tool to analyze the data and generate relationship tables. The variables can be tested for its correlation with other variables. Several tests are executed and the generated reports and findings are interpreted into the written report for this research.

#### f) *Variables and Measurement of Variables*

A set of twelve measures were selected for the study after going through the literature. A structured questionnaire was constructed utilizing these twelve measures of job recognition, flexibility, benefits, compensation, employee motivation, learning work climate, cost-effectiveness, career development, organizational commitment, communication, superior-subordinate relationship and training with appropriate instructions for each section of the questionnaire for the collection of data on the study.

The questionnaire is divided into four different sections in which the first section looks into the demographic information or the collected information which consists of Gender, Age, Race, Income, Education level, Industry Served and Position in the organization. The remaining sections are based on participant perception of the variables.

The questionnaire consisted of aspects in which the perception of the participants is central. The items measure the participants' perception, work behaviours and attitudes towards retention strategies in their organisation. All questions were scored on a five-point Likert scale ranging from 1 "I strongly disagree" to 5 "I strongly agree" as well as 1 "very satisfied" to 5 "very dissatisfied". To determine the reliability of the questionnaire, it was sent to both the 5 different type of organizations which consists of Education, Oil & Gas, Manufacturing, Event Management and Services. The questionnaire was filled out by the research community belonging to entry level till higher managerial level from all 5 types of industry. The dependant variable would on the reason or intention of retaining in the industry and also total years spend.

In order to quantify the level of intention to remain at the current organization, data were interpreted on a scale where: when a higher number was selected it

was interpreted as a higher level of intention to remain at the current hotel or a higher level of job satisfaction, conversely, when a lower number was selected this indicated a lower level of intention to remain at the current hotel or a lower level of job satisfaction. All questionnaires were coded and manually compiled onto hardcopies of data sheets prior to entering the data into the computer system. The answers were evaluated and analyzed in relation to all subjects involved and questions asked.

#### IV. ANALYSIS/DISCUSSION

Descriptive analysis was performed to illustrate the profile of respondents, summary of retention reasons and to evaluate the influence of the demographic variable towards the number of years served by employees in an organization. Secondly, One Way ANOVA was performed to compare the mean years served by the different group of employees based on the independent variables. Chi Square and crosstabulation was utilized to determine the association between demographic variables and employees overall satisfaction and the intention to stay in an organization. Subsequently, correlation was then performed to study the relationship between the independent variables influencing employee retention. T-test was also performed to determine the influence of gender towards the independent variables which are the needs of an employee in an organization and to study the influence of educational background on the number of years an employee stays in organization. Besides, factor analysis was then performed to identify the independent variables which highly correlate with each other. The identified factors were used to perform regression to study the influence of the factors on the retention of employees in an organization.

#### a) *Profile of Respondents*

*Table 2: Profile of Respondents*

Variable	Frequency	Percentage
<b><i>Gender</i></b>		
Male	125	62.5
Female	75	37.5
<b><i>Age</i></b>		
Below 20	3	1.5
20-29	82	41
30-39	67	33.5
40-49	29	14.5
50 and above	19	9.5
<b><i>Race</i></b>		
Chinese	77	38.5



Malay	61	30.7
Indian	52	26.1
Others	9	4.5
<b><i>Income</i></b>		
Below 70000	14	7.3
70000-99,999	60	31.1
100,000-199,999	87	45.1
200,000-299,999	5	2.6
300,000 and above	27	14
<b><i>Education</i></b>		
High School and Below	15	7.5
Diploma	40	20
Bachelor Degree	88	44
Master Degree	50	25
PHD	7	3.5
<b><i>Current Industry Served</i></b>		
Education	47	23.5
Oil and Gas	60	30
Manufacturing	58	29
Services	34	17
Others	1	0.5
<b><i>Position</i></b>		
Managerial and above	29	14.5
Executive	160	58
Entry Level and Below	28	14
Others	27	13.9

The table above describes the demographic information of the respondents. The demographic information taken into account for this study are gender, age, race, income level, education, current industry served and position in an organization. These information were crucial as one of the objective of this study is also to determine the influence of these demographic variables on employee retention. The questions were mainly targeted for working adults. Majority of the respondents for this study are males (62.5%). This could be because the industries being studied such as manufacturing and oil and gas industries are male dominant industries. A huge proportion of the respondents are around the age of 20 to 39 years old and very less respondents are from the age group 50 and above. There is a relative distribution in the race of the respondents. Besides, in term of income level most of the respondents earn in the range of RM2000 to RM3999 which accounts for 31.1% and RM4000 to RM5999 which accounts for 45.1% of the total respondents. 44% of the total respondents have a

bachelor degree and 50% of them have master's degree. There are also a small number of employees with PHD included in this study as well. There is a relative equal distribution of respondents can be found in all the industries selected. Lastly, a huge percentage of the respondents hold the executive position in an organization.



b) *Summary on Retention Reasons*

Table 3: Retention Reasons

Variables	Reason for Applying		Reason for Leaving the Organization	
	Frequency	Percent (%)	Frequency	Percent (%)
Growth and Development	82	41.4	57	28.5
Recognition and Empowerment	50	25.3	40	20
Remuneration	112	56.6	127	63.5
Working Environment and Culture	72	36.4	61	30.5

In the questionnaire two questions were included on the reasons employees apply for and leave a job in the organization. The respondent is allowed to select from the 4 variables the reason for employees applying for job in their organization and also the reason for employees resigning. Table 3 illustrates the summarized finding on the reasons for employees applying for and leaving the organization. Remuneration is the top reason for employees applying for the job in the organization and for leaving the organization. Most of the employees apply for a job in the organization due to the remuneration package. However, maybe after working for some time they leave the organization as they feel they deserve better for the job being

performed. Therefore, remuneration is also the reason for employees leaving the organization. Secondly, growth and development is the second top reason for employees applying for a job in the organization. An attractive career progression plan in an organization can certainly attract a great number of talents.

Growth and Development and also Working Environment and Culture draw similar percentage as reasons for employees leaving the organization. Organizations should manage these two elements wisely as it accounts for a great number of responses for turnover. Lastly, recognition and empowerment is the least significant variable for employee job application or resignation.

c) *Evaluating the Influence of Industry, Age, Income, Education and Position towards Employee Retention*

Table 4: Influence of Demographic Variables towards Employees Years Served in an Organization

Categories		Years (Median)
Industry	Education	8
	Oil and Gas	5
	Manufacturing	4
	Services	3
Age	Below 20	4
	20-29	2
	30-39	5
	40-49	10
	50 and above	20
Income	Below 2000	2.5
	2000-3999	3
	4000-5999	6
	6000-7999	5
	8000 and above	10
Position	Managerial and above	7
	Executive	4
	Entry Level and Below	2
	Others	8

<b>Education</b>	High School and Below	22
	Diploma	4
	Bachelor Degree	3
	Master Degree	8
	PHD	5

The table above demonstrates the influence of the demographic information towards employee retention. Employee retention refers to the number of years on employee is serving the organization. Employee from the education industry is seen to have a higher retention rate compared to the others. The employees from the education industry serve an average of 8 years while the others only have an average of 3 to 5 years. Besides that, in the evaluation on the influence of age, the older the employee the longer they remain in an organization. The older employees are more loyal to the organization compared to the young talents. Employees in the age group of 50 and above serve the organization an average of 20 years. The same goes to income, the higher the income an employee earns, the longer they are realized to stay with the organization.

Therefore, income could be considered as a factor to employee retention. Subsequently, employees in the managerial position, lecturers are tutors tend to stay in the organization longer compared to others. This corresponds to the longer years served by the employees from education industry. Lastly, employees with high school and below educational qualification serve the organization longer than the other employees. Meanwhile, employees with Bachelor Degree tend stays in the organization for a shorter period of time. Employees with bachelor degree or masters are always looking for better opportunity therefore this reason could contribute to the less years served by these group of

employees. In addition, all the organization recognizes degree qualification and employment opportunities are very high for these employees. Consequently, job hopping has become very common among young talents.

d) *Comparing the Mean Years Served by Different Cluster of Employees*

One Way ANOVA is used to compare means for two or more independent groups. The measurement of the variables to be utilized for One Way ANOVA is one continuous variable and one categorical variable with any number of categories. In this study, One Way ANOVA is used to compare the difference between the mean years served by different cluster of employees to test objective (c) of the research. The mean years served is the continuous variable and the employee cluster is the categorical variables. The clusters of employees are based on the:

- Frequency of training sent for.
- Frequency of recognition received.
- Comfortable level with the working culture.
- Satisfaction with the remuneration package received.

i. *Test of Homogeneity of Variance*

Firstly, the test of homogeneity of variance is conducted to validate the equality of variance and the test to be performed against the variables.

*Table 5:* Test of Homogeneity of Variance for the Different Cluster of Employees

Test of Homogeneity of Variance				
Variables/Cluster	Levene's Statistics	Sig.	Equal Variance	Analysis
Frequency of training sent for	3.454	0.009	Not assumed	Kruskal Wallis
Frequency of recognition received	3.597	0.007	Not assumed	Kruskal Wallis
Comfortable level with the working culture	2.259	0.064	Assumed	One-Way Anova
Satisfaction level with the remuneration package	6.047	0.000	Not assumed	Kruskal Wallis

The significance level of more than 5% indicates equality variance. However, the normality test was not satisfied by all the variables. One Way Anova to be performed for Comfortable level with the working culture as this variable indicates a significance level of more than 5%. Kruskal Wallis is conducted for the remaining variables.

ii. *Kruskal Wallis/Anova Test***Table 6:** Significant differences in mean years served by different group of employees

Kruskal Wallis/Anova Test	
Variables	Sig
Frequency of training attended	0.013
Frequency of recognition received	0.800
Comfortable level with the working culture	0.746
Satisfaction level with the remuneration package	0.811

The one way ANOVA result shows that there is no significant difference between the groups (sig = 0.746). Therefore, there is no significant difference in the mean years served by an employee who are comfortable and not comfortable with the working culture in the organization. As conclusion, just because an employee is comfortable with the organization it does not mean he or she may decide to work longer in the organization.

The only variable that appeared significant for the Kruskal Wallis Analysis is frequency of the training sent for. As the Kruskal Wallis results are significant for

frequency of training sent for, post hoc test is conducted to determine which groups differ from each other. The post hoc test shows that there is a significant difference in the years served by employees who are sent for training frequently and occasionally. To a surprise an employee who is sent for training occasionally by the organization serves significantly more (mean = 8.3 years) compared to those sent frequently for training (mean = 4.7 years). This may be because the employee who is sent for training very frequently may be well competent and tends to seek for better development opportunities in other companies.

**Table 7:** Differences in mean years served by different group of employees based on the frequency sent for trainings

Descriptive		
Years in Organization		
	N	Mean
Always	10	9.8000
Very Frequently	39	4.7436
Occasionally	96	8.3021
Rarely	43	5.6977
Never	12	6.7500
Total	200	7.0300

Based on the mean years, the employee who is sent for training always serves the most number of years in the organization. Therefore, it can be concluded that

to a certain extent the growth and development needs does influence employee retention in an organization.

e) *Association between Demographic Variables and Employees Overall Satisfaction and the Intention to Stay in an Organization***Table 8:** Pearson Chi Square and Percentage Distribution for Overall Satisfaction and Intention to Stay in an Organization

Variable		% (Overall Satisfaction)		n	Sig.	% (Intention to Stay)		n	Sig.
		Satisfied	Not Satisfied			Intention to Stay	Intention to Leave		
Gender	Male	47.5	52.5	101	0.416	11.2	88.8	125	0.328
	Female	41.2	58.8	68		16	84	75	
Age	29 and below	38.2	61.8	68	0.149	12.9	87.1	85	0.983
	30 and above	49.5	50.5	101		13	87	115	
Race	Chinese	44.4	55.6	63		9.1	90.9	77	
	Malay	39.6	60.4	53		19.7	80.3	61	

	Indian	50	50	46	0.766	11.5	88.5	52	0.314
	Others	50	50	6		11.1	88.9	9	
Income	Below 2000	27.7	27.3	11	0.216	14.3	85.7	14	0.496
	2000-3999	45.7	54.3	46		10	90	60	
	4000-5999	44.2	55.8	77		17.2	82.8	87	
	6000-7999	25	75	4		0	100	5	
	8000 and above	32	68	25		7.4	92.6	27	
Educational Level	High School or Lower or Diploma Education	29.5	70.5	44	0.017*	14.5	85.5	55	0.689
	Degree, Masters or PHD	50.4	49.6	125		12.4	87.6	145	
Industry	Education	73.7	26.3	38	0.000***	8.5	91.5	47	0.497
	Oil and Gas	13.5	86.5	52		10	90	60	
	Manufacturing	72.3	27.7	47		19	81	58	
	Services	22.6	77.4	31		14.7	85.3	34	
	Others	0	100	1		0	100	1	
Position	Managerial and above	42.3	57.7	26	0.039*	13.8	86.2	29	0.974
	Executives	42.3	57.7	97		12.9	87.1	116	
	Entry Level and Below	31.8	68.2	22		10.7	89.3	28	
	Others (i.e. Lecturer and Tutor)	70.8	29.2	24		14.8	85.2	27	

\* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$

Based on the table above, education level, industry served and the position in the organization has a significant association with the overall satisfaction. Employees with High School or Lower or Diploma Education (70.5%) are more likely is dissatisfied with the organization compared to the employees with Degree, Masters or PHD (49.6%). However, for employees with Degree, Masters or PHD the number of employees feeling satisfied and dissatisfied is relatively similar.

Majority of the employees from the Education and Manufacturing Industry are satisfied. 73.7% of employees from Education Industry are satisfied and 72.3% of the employees from the Manufacturing Industry id satisfied. Majority of the employees from Services and Oil and Gas Industry are not satisfied. The percentage of satisfaction of employees from the Other Industries is

not interpreted as only one employee represents the particular industry.

Majority of the respondents are executives in the organizations. A huge proportion of the employees in the managerial and above, executive, entry level and below position are dissatisfied. Most of the employees holding position such as Lecturer and Tutor are satisfied. This corresponds to the significantly higher satisfaction level among employees in the Education Industry.

As education level, industry served and the position in the organization has a significant association with the overall satisfaction the strength of the relationship was analyzed further. Due to the presence of nominal scale, Phi test was used to analyze the relationship.

Table 9: Phi Test to Measure Strength of Association of the Significant Demographic Variables

Variable	Phi Test (Sig.)	Coefficient Value
Education Level	0.017	0.184
Industry	0.000	0.57
Position	0.039	0.223

Phi test was used to determine the strength of the relationship between education level, industry and position in the organization with the overall satisfaction. The individual relationship was analyzed.

For the demographic variable education level, the sig = 0.017 illustrates that the association between

education level and overall satisfaction is significant at 5% level. The coefficient value of 0.184 shows a weak relationship between education level and overall satisfaction.

