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## TABLE OF CONTENTS

<b>EDITORIAL ADVISORY BOARD</b>	I
<b>DISCLAIMER</b>	II
<b>The Influence Of Leadership And Organizational Culture To Motivation And Employee Performance At University Of Nahdlatul Ulama Surabaya Indonesia</b>	01
Dr. Ir. Djoko Soelistya, MM Ir. Ahmad Gamal, SE, MM	10
<b>Influence Of Capital Funds, Infrastructure Means, And Professionalism Human Resources On Service Quality And Patient Satisfaction Of Puskesmas District Polewali Mandar West Sulawesi</b>	19
Sriharni Patandianan Tri Ratnawati Sigit Sardjono	28
<b>Analysis of the Influence of Risk Management And Profitability of Companies At Companies Listed on The Indonesia Stock Exchange Year 2014-2016 With Hedging Strategies As Mediating Variable</b>	36
Andi Farouq Tri Ratnawati Sunu Priyawan	44
<b>The Analysis of Corporate Social Responsibility in One of the private universities in Kurdistan Region of Iraq</b>	56
Teba Ahmed Al-Ani Krishna Mohan Vaddadi Navulur Krishna Surarchith	64
<b>The Opinion Paragraph in the Auditor's Report: The Bane of Auditing</b>	72
Belonwu Florence Nkechinyelu Professor (Mrs) Uche Modum	80
<b>Medical ethics and profit motivated medical practice - the dilemma of a modern day private health practitioner.</b>	88
Sifile Obert Mhangara Mutsa Chavunduka Desderio Bhebhe Thomas Brighton	96
<b>The Model Of Performance Based Evaluation Of Civil Servants In Vietnam</b>	104
PhD. Dao Thi Thanh Thuy	112

<b>The Role of Employee Training and Development in Achieving Organizational Objectives: A Study of Accra Technical University</b> Hilda Hammond Ransford Quarmyne Churchill	67
<b>Proximity and creation of relational value: Case of the automotive subcontracting of level two's relationships in Morocco</b> Mohamed El Kandili (Ph. D)	75
<b>Effect Of Resource Management On Students' Satisfaction In ISO 9001: 2008 Certified Universities In Kenya</b> Hilary Kipchirchir Kandie Dr. Wario Guyo (PhD) Dr. (Eng.) Thomas A. Senaji (PhD)	93
<b>Fuzzy ABC Classification in Inventory Management for a Service Sector Firm</b> E. Gundogar A. Yilmaz B. ErKayman	109

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# The Influence of Leadership And Organizational Culture To Motivation And Employee Performance At University Of Nahdlatul Ulama Surabaya Indonesia

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## ABSTRACT

The role of human resources experienced very significant changes as a result of the existence of an increasingly complex environment changes. Globalization, development of information technology, democracy and freedom of the mass media is the driving part of the environment, so the complexity demanded of the organization or institution to always think of ways how to be able to adapt and even addressing environmental change so that capable and can continue to make operational organization. Then to address such environmental changes, organization or College must have the support of a qualified human resources and competent as well as adhere to the value of innovative, professional, open and flexible. Employee is deciding who becomes a resource for College success, because the achievements of an organization are not in spite of the achievements as well as the role of members who are involved in it. This research aims to demonstrate and analyze the influence of leadership and organizational culture to motivation and employee performance University of Nahdatul Ulama in Surabaya. The sample in the research this is the employee University of Nahdatul Ulama in Surabaya totaled 62 people. Method of data processing is using SEM (Equational Structure Modeling) with AMOS version 18. The result of discussions can be concluded that 1) Leadership significant effect on employee motivation University of Nahdatul Ulama Surabaya, 2) Organizational culture significant effect on employee motivation University of Nahdatul Ulama Surabaya, and 3) Motivation significant effect on the employee performance University of Nahdatul Ulama in Surabaya.