For the demographic variable industry served, the sig = 0.000 illustrates that the association between

industry served and overall satisfaction is significant at 0% level. The coefficient value of 0.57 shows that the relationship between industries served and overall satisfaction is strong.

For the demographic variable position in the organization, the  $\text{sig} = 0.039$  illustrates that the association between position in the organization and overall satisfaction is significant at 5% level. The coefficient value of 0.223 shows a weak relationship between position in the organization and overall satisfaction.

In conclusion, there is a significant association between three demographic variables with the employees overall satisfaction. The demographic variables are education level, industry served and

position hold in the organization by the employees. There is no significant association between the other demographic variables and employees' overall satisfaction. There is also no significant association between all the demographic variables with employees' intention to stay in an organization.

#### f) Relationship of the Variables with Each Other

Correlation is used to study the association between two continuous variables. In this study, correlation is used to verify whether employee's perception on growth and development, remuneration, recognition and empowerment, working environment and culture factors influencing the retention in the organization is matching.

**Table 10:** Pearson Correlation for the Relationship of the Variables

Variables	Growth and Development	Remuneration	Recognition and Empowerment	Working Environment and Culture
Growth and Development	-	0.462	<b>0.575</b>	<b>0.792</b>
Remuneration	0.462	-	0.291	<b>0.509</b>
Recognition and Empowerment	<b>0.575</b>	0.291	-	<b>0.656</b>
Working Environment and Culture	<b>0.792</b>	<b>0.509</b>	<b>0.656</b>	-

The table above illustrates the strength of the relationship and direction between the independent variables influencing employee retention. As all the variables are normal, pearson correlation was used. In general, the results are significant at 1% level. There is a strong positive relationship in the association between:

- Growth and Development association with Working Environment and Culture (Correlation=0.792)
- Recognition and Empowerment associated with Growth and Development (Correlation=0.575)
- Remuneration association with Working Environment and Culture (Correlation=0.509)
- Recognition and Empowerment associated with Working Environment and Culture (Correlation=0.656)

Therefore, an employee who desires for growth and development need in the organization would also want a comfortable working environment and culture. An employee who considers recognition and empowerment as vital factor to stay in an organization would also contemplate the growth and development opportunities in the organization. An employee who stays in the organization due to the remuneration package will also want the working environment and culture to be comfortable as well. Lastly, an employee who feels that recognition and empowerment is a leading factor to serve an organization for longer period will also look through the working environment and culture in the organization. There is a strong link between these variables.

Besides that, there is a moderately weak positive relationship between Growth and Development association with Remuneration (correlation=0.462). There is also a weak positive relationship between Remuneration associated with Recognition and Empowerment (correlation=0.291). An employee who stays in the organization due to the growth and development needs may not feel that the attractiveness of remuneration package as factor to stay in the organization also. Lastly, based on the relationship an employee who serves an organization due to the remuneration package offered will not be looking for recognition or empowerment prospects. In conclusion, for objective b most of the factors influencing employee retention have a strong positive relationship with each other.

The relationship between the variables can be clearly seen in the scatter plots below.

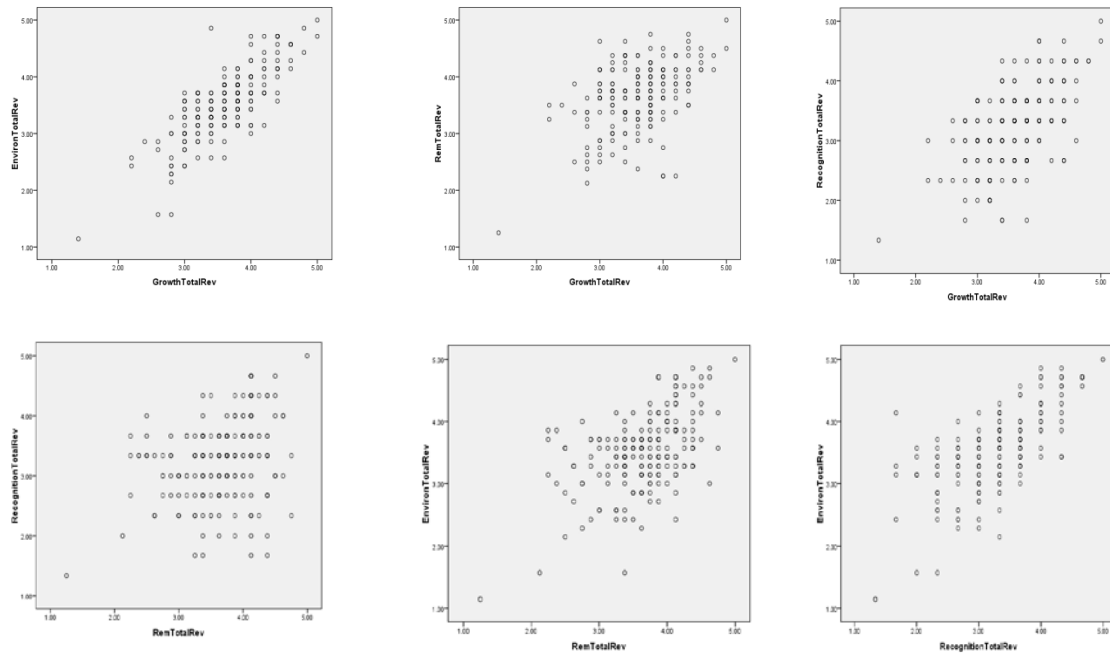


Figure 2: Scatter Plot showing the relationship between the variables

g) Influence of Gender on the Independent Variable – T-Test

i. Differences in the major variables by gender

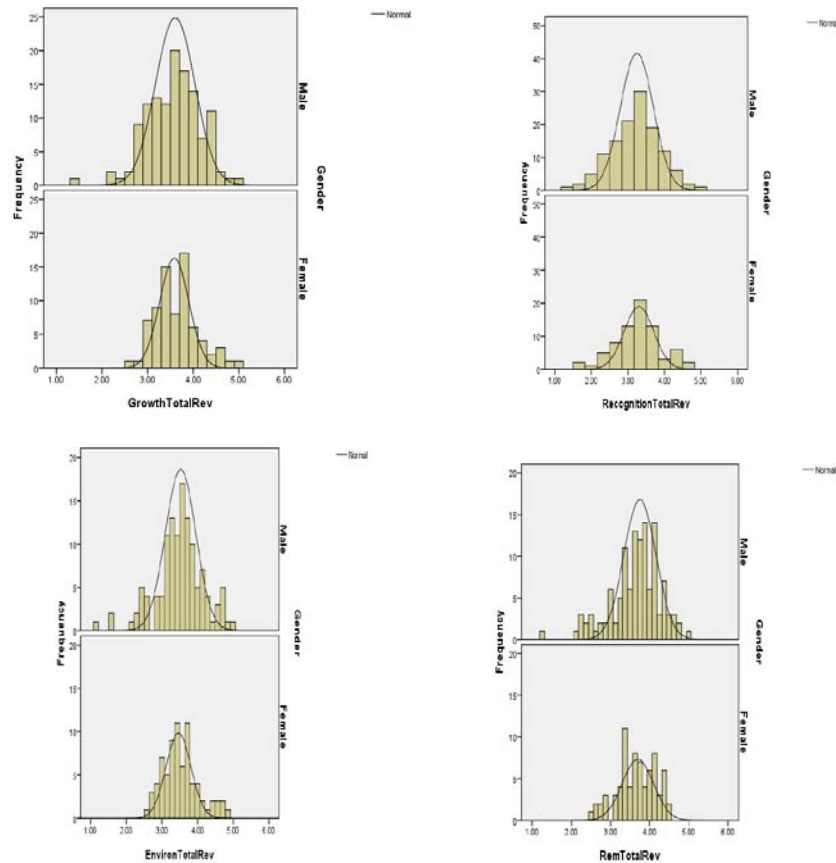


Figure 3: Histogram to confirm normality of variables

\* $p < 0.05$ , \*\* $p < 0.0$



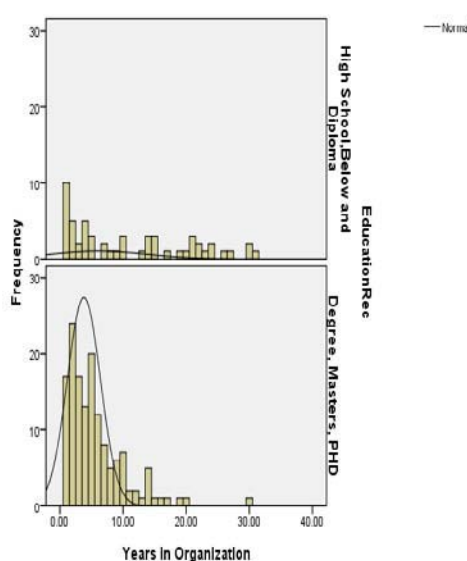
*Table 11:* Influence of gender of independent variables

Variables	Male (Mean)	Female (Mean)	t-value	Sig
Growth and Development	3.57	3.63	-0.826	0.41
Recognition and Empowerment	3.21	3.27	-0.662	0.508
Remuneration	3.64	3.66	-0.228	0.82
Working Environment and Culture	3.49	3.53	-0.359	0.72

Gender does not influence the independent variables for retention. Both male and female have the same needs to stay in the organization in term of growth, remuneration, recognition and working

environment. Based on the sig value, t-value and mean value for both male and female, it can be concluded that gender does not have a significant influence on employees satisfaction and need in the organization.

ii. *Influence of education to the years served in the organization*

*Figure 4:* Histogram to confirm normality of education to years served

As the distribution is not normal, Mann Whitney analysis is used to determine the influence of education level of an employee to the number of years served in

an organization. Education level was recoded into 2 categories to ensure that enough respondents are obtained for each category.

*Table 12:* Influence of education to the years served in an organization

Education	Mean Rank	Sig.	Average Years Served
High School, Below and Diploma	118.55	0.006	8
Degree, Masters, PHD	93.65		5

From the table above, the mean value indicates longer years served in the organization. In this case, the employees with education level of high school, below and diploma have the higher number of working years in the organization with the mean value of 118.55. Meanwhile, those employees with degree, masters and PHD scored a lower mean value which is 93.65 and this shows that they tend to move to other organizations

when the time comes. The educational background of an employee has a significant influence on retention in an organization at 1% level. It can be concluded that the higher the education level, the lower years of service. While the lower the education level, the higher number of service years scored. People with lower level education [high school and below or diploma] are likely to stay in the organization longer compared to people

with higher level education such as degree, masters and PHD. The average year served by an employee with high school or lower or diploma qualification is 8 years and the average years served by an employee with degree, masters or PHD is 5 years. However, the difference in years served by these two groups of employees is not much.

are high, there might be possibility for the variables to be group together.

The variable has been grouped and classified as below:-

#### h) Grouping the Independent Variables

##### i. Factors Extraction

Principal Component Analysis was used to do the extraction. As the correlations between the variables

BENE - Benefits and perks

CASH - Salary adjustment

ENV - Harmonious working culture and place

PPL - Engagement with colleagues and superiors

GRW - Career progression and advancements

RECOG - Constant recognition of efforts and excellent execution of tasks

*Table 13: Initial KMO and Bartlett's Test*

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.730
Bartlett's Test of Sphericity Sig.	.000

*Table 14: Initial Correlation Matrix Data*

	BENE	CASH	ENV	PPL	GRW	RECOG
Correlation BENE	1.000					
CASH	.739	1.000				
ENV	.456	.245	1.000			
PPL	.354	.170	.375	1.000		
GRW	.497	.312	.532	.376	1.000	
RECOG	.388	.119	.690	.440	.478	1.000

Bartlett test is significant at .000 ( $<0.001$ ), indicating that there is significant correlation among the selected variables. Measure of Sampling Adequacy (MSA) is in the ranges of ( $0.7 < 0.730 < 0.799$ ) in which it also shows that the variables has middling correlation among the variables.

The correlation matrix shows approximately that there are more than 50% correlations that are significant and greater than 0.25.

*Table 15: Initial Measure of Sampling Adequacy (MSA)*

	BENE	CASH	ENV	PPL	GRW	RECOG
Anti-image Correlation BENE	.672a					
CASH	-.723	.568a				
ENV	-.107	-.022	.767a			
PPL	-.145	.056	-.019	.876a		
GRW	-.203	-.005	-.231	-.131	.888a	
RECOG	-.161	.205	-.537	-.217	-.116	.718a

Individual MSA are all more than 0.5, however, in communalities, for the variable "PPL" shows less than 0.5. Hence this variable would need to be removed and

factor extraction to be performed with the exclusion of "PPL".

## ii. Factor Extraction after the removal of variable "PPL"

Table 17: KMO and Bartlett's Test after removing variable "PPL"

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.685
Bartlett's Test of Sphericity	Sig.	.000

Table 18: Correlation Matrix data after removing variable "PPL"

		BENE	CASH	ENV	GRW	RECOG
Correlation	BENE	1.000	.739	.456	.497	.388
	CASH	.739	1.000	.245	.312	.119
	ENV	.456	.245	1.000	.532	.690
	GRW	.497	.312	.532	1.000	.478
	RECOG	.388	.119	.690	.478	1.000

Table 19: Measure of Sampling Adequacy (MSA) after removing variable "PPL"

		BENE	CASH	ENV	GRW	RECOG
Anti-image Correlation	BENE	.648a				
	CASH	-.723	.556a			
	ENV	-.111	-.021	.732a		
	GRW	-.226	.003	-.236	.869a	
	RECOG	-.199	.223	-.555	-.149	.674a

Table 20: Communalities after removing variable "PPL"

	Initial	Extraction
BENE	1.000	.868
CASH	1.000	.905
ENV	1.000	.790
GRW	1.000	.600
RECOG	1.000	.805

After removing variable PPL, Bartlett test is still significant at 0.01. All other variables are correlated with at least one variable. All correlation are with coefficient value of more than 0.25 (>50%). However, MSA fall to below 0.7 (0.685). Communalities are all more than 0.5. Since its still within the standards, we shall proceed with the Factor Analysis.

Table 21: Total variance explained after removing variable "PPL"

Component	Extraction Sums of Squared Loadings	
	% of Variance	Cumulative %
1	56.043	56.043
2	23.320	79.363
3		
4		
5		

Promax Rotation method was selected to do the rotation. 79.36% of the variation in 5 variables is explained by 2 factors. This is acceptable for a social science study.

Table 22: Rotated Component Matrix after removing variable "PPL"

	Component	
	1	2
RECOG	.896	.038
ENV	.869	.185
GRW	.684	.364
CASH	.040	.950
BENE	.369	.856

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 3 iterations.