**Keywords:** leadership, organizational culture, motivation and employee performance

## INTRODUCTION

The company's performance is usually focused on the group task, rather than the group matter subject internally. It can be concluded from as a result of the implementation strategy of the college in order to realize its vision (Gamal and Soemantri, 2017: 127). Any institution or company always expect employees to have accomplishments, because by having employees who Excel will give a donation that is optimal for the company or institution. Via employees who perform College can improve its performance. Problems that often at a private University is facing problems regarding its human resources. Human resource issues into its own challenges for management due to the success of management and others it depends on the quality of its human resources. When individuals within an agency or company that is able to run human resources effective College then keep it running effectively. In other words the continuity of an agency or company that's determined by the performance of its employees. performance is the result of work in the quality and quantity is achieved by an officer in carrying out his duties in accordance with the responsibilities given to him (Mangkunegara, 2004:67).

Factors affecting performance is the ability and a motivation factors Mangkunegara (2004). Any organization or company will seek to improve the performance of employees to achieve organizational goals that have been set. Various ways to improve the performance is employee. For many people especially the educated and capable of good, one purpose of the work is obtained performance. Conditions of work achievement or performance will be achieved when there is in the work of a non physical work environment that is conducive, has a strong individual character to always go forward and has sufficient self leadership.

Humans need the expertise of organizational culture rather than just those who occupy the top position in the organization. Expertise in the field of human culture of the Organization should be an integral part of that for the whole organization get to the level where the team harmony, interaction, and a corporate commitment to achieve its goal will determine success or failure. On private colleges that are high-performing increasingly seek to change their attention to the need for the service of process procedures such as organizational culture and the implementation of service auction and other achievements. They do the work flow reengineering toward forming the cross-functional team responsible for each process a successful organization is an organization that has a very good ability in managing the process of the implementation of the tasks and function.

Another factor that affects performance is the motivation, through employee motivation can be more active in work and have high discipline so that it is able to improve its performance. Motivation to become a benchmark to become successful employees or vice versa. Employees working with have a high motivation to raise a family. Its impact in the work of employees more seriously, always looking to improve its performance and always keep can work forever. Motivation is also the structure of a system that examines the function of the interaction between components and also its impact on the system. It can be said that motivation be capital for employees to be able to work well and high-performing. Based on explanation above, the authors are interested in researching the influence of the leadership and organizational culture of employee motivation and performance against the University of Nahdatul Ulama Surabaya.

## **LITERATURE REVIEW**

### **Leadership**

Leadership is defined as the ability to affect a group of people for the achievement of a vision or a set of goals (Robbins and Judge, 2009). DuBrin (2005:3) suggests that it is the leadership efforts affect many people through communication to achieve the goal, how to influence people with instructions or commands, actions that cause others to act or respond and cause positive changes, the dynamic power of the important motivating and coordinating organization in order to achieve the goal, the ability to create a sense of confidence and support among subordinates so that organizational goals can be achieved.

Leaders have always had the characteristics of an attempt to create a new one (always innovating). Ideas shared by leaders is the idea itself does not replicate or plagiarized. A leader always strives to develop what he was doing. He believed in subordinates, and always light a fire of confidence in members of the organization. The idea is to have a long-term perspective. He asked his subordinates with the question what and why. He is against the status quo, he is not satisfied with what is. He is responsible for what is done by his subordinates, and he exercised that right.



Each leader has a leadership style, there are times when leaders do not give the opportunity on his subordinates to ask or ask for explanations (Authoritarian), there are times when the leader gives subordinates a chance to discuss, ask (Democratic), and there are times when leaders were letting conditions up to subordinates (Luthans, 2002:577). Leadership aimed at the completion of the task or goal orientation on (Initiating Structure), and the recognition of individual needs and relationships (Consideration). Leadership that is a concern for the employees (employee-centered) and also his concern for the production process.

Leadership is an activity to affect people in order that directed the Organization's objectives (Handoko, 2001), an indicator of leadership as follows: 1) Leaders provide a watchful eye, 2) Leaders of trying to explain the purpose of the tasks that must be done, 3) Leaders provide direction and support to subordinates, 4) Leaders provide the impetus to subordinates to use capabilities, 5) Leaders foster a two-way communication and 6) The chairman gave a boost to the morale of subordinates.

### **Organizational culture**

Robbins (2002:247) States that the organizational culture is a shared definition of the system formed by the citizens as well as becoming the criterion with other organizations. There are seven characteristics are given. Some definitions of "organizational culture" expressed by experts, Schein (1992) formulated the "organizational culture" as: "A pattern of hared basic assumptions that the group learned as it solved its problem of external adaptation and internal integration, that has worked wenenough to be considered valid and therefore, to be laughl to new members as the correct way to perceive, think, and feel in relation to those problems".