Based on the Rotated Component Matrix, we will group it as 2 factors as below:-

Factor 1- RECOG, ENV, GRW

Factor 2- CASH, BENE

analyze the overall influence of both the factors above against the dependant variable which is career growth.

i) *Influence of the Factors on the Retention of Employees in an Organization*

After the factors were derived from the various independent variables, regression test was used to

Table 23: Model Summary Table

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.746a	.556	.552	.99075

a. Predictors: (Constant), FACTOR2, FACTOR1

Table 24: ANOVAs Table

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	240.070	2	120.035	122.286	.000a
Residual	191.410	195	.982		
Total	431.480	197			

a. Predictors: (Constant), FACTOR2, FACTOR1

b. Dependent Variable: CAREER

Table 25: Coefficient Table

Model	Unstandardized Coefficients		t	Sig.	Collinearity Statistics	
	B	Std. Error			Tolerance	VIF
1 (Constant)	1.717	.439	3.914	.000		
FACTOR1	.803	.056	14.292	.000	.830	1.205
FACTOR2	-.006	.052	-.109	.914	.830	1.205

a. Dependent Variable: CAREER

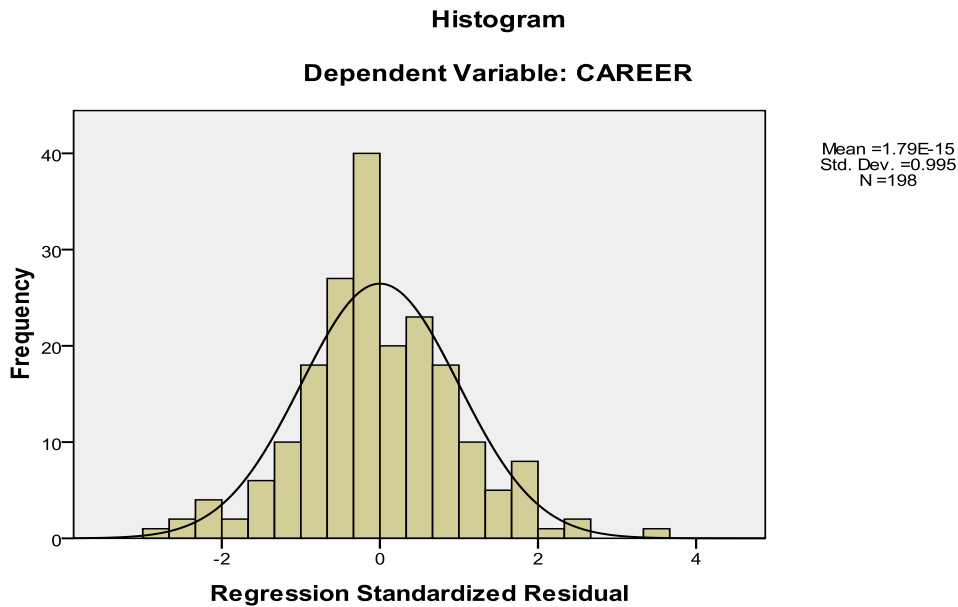


Figure 5: Residual to Check on Normality

F test shows overall regression is significant. An R square show 0.556 which is 55.6% of the variation in rating of career growth is explained by regression. The fit is positive and good. Salary adjustments and additional benefits would have negative influence in employee retention at the 1% level; however a good environment, engaging people, constant recognition and career advancement has a significant strong positive influence in ensuring retention of employees in an organization at the 1% level. VIF is also  $<10$ , hence there is no sign of multi-collinearity

As a conclusion, it is most likely that salary adjustments and additional benefits or perks in the salary package would not be the main reasons on employee retention, in which as evidenced, retention of employee comes from the main factors of having a good environment, constant recognition of the excellent work done and good career advancement.

## V. RECOMMENDATION & LIMITATION OF STUDY

### a) Recommendation

Based on the findings and results all the factors leading to employee retention in an organization are highly correlated with each other. Therefore, organization should place equal emphasize on all the factors influencing employee retention. Organizations should not ignore or neglect any of the factors as neglecting will cause employees to be dissatisfied. In accordance to the Herzberg's two-factor theory, the factors identified growth and development, working culture and environment, remuneration, recognition and empowerment are motivating factors in an organization that are primary causes of job satisfaction. For example,

world top institutes developer motivates employees by taking into account all the needs. They provide on-site day care, excellent medical benefit plan, training opportunities, assistants to help on personal matters and many other additional perks. Organization should look at broad retention elements and not limit to traditional approach or methods as globalization is changing the needs of employee.

The findings also show that remuneration, growth and development factors are the leading factors of retention. In order to develop human capital resources, employees should be constantly sent for training and development activities. However, there are chances for employees to leave the organization if provided with various development opportunities; therefore organization can consider attaching bond to the training. For example, for an external overseas training a company can attach a one year bond period for the employee. This can avoid employees from leaving the organization after attending the training or reaches maximum potential. Besides that, organizations should link remuneration to employee's performance to maximize the benefit for all parties. According to The Porter and Lawler Model, reward based on performance has a high influence on employee motivation and enthusiasm. If an employee is motivated to perform the job, there are high chances for the employee to stay longer in the organization.

Employees' needs are the same for both male and female. In the previous era, glass ceiling was a barrier for females to advance in the organization but the situation has now changed. Consequently, gender discrimination in term of the factors influencing retention should be avoided by organization in order to retain talented female employees.

However, organization should take note that there are chances for the retention factor to differ or in the event the factors are same the weightage distribution may differ among industry due to the different nature of the industry. Organizations can look at best practices or lessons learned by different industries but develop a strategy unique for the company and aligned with specific employee needs.

Besides, it is found that employees with higher qualifications tend to stay shorter in the organization and employees with lower qualification stays for a longer period of time. Most probably the reason is that the high qualified employees can find a new job in other company and most of the time will be going for a higher position. Hence, it is very crucial for organizations to make the job as attractive as possible to retain corporate top talents.

#### b) Limitation of Study

Firstly, the respondents were mainly executives in this study. A wider range of position would constitute a better study of employee retention. Besides that, time constraint imposed a limitation on the number of more respondents and industries. As retention factors may differ based on industries, conducting a study on many industries can provide a more apparent result on the influence of industry on retention. Due to the small scale research the sample size was also not sufficient to represent the whole population the objectives and analysis should be tested for a larger data set.

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# Process Capability-A Managers Tool for 6 Sigma Quality Advantage

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**Abstract-** "You can't manage what you don't measure"; organisations are quantifying the capability of their manufacturing process to measure and manage 'quality'. Six Sigma offer several tools, which helps measure the performance of a process. The process capability analysis is one such tool, which helps measure whether the process is proficient of producing consistent products that meet the standards. According to Dr Genichi Taguchi variability of the process has to be controlled even though the process is meeting all the specifications. Process capability analysis helps to reduce variability in the production processes. Process capability indices (PCIs) measure the capability of the process numerically. Process capability indices are used to explain a manufacturing process ability to produce items as per the voice of the customer (i.e. within the specified limits) and compare the intrinsic variability in a process with the customer's design. Capability index is important, since it simplifies complex information about the process to a single unit less number.

**Keywords:** *process capability, capability index, six sigma, quality, voice of customer, process variability.*

**GJMBR-G Classification:** *JEL Code: J50*



*Strictly as per the compliance and regulations of:*



# Process Capability—A Managers Tool for 6 Sigma Quality Advantage

Dr. Vinod N Sambrani

**Abstract-** “You can’t manage what you don’t measure”; organisations are quantifying the capability of their manufacturing process to measure and manage ‘quality’. Six Sigma offer several tools, which helps measure the performance of a process. The process capability analysis is one such tool, which helps measure whether the process is proficient of producing consistent products that meet the standards. According to Dr Genichi Taguchi variability of the process has to be controlled even though the process is meeting all the specifications. Process capability analysis helps to reduce variability in the production processes. Process capability indices (PCIs) measure the capability of the process numerically. Process capability indices are used to explain a manufacturing process ability to produce items as per the voice of the customer (i.e. within the specified limits) and compare the intrinsic variability in a process with the customer’s design. Capability index is important, since it simplifies complex information about the process to a single unit less number. In this paper different process capability indices viz. potential process capability index ( $C_p$ ), real process capability index ( $C_{pk}$ ), and process centering index ( $K$ ) will be analysed to understand the process capability and their implications in managerial decision making in quality improvement activities and quality program implementation.

**Keywords:** process capability, capability index, six sigma, quality, voice of customer, process variability.

## I. INTRODUCTION

Why 99 percent quality level is not tolerable to companies around the globe? Because from a cumulative perspective it means for example in medical surgical procedure, 99 percent quality is 500 incorrect surgeries per week or two unsafe plane landings per day at a major airport, which is simply not acceptable, so what next? Such questions were troubling big corporations. In 1986 Motorola developed a statistically-based method for performance measurements to reduce variation, and found that quality level corresponded to failure rate of two parts per billion, Motorola named this program as “Six Sigma”. Six sigma methodologies result in the process outcomes which are 99.9997 percent defect free; Six sigma focuses on reducing defects to 3.4 DPMO [Defects per Million Opportunities]. Six Sigma is the answer for the above question. Hence, opportunities denotes the potential chances for a defect to occur in a unit. Two characteristics needs to be controlled in DPMO viz.,

‘opportunities’ - in terms of reduction in total steps of the process and ‘defects’ - in terms of reduction in defects at every step of the process through improvement of process continuously, thus aiding the quality improvement. Today Six sigma is used in all kinds of sectors like government, hospitals, banks and many more areas. In recent times it is combined with lean manufacturing and is called “Lean Six Sigma”.

One of the important six sigma methodologies is the Process Capability Analysis [PCA]; the determination of process meeting the specification limits is done using this prominent technique. It is the measure of the absolute quality of any process, after all the corrective measures, which must be considered to guarantee the level of Six Sigma being achieved. Process capability is the standard measure of conformance to specifications. Bothe (1997) has defined “process capability as the ability of a process to meet customer expectations”. The variation in the process with respect to specifications is measure quantitatively using PCA.

Process capability is the ratio of actual process spread to the permissible process spread, measured by six process standard deviation units. The quantitative measure of process capability is given by Process Capability Indices [PCIs]. Process variability and specifications are statistical indicators of process capability used by PCIs. The most widely used basic indices are  $C_p$  by Juran (1974),  $C_{pk}$  by Kane (1986), and  $C_{pm}$  independently by Hsiang & Taguchi in 1985 and by Chan, Sheng & Spiring in 1988. In this article, the objective is to look into the various process capability indices and understand the inferential aspects of these capabilities.

## II. LITERATURE REVIEW

Mahesh S. Raisinghani<sup>[1]</sup> has mentioned that to insure a level of Six Sigma has been obtained, it is important to the measure the quality of any process. A standard measure which checks for conformity with the specifications is the Process capability ( $C_{pk}$ ). The variations between the process and specifications are measured in quantitative terms using this. Process capability indices are developed to measure the process capability numerically by Özlem Şenvar and Hakan Tozan <sup>[2]</sup>. The earliest description of capability indices was published by Sullivan. Kane provided the first discussion of the indices’ sampling characteristics.

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Feigenbaum and Juran used  $6\sigma$  as a measure of process capability. They presented the measure as a representation of the inherent variability of a process. But capability was still considered independent of the specifications.

Juran created a stronger link between process variability and customer specifications by comparing  $6\sigma$  to the tolerance size as a technique of defining the need for process development actions. However, capability was still deduced separately from the requirements. Juran and Gryna proposed a capability ratio, which provided the first metric that directly compared process variability to customer specifications:

$$\text{Capability Ratio} = \frac{6\sigma \text{ variation}}{\text{Tolerance Width}} \quad (1)$$

All process capability indices clearly link process variability to customer requirements, thus emphasizing the supplier's accountability to meet those requirements Kurt Palmera, H and Kwok-Leung Tsuib<sup>[3]</sup>.

The wide use of PCIs in seeking/ provisioning quantitative measures over the ability of a process to meet the manufacturing requirements is upheld in many literatures. They (PCIs) acts as significant tool enhance the process activities and enable quality program initiatives. The first two process capability indices appeared in the literature are the process precision index  $C_p$  and the process performance index  $C_{pk}$ , which were defined by Kane (1986) Chien-Wei Wu<sup>[4]</sup>.

Many articles appeared from the work of Kane (1986), presenting new indices and/ or exploring the further possibilities with the old ones. Kaminsky et al. (1998) have criticized upon the use of these indices and proposed a future measurement. Schneider et al (1995) and Latzko (1985) have discussed the use of PCIs in supplier certification and administration.

An extensive bibliography on PCIs was provided by Spiring et al. (2003). A common consent of the idea, to use PCIs is that, a process must be in "Statistical Control". The majority of the process capability indices discussed in the literature are associated only with processes that can be described through some continuous distributions of the characteristics and, in particular, normally distributed characteristics Mahendra Saha and Sudhansu S. Maiti<sup>[5]</sup>

Process with one-sided specification limits were presented using graphical method by Vannman and Albing which was useful for analysing process capability. At a given significance level, with the assumption of normality, projected process capability plots are used to judge the process capability. They recommended that graphical method is required to improve the capability, thus, determining the deviations from the specifications and variability or both.

Sagbas. A, suggested that "in order to satisfy the process capability measures, it is necessary to improve the quality level by shifting the process mean to

the target value and reducing the variations in the process" Ajit Goswami & Harendra Narayan Dutta <sup>[6]</sup>

### III. PROCESS CAPABILITY ANALYSIS

Process Capability Analysis is defined as the engineering study to calculate the process capability; it is about how well a process meets its specification limits. In other words process capability analysis helps to estimate, monitor, and reduce the variability in the processes. An estimate of DPMO (defects per million opportunities) is often produced from the sample data from a process for the PCA. It also provides, at least one capability indices. This assesses the sigma quality level of the process operations.<sup>1</sup>

Process Capability Analysis is based on two important assumptions; i) process data is normally distributed and ii) process is in control.

Process capability analysis graph is as below [See Figure 1]. The graph indicates the lower specification limit (LSL) and the upper specification limits (USL) and allows visualizing the average  $\mu$  that represents the process central tendency, and the target value  $\tau$ . The basic methods to study the Process Capability Analysis are: Probability plots, Histogram, Design of Experiments and Control Charts.

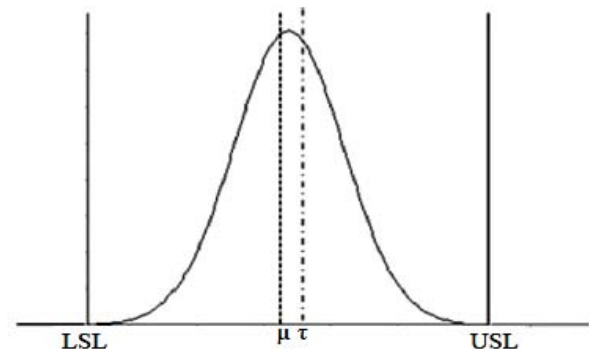


Figure 1: Process Capability Analysis

### IV. PROCESS CAPABILITY INDICES

Process capability indices (PCIs) are developed to measure the process capability numerically. It is a quantitative measure that compares the behaviour of process (measured in sigma) to the specifications. Capability indices that succeed process potential and process performance are applied tools for positive quality improvement accomplishments and quality program execution.