Definition of Schein organizational culture looked at this as a pattern of basic assumptions conceived together in an organizations especially in solving the problems facing these patterns become inevitable and socialized to new members in organizations. Organizational culture relates to how employees of the perception characteristics of the culture of an organization. Indicators variable organizational culture are set based on Robbins (2006:195) that is as follows: 1) Trying very hard to improve on past performance on the job, 2) Enjoying the competition and victory, 3) Enjoy a challenge difficult, 4) Enjoy when saddled with responsibilities and 5) Relationship that Carib with colleagues work 6. Enjoy working with others than working alone.

### **Motivation**

According to Mathis (2006:113) factors that affect the performance of employees, namely the ability of the employee to the work, the level of effort that was poured out, and support organizations that he received. With respect to any other management function, activities of human resource management should be developed, evaluated, and modified if necessary so that they can contribute to the competitive performance of organizations and individuals in the workplace. Factors that affect employees in work, namely the ability of the employee to perform the job level of effort are poured, and support organizations.

Robbins (2015: 127) motivation is the process that explains about the strength, direction, and someone's perseverance in efforts to achieve the objectives. According to Liang Gie in Samsudin (2009:281), motivation is the work done by the Manager in providing inspiration, passion, and encouragement to others, in this case the employees, to take certain actions. The granting of this impetus aims to invigorate people or employees so that they are eager and able to achieve the results desired by the people.

Motivation is a desire in a person that causes the person to act. As for the motivation of working indicators are: 1) Participation in the work provide and increase a sense of satisfaction, 2) Encourage complacency for the increasingly active participation in the work embodies, 3) always enter employment, 4) Willingness to work voluntarily increased and expanded, 5) Feel the losers if not signed in/not present and 6) Always compelled to convey suggestions for improved productivity and quality.

### Employee performance

Performance is the result of work in the quality and quantity is achieved by an officer in carrying out his duties in accordance with the responsibilities given to him (Mangkunegara, 2004:67). Performance is the term given for the word performance in the United Kingdom, which stands for language of work, deeds. In a broader sense, the words performance is always used in words such as job performance or work performance which means the work or accomplishments. Management experts generally gave the sense of a performance as the work achievement and work productivity. Performance according to Rivai and Basri (2005:14) is the result or the person's overall success rate during a certain period in comparison with the task of carrying out a wide range of possibilities, such as a standard work, targets or goals or criteria specified in advance.

Performance or performance refers to the levels of achievement of tasks that make up a work of employees. Performance reflects how well an employee meets the requirements of a job, so that performance is measured in terms of results (Simamora, 2004:339). Mangkunegara (2002:67) is the result of work performance in quality and quantity achieved an employee in carrying out its duties in accordance with the responsibility which they provide. Therefore according to Mathis and Jackson (2002:78) has the dimensions of performance is different for each different type of job, because every job has a criteria.

Employee performance is a result achieved by the employee in his work according to a certain criteria. that applies to a particular job. Indicators to measure the performance of employees, namely: 1) the work I do in accordance with the standard of work, 2) the work I do on time, 3) target predetermined work successfully my laurels, 4) I am able to understand the tasks related to the job, 5) I have knowledge was able to complete the work assigned to superiors and 6) The employee is able to cooperate with colleagues.

### Analysis Model

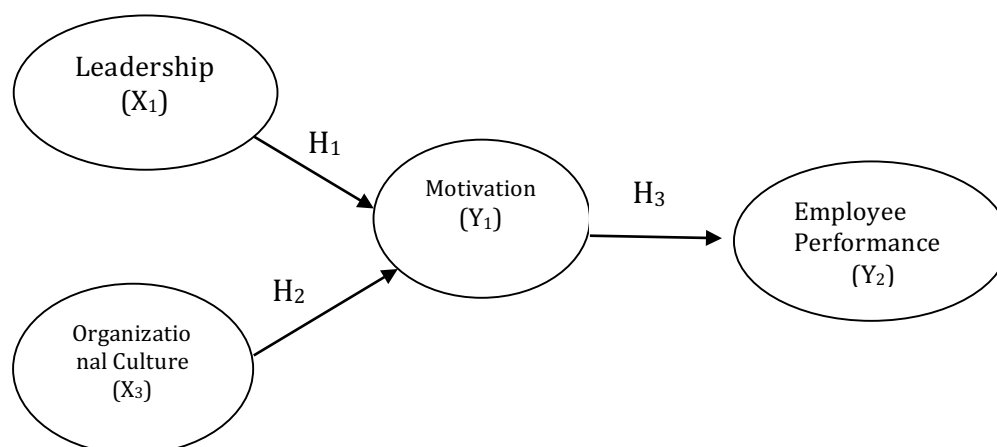


Figure 1. Analysis Model

## Hypothesis

H1: Leadership influence on employee motivation

H2: Organizational culture influence on employee motivation

H3: Motivation affects employee performance

## RESEARCH METHODS

### Research Stages

This study is begun by analyzing the perception of employee performance at the University of Nahdatul Ulama Surabaya that exists today. The number of samples in the study amounted to 62 employees University of Nahdatul Ulama Surabaya. The analysis is conducted using the method of participant observation, questionnaires, and interviews and processed with statistical program SEM (Structure Equational Modeling) using the AMOS version 18. Measurement techniques questionnaire using likert scale. This research uses of data analysis in SEM (Structure Equational Modeling) using the AMOS version 18 (Ferdinand, 2000:6).

According to Ghozali (2007:110), then the data is processed before data must first be tested with test of Normality. Test of normality is one of the conditions the data will be processed further.

### Data Analysis Technique

Path analysis of Ferdinand (2000:324), there are stages of procedure formation of path analysis, namely:

1. Establish a model theory as a basis path analysis model which has a strong theoretical justification, which is a model of causal or cause damage declare the relationships between variables.
2. Build a path diagram of causal relationships that have been established on the basis of theory. Path diagrams are basic models used to analyze the paths for estimate strength of causal relationships illustrated in the diagram. In this research that became invalid constructs exogenous is leadership ( $X_1$ ) and organizational culture ( $X_2$ ). While endogenous invalid constructs (endogenous construct) are factors that predicted by one or more invalid constructs is the motivation ( $Y_1$ ) and the performance of the employee ( $Y_2$ ).
3. Convert the model into a series of equations. Amos programs will convert the image into the equation and the equation being estimated. Will be visible on the diagram of the path invalid constructs two groups namely exogenous and endogenous invalid constructs invalid constructs.

## ANALYSIS AND DISCUSSION

UNUSA founded by Yayasan Islamic Hospital Surabaya (YARSIS). The embryo establishment dates back as early as 1979, namely in the form of the establishment of the nursing school health (SPK) YARSIS.. Don't stop until there, in 2006, 2 the institution (AKPER-AKBID) YARSIS do the Union institutions and conversion into STIKES YARSIS up to this time with the addition of the Undergraduate Nursing Program and the status of the profession of Ners. STIKES YARSIS that existed in Surabaya armed with more than 33 years of experience in managing educational institutions and encouragement of. A big leap but was routed from the long process, ultimately resulting in the year 2013 the University of Nahdlatul Ulama Surabaya (UNUSA). To facilitate 16 courses that have opened, the UNUSA has 2 campuses with complete facilities and modern. A fully equipped laboratory is supported for each course has its own hospital (RS. Islam Surabaya A. Yani and RS. Islam In Surabaya Jemursari).

Results analysis using SEM research model shown in Figure 1. A model is said to be good in the

development of the conceptual and theoretical hypothesis supported by empirical data, structural equation model test results are shown on the following picture.

### Feasibility Test with Goodness of Fit Indices Model

Based on the method of determining the value in the model, the first model testing variables are grouped into exogenous variables (leadership, organizational culture) and endogenous variables (motivation and employee performance). The construct test results of the first model are evaluated based goodness of fit indices model. Criterion of models as well as critical values that have data consistency can be seen in Table 1 below.