The original five capability indices as described by Sullivan, as observed in use at Japanese manufacturing facilities, were  $C_p$ ,  $C_{pk}$ ,  $K$ ,  $C_{pu}$ , and  $C_{pl}$ . However manufacturing industries use potential process

<sup>1</sup> Şenvar, Ö. and Tozan, H., 2010. Process capability and six sigma methodology including fuzzy and lean approaches.

capability index ( $C_p$ ), real process capability index ( $C_{pk}$ ), process centering index ( $K$ ) and Taguchi index ( $C_{pm}$ ) to gain a statistical measure of process potential and performance.

#### a) What Is ' $C_p$ '?

Potential process capability index [ $C_p$ ], the first generation capability index presented by Joseph M. Juran in 1974 is based on the philosophy of statistical process control, which maintains that all measurements within required tolerance are intended to be good; measurements outside the tolerance are taken to be bad.

$C_p$  is the ratio between what you want the process to do (management's hope or allowable spread) versus what the process is actually doing (reality).<sup>2</sup>

$$C_p = \frac{\text{Hope (Tolerance Range)}}{\text{Reality (Process Range)}}$$

Mathematically process capability index  $C_p$  is calculated as;

$$C_p = \frac{USL - LSL}{6\sigma} \quad (2)$$

USL and LSL are the upper and lower specification limit respectively and  $\sigma$  symbolises the standard deviation (SD) of the studied characteristics. The multiplier "6" in the denominator is selected after announcement that three sigma-limits work fine in practice [Deleryd, 1995].

It is important to note that  $C_p$  is the reciprocal of Juran and Gryan's capability ratio see equation 1.  $C_p$  value does not take the location of the process into consideration. Table 1 gives the description of the different  $C_p$  values and their inferences.

Table 1:  $C_p$  values and their implications<sup>3</sup>

$C_p$ Value	Rating	Managerial Decision
$C_p \geq 2.2$	World class	It has 6 $\sigma$ quality
$C_p > 1.33$	1	satisfactory for existing processes
$1 < C_p < 1.33$	2	Partially adequate, requires a strict control.
$C_p = 1$	3	At least 99.73% of the products are conforming to specifications (0.27% nonconforming)

$0.67 < C_p < 1$	4	Not adequate for the job. A process analysis is necessary. Requires serious modifications to reach a satisfactory quality
$C_p < 0.67$	5	Not adequate for the job. Requires very serious modifications

#### ' $C_{pk}$ ' Index

Montgomery (2009) has defined " $C_{pk}$  as the measurement of the actual capability in the process.  $C_{pk}$

$$C_{pk} = \text{Min} \left[ \frac{USL - \mu}{3\sigma}, \frac{\mu - LSL}{3\sigma} \right] \quad (3)$$

takes process centering into account. The magnitude of  $C_{pk}$  relative to  $C_p$  is the direct measure of how far from the center the process is operating."  $C_{pk}$  is calculated using equation 3, in which  $\mu$  represents the process average,  $\sigma$  the standard deviation and USL and LSL lower and upper  $C_{pk}$  by Kane [1986] explains the impact of  $\mu$  (process mean) on the process capability indices. If the process mean is away from the center with respect to the specifications, the specification limit closer to the process mean becomes the focal point for process capability calculation hence the word "minimum" in the formula.

The change in the denominator from six to three standard deviations is the result of the two one-sided quality concerns. Table2 depicts the quality condition associated with the different  $C_{pk}$  value.

Table 2:  $C_{pk}$  values and their Quality Condition<sup>4</sup>

$C_{pk}$ Value	Associated Quality Condition
$C_{pk} < 1.00$	Inadequate
$1.00 \leq C_{pk} < 1.33$	Capable
$1.33 \leq C_{pk} < 1.50$	Satisfactory
$1.50 \leq C_{pk} < 2.00$	Excellent
$2.00 \leq C_{pk}$	Super

#### b) The ' $K$ ' Index

The index  $K$  represents a measure of the distance that the process lies off-center. The index of the process  $K$  is calculated using equation 4.

$$K = \frac{\mu - N}{(USL - LSL)/2} \quad (4)$$

$\mu$  is the process mean,  $N$  is the specification midpoint.  $N = (USL + LSL)/2$ .

<sup>4</sup> Pearn, W.L. and Chen, K.S., 1999. Making decisions in assessing process capability index  $C_{pk}$ . *Quality and reliability engineering international*, 15(4), pp.321-326.

<sup>2</sup> Philimon, N., Daniel, M., Caston, S., Edward, C. and Munjeri, D., 2011. A holistic application of process capability indices. *African Journal of Business Management*, 5(28), p.11413.

<sup>3</sup> Rábago-Remy, D.M., Padilla-Gasca, E. and Rangel-Peraza, J.G., 2014. Statistical quality control and process capability analysis for variability reduction of the tomato paste filling process. *Industrial Engineering & Management*, 2014.

The relationship between  $C_p$ ,  $C_{pk}$ , and  $k$  is  $C_{pk} = (1 - |k|)C_p$

## V. INTRODUCTION TO THE CASE STUDY

In order to test the different process capability indices and make managerial inference the case study is considered, the data collected is about the boring operation on the center frame component, which is used in the excavators.

The desired quality characteristic specification for bore C [see figure below] is 71mm diameter with a tolerance limit of +0.15mm and -0.07mm. The upper and lower specification limits are 71.15mm and 70.93mm respectively.

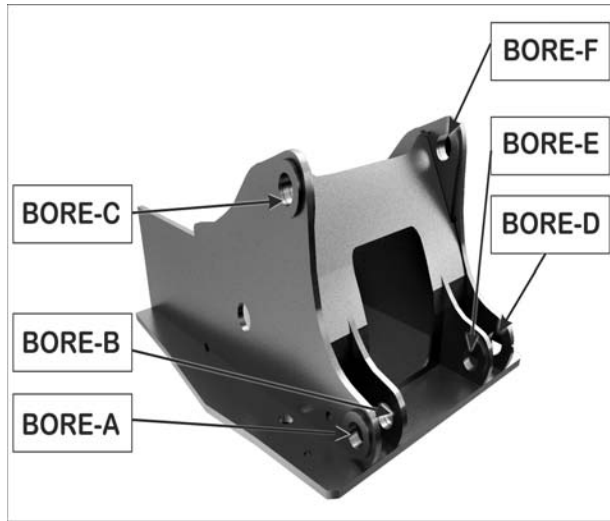


Figure 2: Center Frame

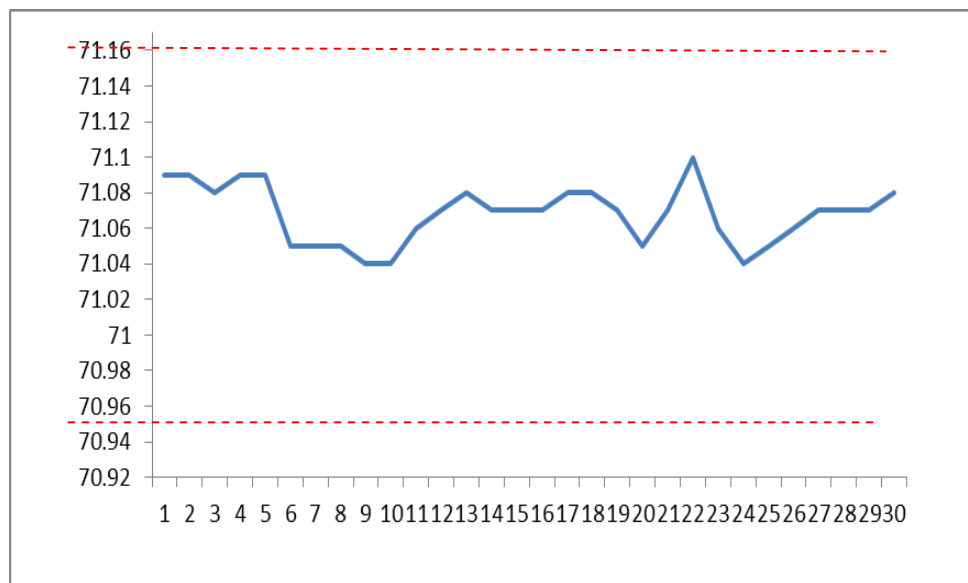


Figure 3

In order to perform the process capability analysis it is first required to test whether the data follows a normal distribution and the process is under statistical control. The following techniques are used to prove the above two conditions before going for computation of various capability indices;

**Normality Test:** The normal probability plot is used to check the normality of the data. The null and alternative hypotheses for checking normality of the data are defined as below;

$H_0$ : The data follows a normal distribution.

$H_1$ : The data do not follow a normal distribution.

The Anderson-Darling test is applied on to the collected data; Minitab 17 is used to plot the probability plot. Figure 3 displays the output of the normality test.

The p-value in comparison with the significance level is use to determine the whether the data follows normal distribution. Generally, a significance level [ $\alpha$ ] of 0.05 works well. 5% risk of concluding that the data do not follow a normal distribution is depicted by a significance level of 0.05 when they truly do follow a normal distribution.

The normal probability plot shows that P-value  $> \alpha$  [ $0.062 > 0.05$ ], hence the decision is to fail to reject  $H_0$  because there is not enough evidence to conclude that your data do not follow a normal distribution and conclude that the data follows a normal distribution.



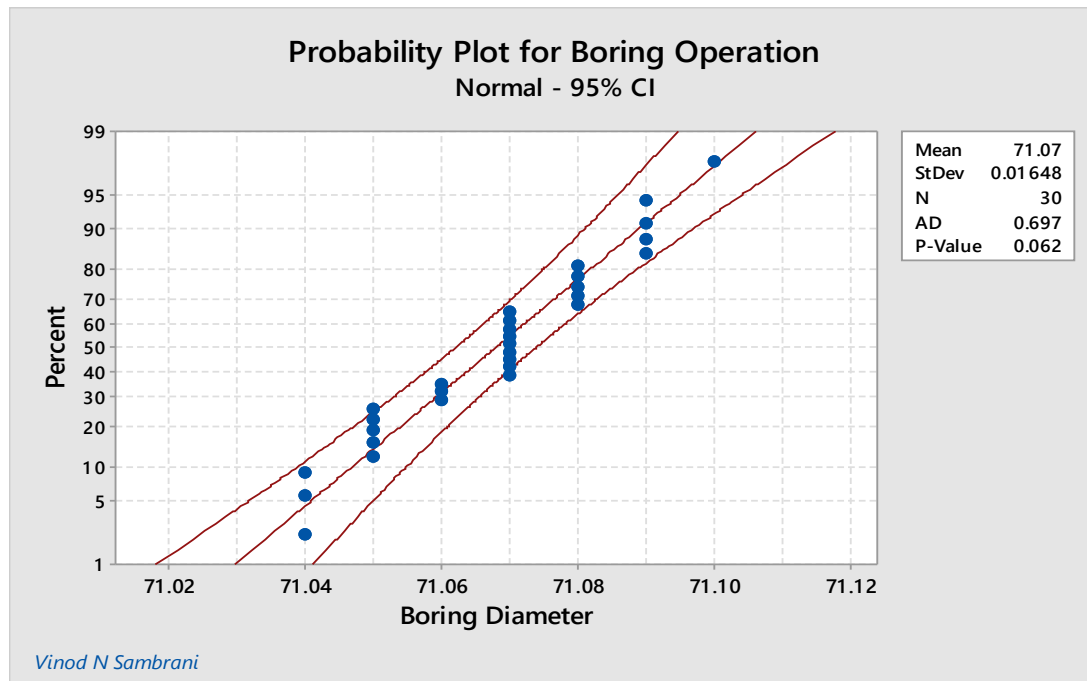


Figure 4: Normal Probability Plot for Case Study Data

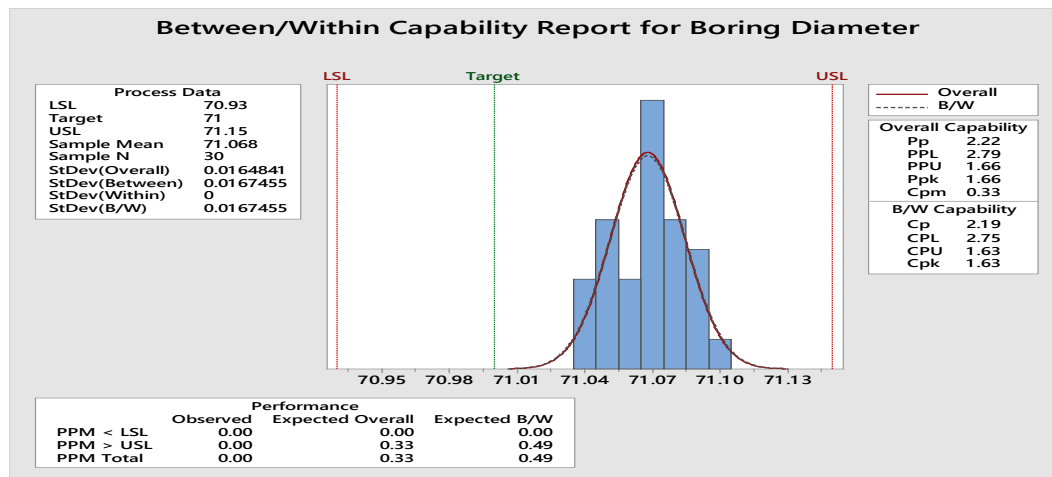


Figure 5: Process Capability Analysis Based on Normal Distribution Model

#### Interpretation of the Process Capability Report

1. The upper left box in the figure 4 reports the process data, which displays the upper and lower specification limits, the target values. The process mean 71.06 deviates insignificantly from the target value of 71 and is marginally greater than the target value, the boring operation leans towards the upper specification limit.
2. While inputting the data, the sub group is considered as 1, that is there is no grouping of the standard deviation overall and standard deviation within, hence the standard deviation does not make much difference as a result they are similar.
3. The data to the left bottom side indicates the observed performance, expected overall and

expected between performance, the inference is as below;

- a. All the measurements are located within the specification limits, hence  $PPM < LSL$  and  $PPM > USL$  are Zero.
- b. The expected "overall" performance values quantitatively represent the actual process performance. The expected values are calculated using the overall sample variance.  $PPM < LSL = 0$  and  $PPM > USL = 0.33$ .

It means that on the LSL side there will be zero expected measurements and 0.33 parts per million are expected to have measurements greater than the USL.



- c. The expected "within" performance values quantitatively represent the potential process performance if the process did not have the shifts and drifts between subgroups. The expected values are calculated using the within-subgroup variation.  $PPM < LSL = 0$  and  $PPM > USL = 0.49$ , implies that 0.49 parts per million are expected to have measurements greater than the USL on the lower side it is zero.
4. The values in the between capability box indicate the status of the process. The  $C_p$  index of 2.19 indicates that the process is performing at 6sigma standards. The value 2.19 implies that the specification spread is 2.19 times greater than  $6\sigma$  spread.  $C_{pk}$  index of 1.63 which is less than  $C_p$  [ $C_{pk} < C_p$ ] indicates that the process is off centred [The process mean has drifted toward the upper specification limit]; however the quality condition is excellent.