**Table 1. Evaluation Criteria Goodness of Fit Indices**

<i>Goodness of Fit Measure</i>	<i>Cut of Value</i>	<i>Results Model</i>	<i>Specification</i>
<i>Chi-square</i>	Tiny expected	75,021	
<i>Significane Probability</i>	> 0,05	0,000	Fit model
RMSEA	≤ 0,08	0,091	Marginal Fit
GFI	≥ 0,9	0,855	Fit model
AGFI	≥ 0,9	0,050	Marginal Fit
CMIN/DF	≤ 0,08	0,042	Fit model
RMR	≤ 0,05	0,047	Fit model
TLI	≥ 0,9	0,915	Fit model
CFI	≥ 0,9	0,870	Marginal Fit

Based on Table 1 it can be seen that the model fit for use with assume Parsimony principle fulfill the criteria because there is more than one meet so that the model is fit for use. Evaluation models show from of the eight criteria of goodness of fit indices all had met the criteria and was approaching the critical value suggested. Thus, referring to the principle of parsimony, the overall model can be said to have been in accordance with the data and it can be analyzed further.

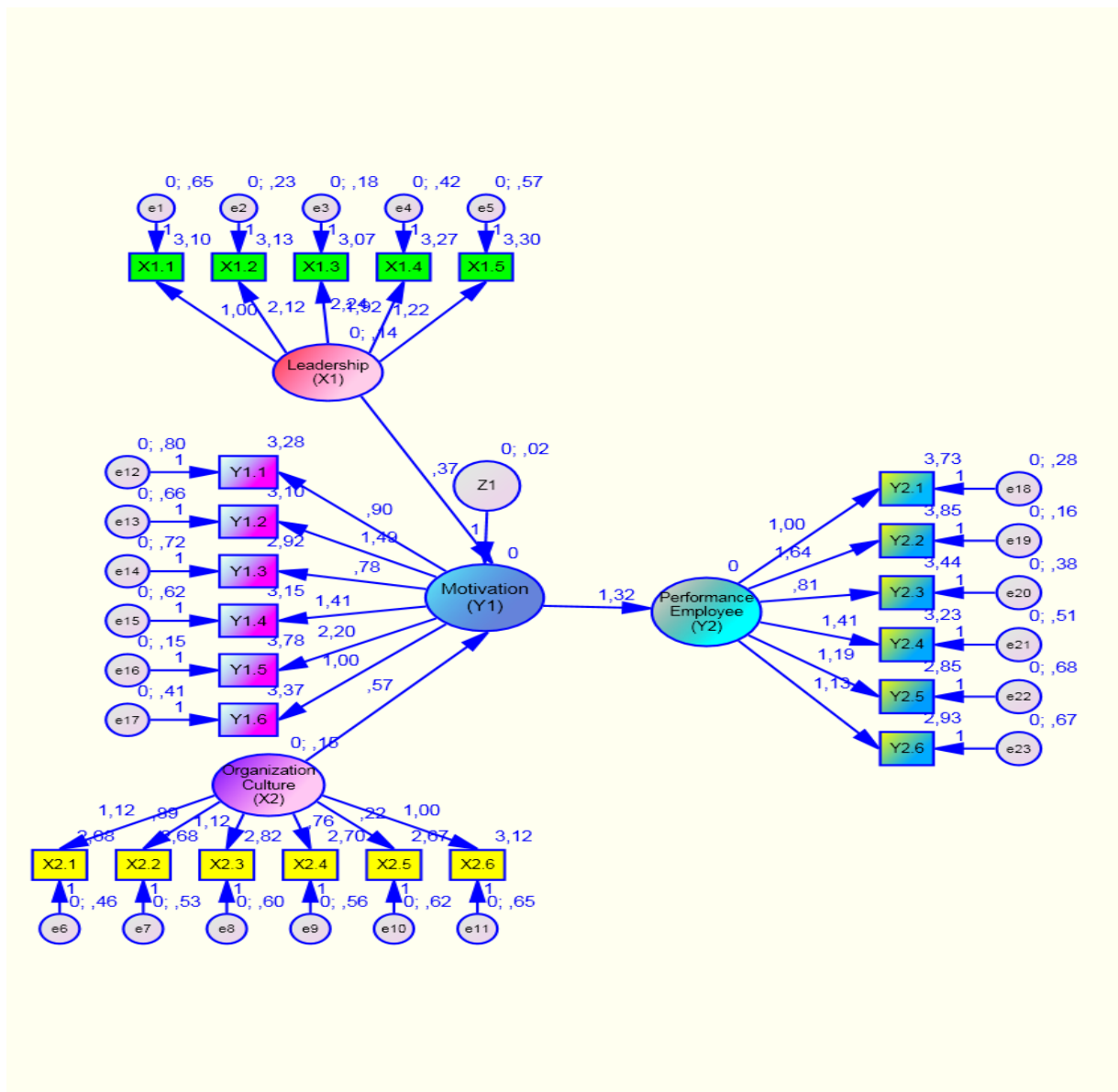


Figure 2. Structural Equation Model

Testing the hypothesis presented in this study was done based on the value of the Critical ratio of CR from a relationship of causality. The results of the analysis of the relationship of causality between the variables research using program AMOS version 18 can be seen in table 2.

Table 2. Test Causality Regression Weight

The Relationship of Causality		Estimate	SE	CR	Significant
Leadership_(X <sub>1</sub> )	➔ Motivation_(Y <sub>1</sub> )	,367	,177	2,073	,038
Organization_Culture_(X <sub>2</sub> )	➔ Motivation_(Y <sub>1</sub> )	,567	,274	2,069	,039
Motivation_(Y <sub>1</sub> )	➔ Employee Performance (Y <sub>2</sub> )	1,323	,483	2,741	,006

**Hypothesis testing**

Based on the empirical model proposed in this study, it can be tested against the hypothesis put forward by testing the path coefficients in structural equation modeling. Data analysis presents the results of hypothesis testing to see critical ratio (CR) and p-value.

### **Leadership significant effect on motivation**

The results of the estimation of parameters of the variable leadership against employee motivation based on indicators show significant results with a value of CR 2.073. This value is greater than 1.96. Besides significance levels obtained 0.038 ( $p < 0.05$ ). So the first hypothesis stating the influential leadership significantly to current motivation proved to be true.

According to Arif (2010) that the leadership is the ability of a leader to influence subordinates or employees to work performing actions or activities that relate to accomplish a goal. The results of the research shows that the leadership of the effect on the performance of employees. According to Idham and Subowo (2005), found the results positively influential leadership against the performance of employees. Employees who have a fair and wise leadership, giving direction on when giving orders, and can work together with the employee, then it will result in better performance.

### **Organizational culture significant effect on motivation**

The results of the estimation of parameters of the variable organizational culture towards employee motivation based on indicators show significant results with a value of CR 2.069. This value is greater than 1.96. Besides significance levels obtained 0.039 ( $p < 0.05$ ). So the second hypothesis stated organizational culture effect significantly to current motivation proved to be true. Results of the research it supports research conducted by According to research conducted by Brahmasari and Suprayetno (2008), proving that the organizational culture positive and significant effect against the job satisfaction of employees. It is also supported by research conducted Robbins (2003) in the Arif (2010) States that culture is a system of shared meaning shared by members of the organization which distinguish the organization from other organizations. In the study shows that organizational culture also affects the performance of the employee.

### **The motivation significant effect on the employee performance**

The results of the variable parameter estimation of motivation on performance of employees on the basis of indicators show significant results with a value of CR -5.351. This value is greater than 1.96. Besides significance levels obtained 0.006 ( $p < 0.05$ ). So the third hypothesis stated motivation effect significantly to current employees performance proved to be true. The results of parameter estimation variables work motivation on performance indicators based on employee charge indicators will show significant results with a value of CR-5.351 ( $< 1.96$ ) and extent of significance 0.000 ( $p < 0.05$ ) suggests that the motivation of working effect significantly to performance proven employees. Results of the research it supports research conducted by Arifin (2015) which concluded that motivation effect significant on performance of employees. As such, owned a high motivation of employees in work will generate a high outsourcing employee performance also.

## **CONCLUSIONS AND SUGGESTION**

### **Conclusion**

Based on the deliberations of the conclusion can be made as follows

1. Leadership positive and significant effect against employee motivation University of Nahdlatul Ulama Surabaya Indonesia.
2. Organizational culture positive and significant effect against employee motivation University of Nahdlatul Ulama Surabaya Indonesia.
3. Motivation positive and significant effect against employee performance University of Nahdlatul Ulama Surabaya Indonesia.