#### a) The 'K' Calculation

The k index is a unit less linear measure describing the distance that the process mean lies off-centre and is therefore an appropriate measure of process centering.  $C_{pk}$  demonstrates the reduction in process capability produced by the absence of centering. The minimum value of K is 0 and the maximum value of K is 1.

K value is calculated using equation 4. The process mean  $\mu$  is 71.068, N is the specification midpoint, given by  $N = [USL + LSL] / 2$ .

$$N = [71.15 + 70.93] / 2 = 71.04$$

Substituting the values in the equation  $K = \frac{\mu - N}{(USL - LSL) / 2}$

$$K = \frac{[71.068 - 71.04] \times 2}{[71.15 - 70.93]} = 0.25$$

#### Interpretation:

When  $K = 0$  designates that the process is centered at the target which is the midpoint of the specification i.e.  $\mu = N$ .  $K=1$  designates that the mean is situated on one of the requirement limits. If  $0 < K < 1$ , the process mean is positioned somewhere between the target and one of the requirement limits.  $K > 1$  indicates that the process mean is situated outside the requirement limits.

The K value of 0.25 [ $0 < 0.25 < 1$ ] indicates that the process mean is between the target value and one of the specification limits, in this case the upper specification limit. In other words it means that the mean value has moved towards the right of the target of 71mm, by about 25% enabling a six sigma process capability meeting the required specifications, which is evident from figure 4.

An estimate of  $C_{pk} = C_p (1-K)$ , substituting the values in the formula to estimate  $C_{pk}$ .

$C_{pk} = 2.19(1-0.25) = 1.64 \sim 1.63$ , the  $C_{pk}$  value from figure 4 signifying that the K value calculation is correct.

#### b) Managerial Implications

Process capability studies help managers to decide whether a manufacturing process is fit and is capable of meeting the necessary quality standards.

Capability indices help manager set a static goal for performance, so as to avoid nonconforming outputs. This will help build customer – supplier relationship. The index value provides a measure for continuous improvement. Production manager will be able to monitor the index value for improvements both at the individual process and for a collection of processes. Production manager can use the index values as a common process performance language to communicate with managers from other departments liked finance marketing, design department for improvement and cost calculations for up grading or purchase of new machines. Indexes help managers to make process to process comparison and understand the need for improvement or investment and fix the priority for different processes. Index values guide the managers in quality audit programs to identify deficiencies in sampling, measurement, process control, etc.

Process capability analysis helps managers predict the extent to which the process will be able to meet customer specifications. Managers will be able to detect the need for redesigning and implementing a new process that will the source of variability in the existing process. Process capability analysis will enable the manager to decide from among competing processes and select the best one that meets customer requirements.

Managers with little or no statistical training can use process capability indices to understand the status of the process and make informed statistical decision regarding quality performance requirements while designing of new process and purchase of new machinery. Following are some of the guidelines based on  $C_p$  and  $C_{pk}$  values.

1. If  $C_p = C_{pk}$ , the process is centred at the midpoint of the upper and lower control limits.
2. If  $C_{pk} < C_p$ , the process is off-centred.
3. If  $C_{pk} = 0$ , the process mean is exactly equal to one of the specification limits
4. If  $C_{pk} < 0$ , the process mean lies outside the specification limits
5. If  $C_p < 0$ , then the process mean is outside the specification limits.
6. If  $C_p = 1$ , it implies that the process is centered.
7. For a normally distributed product  $C_p = 1$  implies that 2700 parts per million (ppm) are non-conforming i.e., fall out rate of 2700 ppm for two sided specifications.

8. If  $C_p < 1$ , it implies that the process is not fully capable.

If  $C_{pk}$  is less than 1, the manager should go for 100 percent inspection as some of the manufactured products may be out of specifications.

A  $C_p$  value of 1 means that the process will continue to produce atleast 99.73% of the products that will conform to specifications (0.27% nonconforming).

## VI. CONCLUSION

The expected industry benchmark value for  $C_p$  and  $C_{pk}$  for assessing the capability of a process is 1.33, corresponding to a process which will produce nearly 99.9937% good product or 0.0063% bad product. Process capability measures have been used to provide number of abnormal products.

$C_p$  measures the requirements spread relative to the  $6\sigma$  spread in the process, signifying the ability of the process to produce components conforming to requirements.  $C_p$  does not contemplate where the process mean is situated with respect to the specification limits.  $C_{pk}$  on the other hand takes the process centering into account. In the words of Douglas C Montgomery,  $C_p$  measures potential capability in the process whereas  $C_{pk}$  measures actual capability.

In order to direct process adjustments, however, capability indices must be considered collectively. Collective indices of  $C_p$ ,  $C_{pk}$ , and  $k$  signal the need for planned process location adjustments and or process variability reductions. Therefore, both  $C_p$  and  $C_{pk}$  should be used to evaluate the process capability and  $K$  measures the distance, the process is off centred. In the case study considered,  $C_{pk}$  index of 1.63 which is less than  $C_p$  value of 2.19 [ $C_{pk} < C_p$ ] indicates that the process is off centered. The  $C_p$  value of 2.19 is greater than the industry standard of 1.33, hence it is concluded that the process is operating at six sigma capability. The  $C_{pk}$  value of 1.63 is greater than the industry standard of 1.33, it is concluded that the quality condition is excellent and the process is capable of producing excellent quality output. The mean value has moved towards the right of the target of 71mm, by about 25% enabling a six sigma process capability meeting the required specifications. PCIs provide important information about how the process meets customer requirements. PCIs calculation helps managers avoid unreliable results, incorrect decision making, and wastage of time, resources and money. This tool not only helps managers in the above aspects, but also will give sharp advantage to overcome the market competition with quality products to their customers. Despite the numerous studies on the above field, there is a lack of knowledge awareness and interest in using PCIs in regular activities by managers for their own sustainability.

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# An Empirical Analysis of the Performance, Growth, and Potentiality of the Islamic Banking: A Perspective of Bangladesh

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**Abstract-** This paper attempts to have an empirical analysis of the performance, growth, and potentiality of the Islamic Banking across the world with a particular reference to Bangladesh. To achieve its aim and objectives, initially, this paper reviewed the existing knowledge- followed by a qualitative method of documentation analysis of 8 Islamic banks in performance with 965 branches, 9 conventional banks with 20 branches of Islamic banking facilities and 7 conventional banks with 25 Islamic banking windows are providing Islamic banking services in Bangladesh. Comments are derived from the analysis of the findings of these banks. The findings revealed that Islamic Banking system becomes a popular term of banking to the people of Bangladesh.

**Keywords:** *islamic banking, shari'ah based banking, growth & performance, market share, profitability, liquidity, capital position, remittance mobilization, classified investments.*

**GJMBR-G Classification:** *JEL Code: E50*



*Strictly as per the compliance and regulations of:*



# An Empirical Analysis of the Performance, Growth, and Potentiality of the Islamic Banking: A Perspective of Bangladesh

Kazi Noor-E Jannat<sup>α</sup>, Md Zaker Hossin<sup>σ</sup> & Md Rifat Zahir<sup>ρ</sup>

**Abstract-** This paper attempts to have an empirical analysis of the performance, growth, and potentiality of the Islamic Banking across the world with a particular reference to Bangladesh. To achieve its aim and objectives, initially, this paper reviewed the existing knowledge- followed by a qualitative method of documentation analysis of 8 Islamic banks in performance with 965 branches, 9 conventional banks with 20 branches of Islamic banking facilities and 7 conventional banks with 25 Islamic banking windows are providing Islamic banking services in Bangladesh. Comments are derived from the analysis of the findings of these banks. The findings revealed that Islamic Banking system becomes a popular term of banking to the people of Bangladesh. In the year of 2015, Islamic Banks market share increased by 20%, Liability increased by 16.6%, Profitability increased by 31.7%, and share of remittance collect 31.6% which directly showed the significant growth of Islamic Banks in Bangladesh. Even though in the time of economic downturn in 2008-09 while other conventional banks were struggled, Islamic Banks performed very well. Finally, this paper provided some implications that Islamic Banks can adopt for better performance and growth. It is hoped that this current study will be of value to contribute to Business and Management literature, and to policymakers, bankers, and stakeholders for an understanding of the current performance of Islamic Banks, and thereby to improve future performance and growth.

**Keywords:** *islamic banking, shari'ah based banking, growth & performance, market share, profitability, liquidity, capital position, remittance mobilization, classified investments.*

## I. INTRODUCTION

From a liberal sense, when a banking system mobilizes and invests financial resources in accordance with principles of Islamic Shari'ah, it is called Islamic banking (Harrison & Ibrahim, 2016). Awad (2010) asserted that though Islamic banking functions are founded on different concepts, it is mainly focused on the equity concept and is strictly asset-backed, which makes the Islamic banking system different from

the conventional banking system. The core principle of Islamic Banking system is that it is prohibited interest or *riba'h* as it is not allowed in the religion of Islam. Despite, argues regarding equivalence of interest rates charged by modern financial institutions with the Shari'ah concept of *Riba*, mentioned by the Islamic economic scholars including Kabir & Lewis, 2007; Awad, 2010; Iqbal & Molyneus, 2016; and Sarkar, 1998. Another principle regarding sharing of profits and losses of an investment is shared by the both parties (fund-providers and investors) on the foundation of capital share and effort. In Islamic finance, in that respect is no guaranteed rate of return like the conventional finance (Kabir & Lewis, 2007). In addition, before making any investment decision, investors should be fully conscious and informed of the business to be invested in, investment policies, procedures, and products, as considerably as the societal and environmental impacts of the investment that suggested by Harrison & Ibrahim, 2016. In this sheath, one need to work for earning profits and just lending money to an individual who demands it does not count as work. Furthermore, Awad (2010) emphasized that according to Islamic Shari'ah, money cannot be used to create more money and such act is taken as '*Gharar*' which means null and void. In a wider sense, '*Gharar*' refers to the uncertainty regarding a contractual relation, to the degree when it might render an unethical profit to one of the contractors with a contract over the other. This ethical restriction to the Islamic banking system avoids involving in business related to theft, gambling, wagering, or industries opposed to Islamic values. The term '*Gharar*' also promotes the concept of sharing risks, connecting the financial system with the tangible economy, and highlights financial formation and social well-being.

The main aim of this paper is to have an empirical study of the performance, growth and potentiality of the Islamic banking through analyzing its performance in the resources mobilization and deployment of funds with a particular reference to Bangladesh. To achieve its aim and objectives, this paper has reviewed the existing knowledge based on the performance, growth and potentiality of Islamic banking- followed by a qualitative method, documentation analysis of Bangladesh Bank Annual Reports between 2010 and 2015 in terms of 8 Islamic

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banks in performance with 965 branches, 9 conventional banks with 20 branches of Islamic banking facilities and 7 conventional banks with 25 Islamic banking windows are providing Islamic banking services all over the country. Comments are derived from the empirical analysis of these annual reports of Bangladesh Bank which produced more sophisticated information. The analysis of this paper has successfully revealed that Islamic banking system becomes a popular term to the people of Bangladesh for its outstanding performance, services and facilities providing in this country. Later on, this paper provided some recommendations that can be implemented for better performance and growth of Islamic banking system all over the world, especially in Bangladesh. It is hoped that this paper will be of value to contribute to business and management literature and to practitioners, policy makers, bankers and stakeholders for better performance and growth of Islamic banking system.

## II. LITERATURE REVIEW

In more and more competitive world, Islamic Banking system becomes very popular to the people all over the world, especially in Islamic societies whilst interest or *riba'h* is prohibited in the religion of Islam. Over the last decade, an annual 10% growth rate of global Islamic finance, explains the potentiality of the segment including all financial institutions (Bank & Non-bank financial institutions), capital markets, money markets and insurance, Shari'ah-compliant financial assets are valued at nearly US\$2 trillion (Harrison & Ibrahim, 2016). Agreeing to the IMF (International Monetary Fund) report in 2016, in 2013, banking sector alone managed 80% of Islamic finance. This has resulted in the Sukuk (Shari'ah-compliant bonds) market, which accounts for 15% of the Islamic finance industry assets. However, between 2007 and 2013, Islamic banking assets have increased at a compound annual growth rate of 20.4%. In terms of sophistication and size, Islamic capital markets have also evolved significantly over the past decade. According to IFSB 2016, Islamic banking crossed the outset of 15% share of banking system assets in 10 countries including Bangladesh. Islamic banking represents about 1.25% of global banking assets. Therefore, the term of Islamic banking has been taken huge attention in the literature to be researched (Brian, 2011; Rahman, 2010; Ahmad, 2010; Kabir & Lewis, 2007; Harrison & Ibrahim, 2016). Moreover, Ahmad (2010) argued that even, during the recent global financial crisis, Islamic banks were less exposed to the toxic assets that infected the conventional banking system worldwide. However, through the real estate depression, they suffered from second-round consequences. Considering this worldwide uproar of the Islamic banking, it is now time

to examine their function and performance of the Islamic banking sector in Bangladesh.

Furthermore, according to Makiyan, nowadays Islami Bank has been rapidly growing in the world. Most of the Islamic countries follow Islamic based or Shariah-based banking system. This is done because of the opening of Islamic Windows in different commercial banks or the establishment of distinct banks or branches under the Islamic law that specialized in Islamic financial operations emphasized by Khan & Porbio (2010). The Islamic bank serves a large number of investors and entrepreneurs. On one side, they act as a speculator/agent to whom the investors endow their savings and on the other side they play a vital role to finance a multitude of entrepreneurs (Kettler, 2011 & Rahaman, 2010). Abedin (2016) further argued that Islamic finance has been vastly expanded, resulting with an annual growth rate 10%, comparing with conventional banking system Islamic banking system doing well in the banking industry. It is based on the law that money must not be allowed to create more money. The Islamic banking system ensures economic development because of introducing PLS (Profit & Loss sharing) modes of operations. If it can work solely it would be more efficient to prove Islamic banking systems potentialities.

In addition, Harrison & Lewis (2016) asserted that proper implementation of Islamic rules and principles is one of the basic motives of the shariah-based banking system. Muslim thinkers and reformers uplift the ideas of execution of Islamic principles to whole life. Ibrahim & Molyneux (2016) further added that due to the asset-backed securities, Islamic banking system was least affected by the credit crunch. In 2009, the world's top 500 Islamic Financial Institutions shows growth assets at an extremely healthy rate of 28.6% to reach assets of \$822 billion in 2009. Islamic finance played a great role by contributing to the financial crisis in 2008 by encouraging the idea of PLS (Ahmad, 2010). Rahman (2010) argued that with Islamic finance and corporate finance risks are shared between the bank and the clients, indeed it is this sharing that justifies the banks return. These ensure the greater long-term corporate relationship with the bank. Islamic banking system ensures less financial crisis as they have built-in stabilizers that lower the probability of a crisis. Depositors with Mudarabah scheme or contract are provided with a safety net. If any losses occur then none of the current revenue can be paid to the depositors, rather financing can be made from profit equalization reserve that most Islamic banks maintain.

## III. METHODOLOGY

This paper has adopted a qualitative method as Veal (2006) argued that qualitative method is an important and beneficial approach in social science to



collect primary data. Veal (2006) further stated that qualitative method is more efficient to collect a large amount of data in research. Jennings (2001) asserted that qualitative method is vital in collecting data which is based on the interpretation of the research and formulation of the findings. In terms of qualitative method, this paper has used documentation analysis approach to collect primary data to achieve its aim and objectives. Saunders et al (2009) argued that among the various techniques of qualitative method, documentation analysis is considered of an important technique to collect information from organizations or institutions. This research demanded to collect information from all Islamic Banks providing services in Bangladesh in which documentation analysis was considered as an easy and a reliable technique in this research. In terms of documentation analysis, this paper mainly gathered information from the annual reports of Bangladesh Bank between 2010 and 2015.

Saunders et al (2009) further emphasized that documentations of the organizations or institutions have been used in social science as a qualitative method for many years. This document analysis involved at looking various printed and online reports of Bangladesh Bank which produced more sophisticated information in this paper. As same as other technique of qualitative method, documentation analysis is required data to be examined, interpreted to gather meaning, gain and develop experimental knowledge. Bowen (2009) asserted that in recent years documentation analysis identified as an important and a beneficiary tool to gather qualitative information as it is time-consuming and easy to gather information from the organizations or institutions, especially after the revolution of the internet. In terms of sampling, all Islamic Banks and other conventional banks with Islamic banking window and services were randomly sampled in this research. The

main focus of the paper was to analysis the performance of Islamic Banks in Bangladesh, and therefore, analysis of annual reports of Bangladesh Bank made this research more reliable and valid. There was no ethical consideration required as information was open to access by both off print and on print. Data gathered from documentations finally analyzed through skimming (superficial examinations), reading and interpretations.

#### IV. FINDINGS AND ANALYSIS: AN EMPIRICAL STUDY

##### a) *Growth & Performance of Islamic Banking in Bangladesh*

Following the financial system of Bangladesh, compared to the conventional banking, Islamic banking is growing and attaining the market share rapidly. Currently, there are 8 Islamic banks in performance with 965 branches across the country. Additionally, 9 conventional banks with 20 branches of Islamic banking facilities and 7 conventional banks with 25 Islamic banking windows are providing Islamic banking services all over the state. Over the past three decades, all of these banks have been strongly performing adjacent to conventional banks. The primary postulate of Islamic banking is the refusal of interest as it is prohibited in Islam, Alternatively, sharing of profit and loss in accordance with Shari'ah. It is not a separate segment of the financial system; furthermore, it is an option to the conventional banking system.

##### b) *Growth of Islamic Banking*

Playing along in terms of assets, deposits, investments (loans and advances) and shareholders' equity, Islamic banks are maintaining a steady growth over the last couple of years.



Chart 1: Growth of Islamic Banking

Note: Excluding Islamic Banking Branches & windows of Conventional Banks

Source: DOS, Bangladesh Bank; Computation: FSD, Bangladesh Bank; Chart: Authors

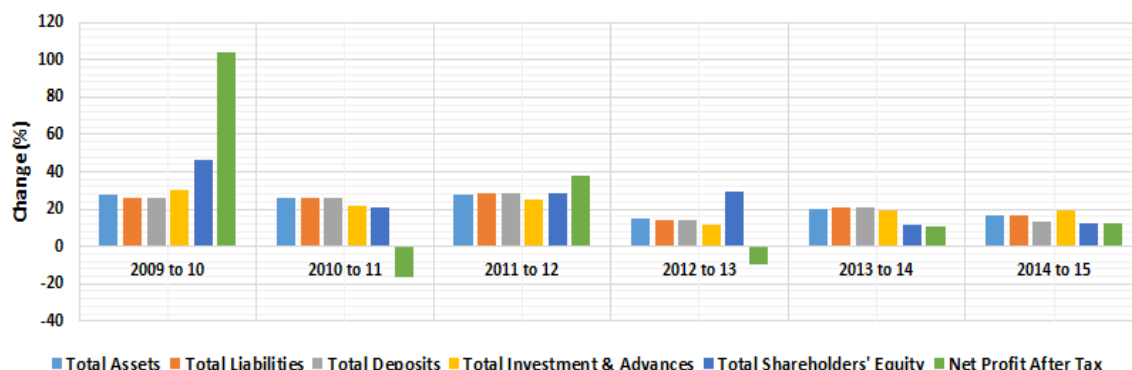


Chart 2: Growth of Islamic Banking

Note: Excluding Islamic Banking Branches & windows of Conventional Banks

Source: DOS, Bangladesh Bank; Computation: FSD, Bangladesh Bank; Chart: Authors

Above mentioned chart 1 and 2 showed a steady growth of the Islamic banking sector in the last couple of years. While the growth of investments (loans and advances) to the overall banking industry was 14.8%, investments (loans and improvements) of the Islamic banking sector increased by 18.6% (13.3% in CY14). The liability base also increased by 16.6% (20.8% in CY14), largely due to a positive growth in the deposit base of 13.6% (21% in CY14) compared to the growth in the overall deposit base of the banking industry of 12.5%. The gross NPL ratio of the Islamic banks was 4.6% (4.9% in CY14), in contrast with 8.8% (9.7% in CY14) for the overall banking industry.

### c) Market Share of Islamic Banks

In CY14, Islamic banks had got around 20% market share of the total banking sector. Compared to the CY14, in CY15, the whole market shares of Islamic banks (excluding Islamic banking branches/windows of conventional banks) remained almost like. In CY15, Islamic banks had 18% (18% in CY14) of assets, 22% (21% in CY14) of investments (loans), 19% (19% in CY14) of deposits, 15% (16% in CY14) of equity and 19% (18% in CY14) of the liabilities of the overall banking industry.

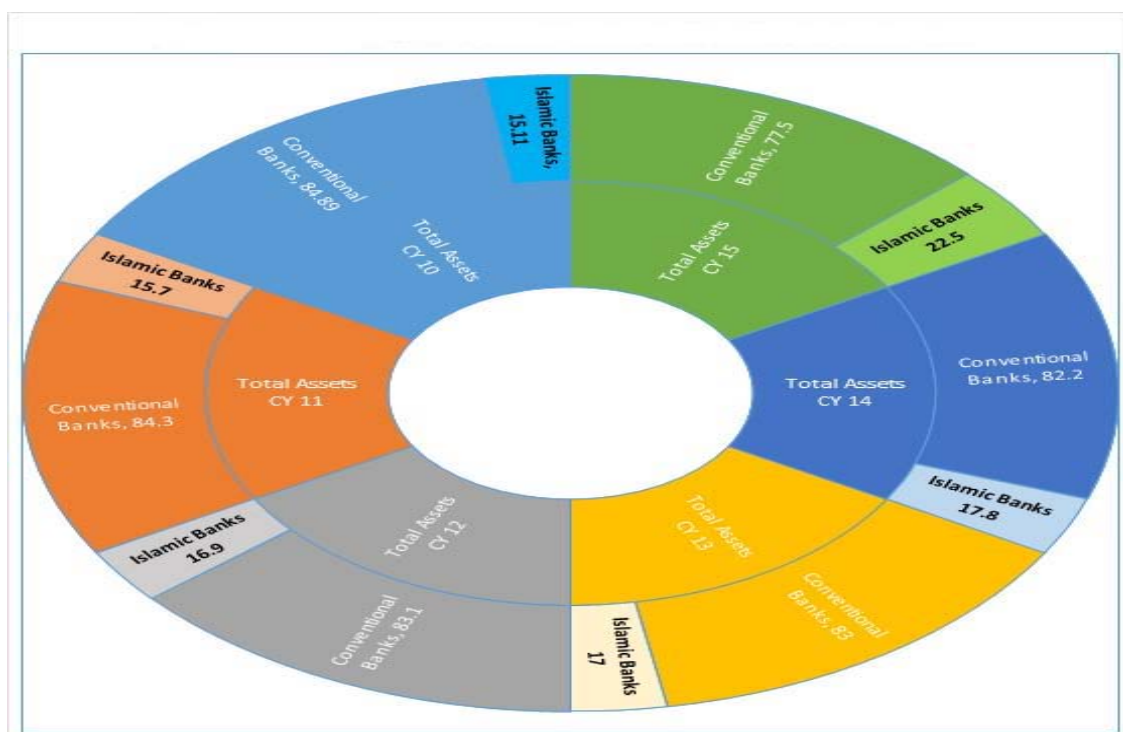


Chart 3: Share of Islamic Banks in the Banking Sector

Source: DOS, BB; Computation: FSD, BB; Chart: Authors

#### d) Profitability of Islamic Banks

In CY15, profitability ratios of Islamic banks continued steadily. The key profitability indicator, ROA (Return on Assets), of the Islamic banking sector was alike as the overall banking sector; although, ROE (Return on Equity) was more eminent than that of the overall banking industry. More importantly, net income of the earliest and the largest Islamic bank listed second from the acme in the whole banking industry. Likened to the previous year, in 2015, the net profit of Islamic banks

increased by 12.0%. On the contrary, the net profit of the overall banking sector was increased by 31.7% in 2015 (-17.3% in 2014). Due to the rescheduling of a noteworthy portion of their classified loans and also the nearly steady business context of the country in the reporting year. On the contrary, in the lack of an organized Islamic bond market, these banks run with a specific liquidity provision system, and that may likewise help them to produce more income with greater loanable funds related to conventional banks.

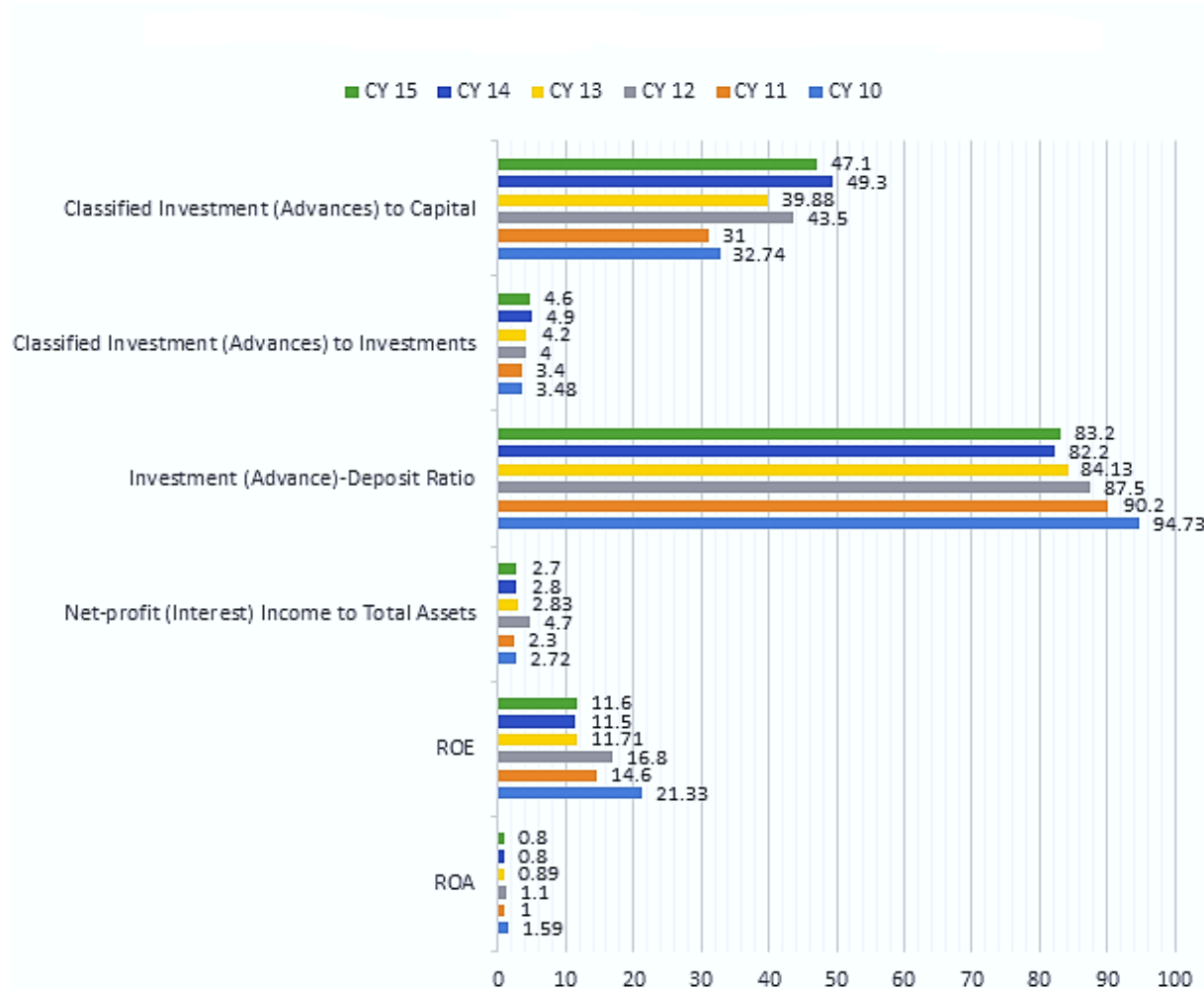


Chart 4: Selected Ratios of Islamic Banks and the Banking Sector

Source: DOS, BB; Computation: FSD, BB; Chart: Authors

Through CY15, Islamic banks contributed 18.8% of total industry profits. The profit income to total assets ratio of Islamic banks touched 7.7%, which is higher than that of the conventional banking sector (interest income to total assets ratio of 6.2%). Besides that, the non-profit income to total assets ratio was only 1.0% as matched with the industry standard of 2.7%, meaning a lower income from the off-balance sheet (OBS) activities and service and fee-based incomes. In CY15, the ROA (Return on Assets) of the Islamic banking industry was 0.8%, similar to the overall banking industry. This is

showing a comparably efficient management of assets by the Islamic banks. Moreover, the ROE (Return on Earning) of the Islamic banking industry held at 11.6%, which is more eminent than that of the overall banking industry. This represents the higher earnings of Islamic banks and comparatively lower equity position.

#### e) Islamic Banks' Liquidity

Observing the difference between the required and maintained CRR (Cash Reserve Ratio) and SLR (Statutory Liquidity Ratio), the liquidity position of the

banks can be evaluated. In CY15, it seems like banks held a heavy proportion of government securities in their portfolio. Following the chart 5, it appears that in CY15, the banks maintained SLR well above their required

level. Although, the higher portion of SLR maintenance might be due to the bank's tendency to seek out safer investments rather than more risky loans and advances.