## Suggestion

Based on the conclusions then recommended terms as follows:

1. The need for support from the leadership of the highly influential the perceived performance of the employees. More support to make employees will be more convenient in respect of work and employees more accountable so as to maximize.
2. For further research, it is recommended to add a free variable so that it can better expand again to do the influence between leadership and organizational culture towards motivation and employee performance University of Nahdlatul Ulama Surabaya Indonesia is currently only as on and on further research it needs to be examined more.

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# Influence Of Capital Funds, Infrastructure Means, And Professionalism Human Resources On Service Quality And Patient Satisfaction Of Puskesmas District Polewali Mandar West Sulawesi

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## ABSTRACT

Social security is a Universal Declaration of Human Rights as well as nationally (the 1945 Constitution and various other laws and regulations). The problems that often arise in relation to the BPJS tariff that has been determined in accordance with the Regulation of the Minister of Health of the Republic of Indonesia Number 69 Year 2013 on the Health Service Tariff Standard At First Level Health Facilities And Health Facilities Continued Level In The Implementation Of Health Insurance Program. The fulfillment of access to health services, then the community of JKN users began to pay attention to the quality of service shown by their satisfaction to receive services from BPJS Health faskes. Based on the results of interviews with BPJS Health Branch Office of Polewali Mandar district obtained data regarding the complaints of JKN participants in FKTP in Polewali Mandar District include less friendly service, less informative, long queues, rejection of patients outside the region and unserved patients for medical treatment outside FKTP working hours. This is an indication of problems in patient satisfaction JKN while patient satisfaction is one of the target in the implementation of JKN program. This study aims to analyze the effect of Capitation Fund on service quality, analyze the effect of Kapuas Fund on patient satisfaction, analyze the effect of infrastructure facilities on service quality, analyze the influence of infrastructure facilities on patient satisfaction, analyze the influence of professionalism HR on service quality, analyze the influence of professionalism HR toward satisfaction patients, and analyzed the effect of service quality on patient satisfaction of Puskesmas in Polewali Mandar regency of West Sulawesi.

**Key word:** capital funds, infrastructure, HR professionalism, service quality and Patient satisfaction

## INTRODUCTION

Health services are any effort that is carried out individually or jointly within an organization to maintain and improve health, prevent and cure diseases and restore the health of individuals, families, groups or communities (Azwar, 1997: 58). A common problem faced by Puskesmas and hospitals is that they have not been able to provide something that service users really want. The main factor is because the services provided are of low quality so that they can not produce the service the patient hopes.

Social security is a Universal Declaration of Human Rights as well as nationally (the 1945 Constitution and various other laws and regulations). The Social Security Law is in the



framework of the implementation of the provision of the right to social security as a human right as contained in Article 28 H paragraph (3) of the 1945 Constitution: "Every person shall have the right to social security which enables his complete development as a mankind" on social security is a constitutional right for all Indonesian people to be met by the state.

In accordance with information obtained from a patient that the service received when visiting the health center is a service whose procedures have been established through the rules and announcements posted on public places. From the information indicates that the district health office Polewali Mandar through Puskesmas as UPTD has shown the ability to make adjustments to the rules set nationally to be re-reformulated into the form of implementation rules in accordance with the conditions and needs of the community. This ability is termed by self-modifying power derived from its ability to organize and execute various authorities in positions as elements of the implementation of local government in the field of health services (Syamsuddin in Nugroho, 2000: 13-14).

The system of financing of health services in family doctor concept is done through insurance. With the capitation system is considered more effective and efficient in reducing the morbidity rate than the fee-for-service system that is currently in effect. The capitation system is a system of per capita health service payments made in advance (Moeloek, 2004: 76).

The fulfillment of access to health services, then the community of JKN users began to pay attention to the quality of service shown by their satisfaction to receive services from BPJS Health faskes. Based on the results of interviews with BPJS Health Branch Office of Polewali Mandar district obtained data regarding the complaints of JKN participants in FKTP in Polewali Mandar District include less friendly service, less informative, long queues, rejection of patients outside the region and unserved patients for treatment outside working hours FKTP . This is an indication of problems in patient satisfaction JKN while patient satisfaction is one of the target in the implementation of JKN program.