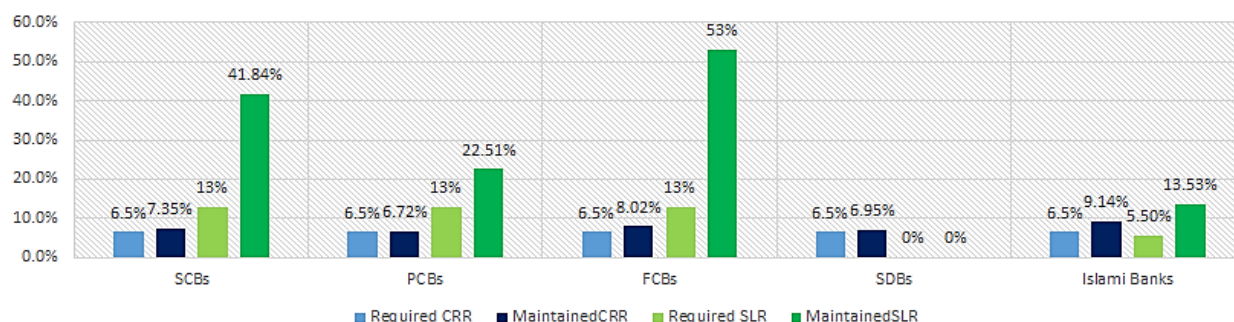


Chart 5: CRR and SLR for Banking Industry (End December, 2015)

Source: DOS, BB; Computation: FSD, BB; Chart: Authors

There is a lack of Shari'ah-compliant SLR (Statutory Liquidity Requirement) suitable instruments in the securities market. This allows Islamic banks to resist on their SLR at a concessional rate compared with that

of the conventional banks. As of December 2015, Islamic banks are obliged to keep 6.0% and 5.5% of their total time and demand liabilities as CRR and SLR sequentially.

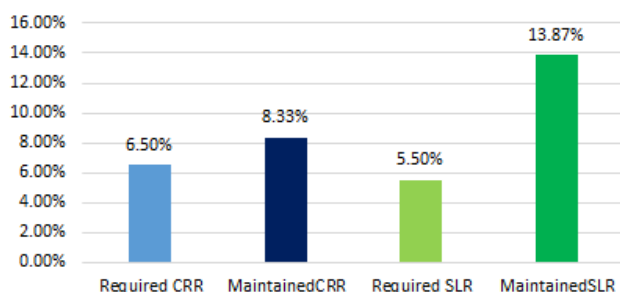


Chart 6: CRR and CLR for Banking Industry (Islamic Banks- CY 14)

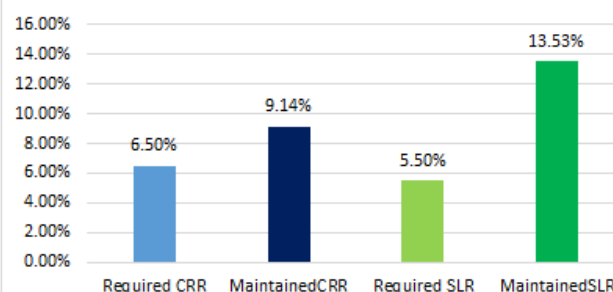


Chart 7: CRR and CLR for Banking Industry (Islamic Banks – CY 15)

Source: DOS, BB; Computation: FSD, BB; Chart: Authors

As evident from chart 6 & 7 shows that Islamic banks are maintaining much higher SLR than the requirement. This may be of preferable to a lack of Shari'ah-compliant, suitable instruments in the securities market of Bangladesh as well as a lack of investment opportunities. In addition, as of December 2015, the aggregate IDR (Investment-Deposit Ratio) of Islamic banks was 83.2, just a bit higher from 82.9% as of December 2014, which is yet below the maximum acceptable level of 90%.

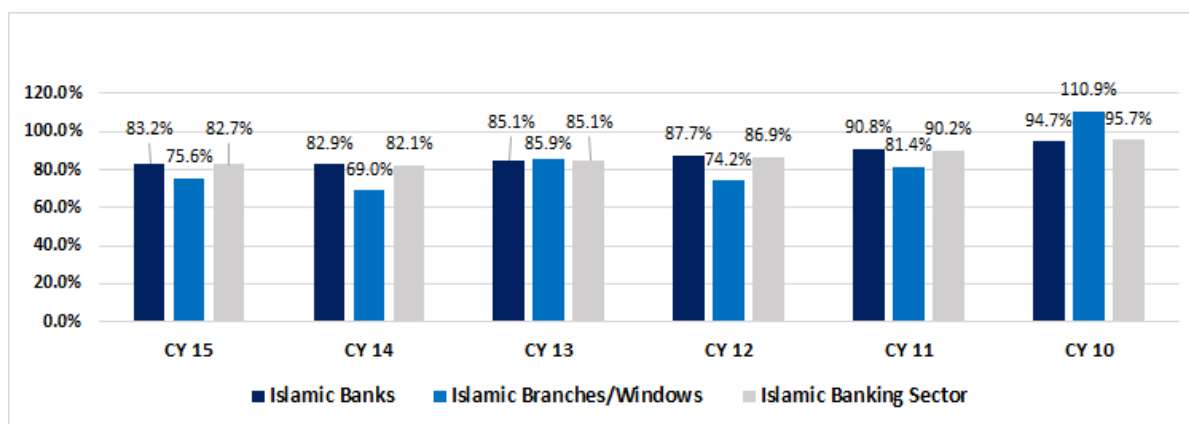


Chart 8: Islamic Banking Sector (IDR %)

Source: DOS, BB; Computation: FSD, BB; Chart: Authors

Due to a higher SLR requirement for conventional banks, the ADR of the overall banking industry was 70.7%, while recommended maximum level is 85%. Compared with the ADR of Islamic banks, which is 83.2%, it is much more downcast. Since 2012,

Islamic banks can acquire funds either from the Islamic inter-bank money market or from the Islamic Investment Bonds Fund circulated by the Government. This is imputable to the inadequate sources of Shari'ah-compliant funds.

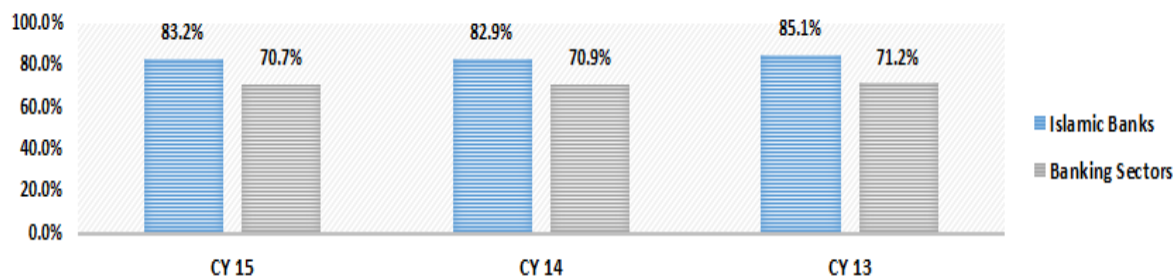


Chart 9: IDR (ADR) of Islamic Banking and the Overall Banking Sector

Source: DOS, BB; Computation: FSD, BB; Chart: Authors

Agreeing to the evidence from above chart 8 & 9, in CY15, there was no liquidity stress among the Islamic banks, as the IDRs of Islamic banks were below the recommended maximum level of 90%. Bangladesh Bank amended the 'Bangladesh Government Islami Investment Bond (Islami Bond) Policy, 2004', to control the surplus liquidity held by the Islamic banks. Under the intention of building a strong base for Islamic bond market, such amendment was necessary. Furthermore, it will assist to direct excess liquidity into investments through Islamic bonds. In 2014, the Debt Management Department of Bangladesh Bank issued a circular to introduce the auction process of Islamic bonds, which is directed to a gazette notification of 18 August 2014.

Previously, the maturity period of Islamic bonds was 6 months, 1 year and 2 years. With the new amendment of the Islamic Bond Policy, the maturity period of Islamic bonds was re-amended at 3 months and 6 months, which is more compromising and will assist the Islamic banks/FIs to manage their funds

easily. The Islamic bonds will be issued through an open auction, on the basis of the PSR (Profit Sharing Ratio). For instance, as the Bangladesh Bank as the issuer, the profit earned by investing in these bonds will partake by the buyer and by the Bangladesh Bank. Instead of the former Mudaraba scheme, the profit of Islamic bonds will be even with the profit of a three-month fixed deposit scheme of the issuing Islamic banks. The bonds are allowed to switch among the eligible individuals and institutions. Moreover, the bonds can be used as an instrument for repo operations.

If the government desires to sell BGILB (Bangladesh Government Islami Investment Bonds), the government and the investing banks will have to share the profit or loss, as the fund will be supervised by the government in accordance with Shari'ah obligations. Again, if the government desires to use the funds for a longer term and in specific projects, instead of using short-term bonds like mentioned before, the government should use the financial instruments like long-term



bonds, complying with Shari'ah requirements, normally known as 'Sukuk'. This is because it is easier to calculate earnings and loss from specific projects and the profit or loss can partake with the fund suppliers on a pre-agreed term. It can be noted here that Bangladesh is, however, yet to issue any long-term bonds.

#### f) Capital Position of Islamic Banks

In CY15, a total of 7 out of 8 Islamic banks complied with the regulative terms, under the Basel-III accord, advised the minimum CRAR (Capital to Risk-weighted Asset Ratio) for 10%.

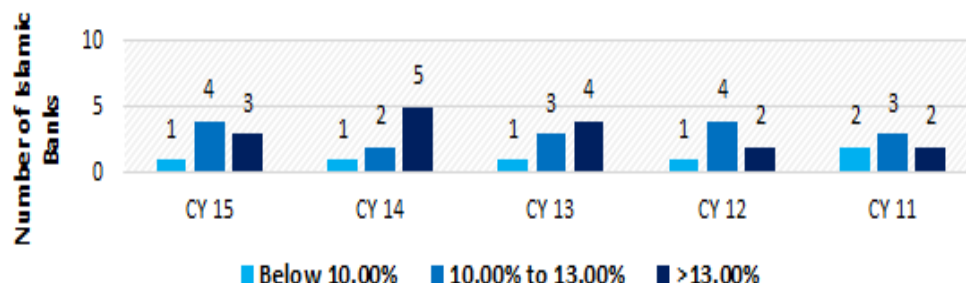


Chart 10: Islamic Banks' CRAR

Note: Excluding Islamic banking branches/windows of conventional bank

Source: DOS, BB; Computation: FSD, BB; Chart: Authors

To confront the uncertainties and deal with the up-downs of the financial market, a strong capital base is a prerequisite. In CY15, 7 Out of 8, Islamic banks are exposed to having a CRAR more than 10%. Nevertheless, due to a historically huge cumulative loss and provision shortfall, one Islamic bank's CRAR continued negative on since 2006. This bank changed its ownership within a short extent of time and it has been functioning under a restructuring plan since 2008.

#### g) Remittance Mobilization by the Islamic Banks

The CY15 was indeed a meaningful year for the Islamic Banking sector. Adjacent to conventional banks,

Islamic banks also play an important role in collecting foreign remittances and dispensing them among its recipients throughout the country. In CY15, the Islamic banking sector contributed to the collection and mobilization of almost one-third of total foreign remittances, with its only one-fifth share of overall banking sector assets.

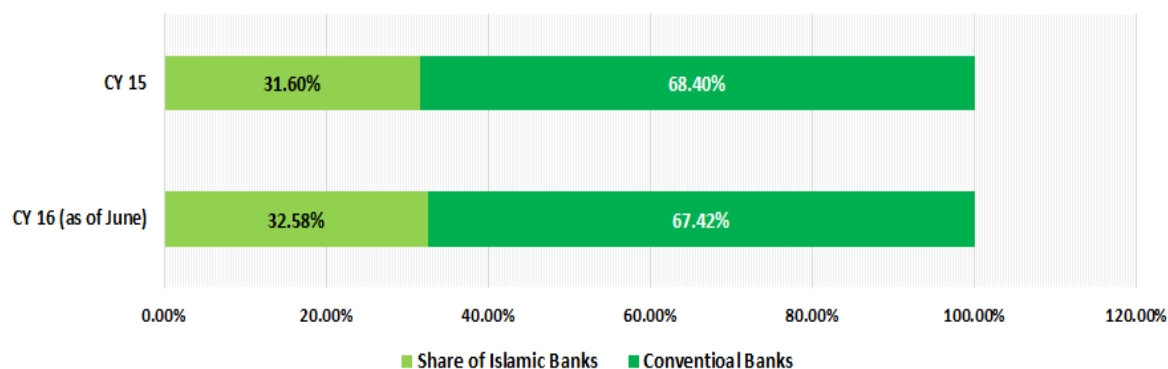


Chart 11: Share of Remittances Collected by the Islamic Banks & the Overall Banking Sector

Source: Developments of Islamic Banking Sector in Bangladesh, BB publication (quarterly); and Quarterly Report on Remittance inflow. Computation: FSD, BB; Chart: Authors

In CY15, the total inward foreign remittance was BDT 1,200,848.1 million, of which BDT 379,503.9 million was gathered up and distributed by the Islamic Banking sector. Therefore, the Islamic banks accounted for a 31.6% share of remittances collected by the overall

banking industry. At the end of April-June 2016, foreign remittance mobilized by the Islamic banking sector reached at BDT 9888.02 crores quarter, which was higher by BDT 1377.72 crores (16.197%) and BDT

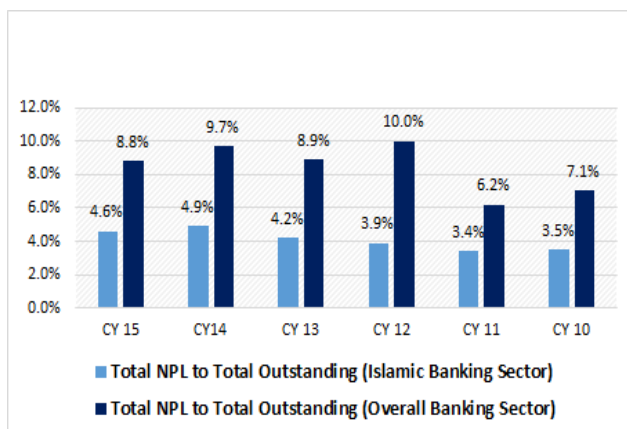


569.32 crores (6.11%) related to the previous quarter and the same quarter of the preceding year respectively.

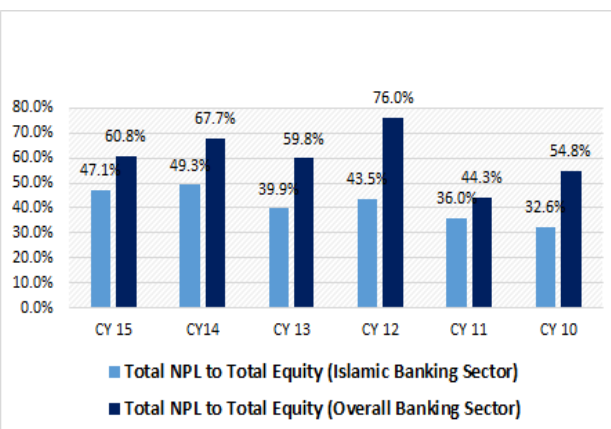
#### h) *Classified Investments of Islamic Banks*

In CY15, Islamic banks showed a better performance regarding the classified investments to

total investment ratio. The ratio was 4.6%, which is a lot lower than 8.8% compared to the overall banking industry. However, involving only private commercial rather than the overall banking industry, the ratio drops to 4.9% from 8.8%.



**Chart 12:** Classified Investments (Loans and Advances) of Islamic Banks and the Banking Industry



**Chart 13:** Classified Investments (Loans and Advances) of Islamic Banks and the Banking Industry

*Note: Excluding Islamic banking branches/windows of conventional bank*  
*Source: DOS, BB; Computation: FSD, BB; Chart: Authors*

Comparing with the closest peer group PCBs (Private Commercial Banks), Islamic banks had just slightly less NPL (Non Performing Loans). The classified investment to total equity was 47.1% for Islamic banks, whilst compared with 60.8% for the overall banking industry. This represents that, compared with the overall banking industry; Islamic banks were more elastic in narrowing potential losses from their investments (loans and improvements). Moreover, while studying the stability of the Islamic Banks, as they are capable of passing the negative blows on the asset side (Loss in Musharaka a/c) to the investment depositors (Mudaraba a/c arrangement), it seems like they are less vulnerable to risks. Such schemes help to shift the credit, market, and liquidity risk of their assets to their depositors proportionately. Whereby, in principle, compared with conventional banks, this will discourage the shareholders from taking unnecessary risks. In other words, depositors may contribute toward the market correction. Even so, in stressed scenarios, Islamic banks do not necessarily pass the risk of its assets to its depositors. Alternatively, in practice, Islamic banks pass the asset portfolio risk onto the shareholders and share their profits to depositors at benchmark rates. Furthermore, when investment revenues are considerably higher, Islamic banks normally give a higher portion of revenues to depositors as a rate of return in line with market deposit interest rates rather than the full profit due to them. On the reverse, the conventional banks will do the opposite in years when investment revenues are low by reducing its own

management (the Mudarib) fee share to increase the share of distributions for the depositors.

## V. ISLAMIC BANKING SERVICES

Basically, Islamic Banks offer four types of financial services, which are as follows - deposits, lending, treasury, and trade finance. They receive deposits under two methods, which are Wadiah and Mudarabah (Wadiah Yad Dhamanah, n.d.). The received deposits of Islamic banks are invested in the several modes, which are as follows - Mudaraba, Musharaka, Quard, Bai-Murabaha, Bai-Muajjal, Salam and parallel Salam, Istisna and parallel Istisna, Ijara, Direct Investment, and Investment Auctioning etc. According to Bangladesh Bank, Mudaraba Term Deposits are the most common types of deposits of the Islamic banking industry, which is followed by MSD (Mudaraba Savings Deposits) and Special Scheme Deposits, as of CY15. While observing the investment, the largest investments were made by Bai-Murabaha followed by Bai-Muajjal and HPMM (Hire Purchase Musharaka Mutanaqisa). In the following year, Islamic banks invested most of their funds in the MSME (Micro, Small & Medium Enterprises) and trade sector. The Islamic banking sector also contributed toward the collection and distributions of foreign remittances and accounted for a nearly one-third share of remittances collected by the entire banking industry at as of CY15. Amongst the all Islamic banks, Islami Bank Bangladesh Ltd. is at the top in respect of remittance collection as of CY15. As a division of CSR (Corporate Social Responsibility) activities, each year

Islamic Banks collect and distribute Zakat across the nation. Besides, they also support in Umrah travel to the Hajjs.

## VI. CONCLUDING REMARKS, IMPLICATIONS & LIMITATION

The above discussion revealed that Islamic Banking system has become a popular term of banking to the people all over the world, especially in Bangladesh. The significant growth of this banking system in last few years showed that it has the huge potentiality for its growth as people in Islamic societies are more attracted to this banking system whilst interest (Riba'h) is prohibited in the Islamic religion. The empirical analysis of this paper has revealed that Islamic Banking system in Bangladesh has significant growth and contributed remarkably to the national economy. This banking system has a satisfactory condition in terms of reliability, validity, probability, profitability, liquidity, market share, and mobilizing global money. In compared to other traditional banking system in Bangladesh, the analysis of this paper revealed that Islamic banking system is doing well in Bangladesh. Even though Islamic banking has significant growth in last few years, however, it can be grown even more in compare to current position as Bangladesh is an Islamic society whereas the majority of the population are Muslims. Therefore, as a new option for the financial system, Islamic banking system of Bangladesh has been able to install its own presence with a continued development equipped by growing assent by the citizenry. To stabilize this growth, foremost strategic action should be devised to improve its image as PLS (Profit-Loss-Sharing) banks, in the psyche of people. The following strategies are advised for implication:

- a. To elevate and use as a major tool for financing, innovative ideas regarding the profit-loss-sharing modes of financing is required. To do so, some elected segments should be taken under test run of raw ideas. New & innovative ideas should be plotted as test schemes both in urban and rural areas. This attempt will help as a quick reference that Islamic banks are in the process of remodeling themselves.
- b. To acquire more flexibility and efficiency, Islamic banks must develop more standardized and widely tradable financial instruments.
- c. Islamic banks should come forth to simplify their effectiveness in terms of resource mobilization and implement true market signals through PLS modes.
- d. The main concerns of the Islamic banks should be regarding the depositors and the entrepreneurs. With a steady monitoring, they can identify their potential entrepreneurs hidden under different income groups of the society.
- e. Though in the last couple of years, Islamic banks showed their efficiency from all dimensions together

with profitability, it is recommended for them to increase their percentage share of investment financing through PLS modes. To do that, the Islamic banks can be careful in choosing clients for financing under PLS modes.

- f. As the banking philosophy of Islamic banks to maintain a distributional equity in accordance with shariah, they should take now steps to revert the trends of resource transfer from both low & high-income groups and from rural to urban areas.
- g. To improve the allocative efficiency, Islamic banks should allocate a reasonable part of their investible funds to social priority sectors like agriculture, SMEs and new export-led industries like crap, shrimp and so on This will fulfill the social welfare conditions of the economy as a whole.
- h. To come out of the current circle of connections, Islamic banks should be concentrated on the wholesale and inter-bank money markets.
- i. The current competitive era in the banking sector suggests that a hybrid type of financial instrument should come forward to go and compete against interest-based conventional banks.
- j. To have a parallel view of the both Islamic & conventional banks, it is necessary to develop a secondary financial market for Islamic financial products.
- k. Influenced with Shariah, Islamic banks should act as the banker of the poor to alleviate poverty as the current collateral-based scheme for financing prohibiting the participation of poor in economic activities.
- l. Due to some incidents and concern for terrorism funding issues, Islamic banks should be more transparent in financial reporting standard.

This paper has successfully achieved its aim and objectives in terms of the empirical analysis of the performance, growth and potentiality of Islamic Banking system in the globe with a particular reference to Bangladesh. However, this research is only based on the documentation analysis as a qualitative approach, and therefore further research in this area can be done through adopting other techniques of qualitative or quantitative methods.

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# Awakening the Spirit of Volunteerism in Buea Subdivision – A Case Study of the Catholic University Institute of Buea- The Entrepreneurial University

By Evaristus Nyong Abam

*Catholic University Institute of Buea*

**Abstract-** Volunteerism is the principle of donating time and energy for the benefit of other people in the community as a social responsibility rather than for any financial reward. It is intended to develop your skills and also it promote goodness or to improve human quality of life. It has a positive benefit or impact for the volunteer as well as for the person or community served. The Catholic University Institute of Buea through its various schools and the college of business and technology offers service-learning which allow the students to serve a group through volunteering while earning education credits. This the authorities of the Catholic University Institute of Buea sees it as a powerful means of preparing students to become more caring and responsible citizens thus helping the university to make good on their pledge to serve the society or community and also as a good positional tool. It engages both the mind and the heart hence it provide a powerful learning experience, by so doing volunteerism thus captures students interest.

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## 1. INTRODUCTION

Volunteerism is the use of involvement of volunteer labour, especially in community service. It is the policy or practice of volunteering one's time or talents for charitable, educational or other worthwhile activities especially in one's community ([www.dictionary.com](http://www.dictionary.com)).

Volunteerism is intended to develop your skills and also it promote goodness or to improve human quality of life. It has a positive benefit or impact for the volunteer as well as for the person or community served ([www.nationalservice.com](http://www.nationalservice.com)). It is also intended to make contacts for possible employment as many volunteers are specially trained in the areas they work.

While international volunteering also called volunteering in the developing countries is increasing becoming popular among young people especially gap year students who travel to communities of the developing countries to work on some projects with the local organisations, it is yet to be noticed and practiced within the Buea municipality or subdivision. Very little is done in terms of volunteers and donations to help run

private institutions effectively, this is for the simple reason that people here are yet to effectively understand the importance of volunteerism.

### a) *Background of the Study/ Company Review*

The Catholic University Institute of Buea (CUIB) South West Region, Cameroon, was approved as a non-profit making university in two separate letters.

The authorization to create CUIB on 09/01/0194 of 11 June 2009 and the authorization to start was signed by the Honourable Minister of Higher Education Prof. Jacques Fame Ndongo by decision no 10/02173/N/MINSUP/DDES/ESUP/SAC/NJE/ebm dated 26<sup>th</sup> of May 2010.

Its primary purpose is to train professional servant leaders with moral and spiritual values so that they may be responsible to their communities. The proprietor/chancellor of the Catholic University of Buea is the Bishop of the Diocese of Buea.

In June 2011, another arm of the University, the Business and Research Park was created as a legal entity of its own by the Cameroon laws no RC BUC.2031-B023 with the name CUIB-Centre for entrepreneurship research and innovation.

From the president's message of 2015/2016 academic year, he reiterated that anyone who steps into the CUIB campus will notice that CUIB has a strong sense of community and campus pride. It clearly makes a difference in the lives of students and the surrounding communities in Buea. The students, staff and faculty go out weekly to carryout volunteerism in surrounding communities. Just five years old, the rest of the country has begun noticing its accomplishments through its students who are not only likeable and humble but are strong academically as they can compete with their peers internationally and win internal awards. Examples include, the Tony Elumelu entrepreneurship awards, the Anzisha award etc.

The Catholic University Institute of Buea Sport Academic (CUSA), Went operational in December 2014 with authorisation no 1106/G37/C84/VOL II/SAAJP with the main aim of assisting young, talented and excellent skilled Cameroonians in the various field of sport like football, volleyball, basketball, handball etc.

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## II. LITERATURE REVIEW

According to the Collins English dictionary (2012), volunteerism is the principle of donating time and energy for the benefit of other people in the community as a social responsibility rather than for any financial reward.

The Catholic University Institute of Buea through its various schools and the college of business and technology offers service-learning which allow the students to serve a group through volunteering while earning education credits. This according to the authorities of the Catholic University Institute of Buea sees it as a powerful means of preparing students to become more caring and responsible citizens thus helping the University to make good on their pledge to serve the society or community and also as a good positional tool.

Volunteering through service learning unites the academic study and volunteer community service gives energy, commitment, time and skills to address human community needs. This thus have the result engaging both the mind and the heart hence it provide a powerful learning experience, by so doing volunteerism thus captures students interest (Eyler, 1999).

## III. RESEARCH METHODOLOGY

For this research work, the researcher used only secondary data that was information collected from the Catholic University Institute of Buea bulletins and other University documents and websites.

## IV. ANALYSIS AND FINDINGS

- In line with its mission of training professional servant leaders, the Catholic University Institute of Buea has been carrying out some social corporate responsibility methods in their surrounding communities.

*Volunteerism:* The Catholic University of Buea strives to promote volunteerism in a society where the culture of volunteerism is not well valued. There is also the CUIB-volunteerism network program which is also to help encourage student's community engagement service. A lot of the community work is done during the volunteerism week and the monthly volunteerism work carried out by the various schools and also the college of business and technology while putting on their corporate uniforms. With this already making news in the community, other higher institutions of learning have begun copying what just began as a joke. The Catholic University Institute of Buea is using this idea of volunteerism to position itself in this subdivision that has seen the tremendous growth of many higher institutions of learning.

The authorities of the university has made it mandatory that before a student graduate, the student

must have done twenty-five hour of volunteerism or community work per an academic year.

*Family Fund Campaign (FFC):* This was introduced as a flagship tradition in the 2013/2014 academic year with main purpose to engage internal stakeholders of the University to raise funds to support some pressing needs of the University.

*Senior Class Philanthropic Gift:* It was also introduced as a way to encourage students to give to the University as the University has also impacted the students during their stay on campus.

*Social and Environmental Awareness and Responsibility:* Here it enables students to be accountable to their communities, promote the common good, respect creation and the environment.

*Sr. Emmanuela Fomenky Memorial Foundation Clinic:* This is a health unit that was name after the founder Rev. Sr. Emmanuela Fomenky. It has a complete medical team (resident medical doctor, nurse, laboratory technician, manager etc). This centre renders health facilities to the students, staff, faculty and the community.

## V. CONCLUSION

The Catholic University Institute of Buea has been carrying out some volunteerism and social corporate responsibility methods in their surrounding communities; they have been using this as a positioning tool. Through this activity other institutions of higher learning in this municipality have been copying and are also using this to make them known.

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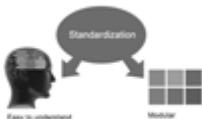
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The summary should be two hundred words or less. It should briefly and clearly explain the key findings reported in the manuscript-- must have precise statistics. It should not have abnormal acronyms or abbreviations. It should be logical in itself. Shun citing references at this point.

An abstract is a brief distinct paragraph summary of finished work or work in development. In a minute or less a reviewer can be taught the foundation behind the study, common approach to the problem, relevant results, and significant conclusions or new questions.

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- Reason of the study - theory, overall issue, purpose
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- To the point depiction of the research
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- Present a justification. Status your particular theory (es) or aim(s), and describe the logic that led you to choose them.
- Very for a short time explain the tentative propose and how it skilled the declared objectives.

## Approach:

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- Do not take in frequently found.
- If use of a definite type of tools.
- Materials may be reported in a part section or else they may be recognized along with your measures.

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The page length of this segment is set by the sum and types of data to be reported. Carry on to be to the point, by means of statistics and tables, if suitable, to present consequences most efficiently. You must obviously differentiate material that would usually be incorporated in a study editorial from any unprocessed data or additional appendix matter that would not be available. In fact, such matter should not be submitted at all except requested by the instructor.



## Content

- Sum up your conclusion in text and demonstrate them, if suitable, with figures and tables.
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### Approach:

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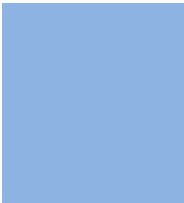


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