Based on some of the problems above, this research needs to be done to know the level of satisfaction of JKN patient at FKTP first level health facility especially at FKTP owned by Polewali Mandar regency government, membership status and socio demographic characteristic with JKN patient satisfaction toward primary health service at FKTP considering JKN program is a new program, where BPJS health program launches primary service optimization with patient satisfaction is the target that will be achieved in the development of JKN program.

## LITERATURE REVIEW

### Capital Funds

Presidential regulation Number 32 Year 2014 States that capital funds is the magnitude of payments per month which is paid upfront to the FKTP based on the number of participants who are registered regardless of the type and quantity of medical services provided. Kapitasi fund management is budgeting procedures, implementing, administering and accountability kapitasi funds received by the BPJS from FKTP health. BPJS health collects dues paid by the people who have listed themselves as participants of the national health assurance program (JKN). Next the BPJS Health distribute budget guarantees the health of society as a capital to optimize the service. The term capital comes from the word capital means head. Performance indicators applied by at health centers, namely: 1). Indicators of communication contact number of participants 2). The ratio of References to Non including specialised 3). The number of participants to Transfer Another FKTP 4). Prolanis Ratio FKTP.

## **Infrastructure**

Moenir (1992:119) facilities and infrastructure is a set of tools that are used in a process of activities both those tools is the main equipment or auxiliary gear, both of which serve to materialize the goals achieved. Based on the above understanding, then the infrastructure basically have the main functions and infrastructure are as follows: 1. Speed up the process of implementation of the work so as to save time. 2. Improve productivity, both goods and services. 3. The work of higher quality and guaranteed. 4. Easier/simpler in the motion of the user/abuser. 5. Precision of the order of stability of workers more secure. 6. Give rise to a sense of comfort to those concerned. 7. Give rise to complacency at those interested parties who use it. Indicators of health clinics on infrastructure (2001), namely: 1) The condition of the building of clinics, 2) Availability of electricity, 3) Health Tool, 4) Sanitation Systems and 5) Availability of means of transport

## **Professionalism of Human Resources**

Professionalism as a social contract is also mentioned in the Standards of medical Competence Indonesia 2012. Brennan, et al, 2002:69) stated that professionalism is the basis of the social contract. The doctor is required to put the interests of patients above their own interests, establish and maintain standards of competence and integrity, as well as providing community health problem solving. It is very important for this is a trust contract (Brennan, et al, 2002; Cruess S.R. Cruess R.L., 2009).

The social contract is simply not written, but there are some social contract in writing subject to the country of the place of refuge that profession. The social contract is written can be found in the laws and Government regulations concerning medicine, legislation regarding the health care system, the decisions of the law found in the jurisprudence, as well as the code of ethics set forth by that profession on its own. Health care systems and policies issued by the Government is an external influence to the social contract. This is evident with the current field. Poor health care system given by a health institution will affect the opinions of the community against doctor. Dwiyanto (in Pasolong, 2006:50-51) concerning the indicators used to measure professionalism that is as follows: 1) productivity, 2) quality of the services, 3) Responsiveness, 4) corporate responsibility and 5) accountability,.

## **Service Quality**

Parasuraman (Kheng *et al.* 2010) mention that service means the degree of differences arising from service of process and the interaction between the provider service with the consumer. Problems about the service now received greater attention from many organizations ranging from regional, national organizations up to global organizations, and is regarded as a tool that can affect revenue streams an organization or the company. The quality of service has been conceptualized as the difference between the expectations of the customer regarding the services that will be accepted and the perception of the service received. Service quality is a concept.

Kotler and Keller (2009:89) satisfaction is feeling happy or disappointed someone arising because of the perceived performance compare products (or results) against their expectations. Zeithaml and Bitner (2000:75) definition of satisfaction were: Response or responses about meeting consumer needs. Satisfaction is an assessment regarding the characteristics or the specialty products or services, or the products themselves, which provide consumer enjoyment level related to the fulfillment of the needs of consumer consumption. This satisfaction of consumer behavior. Consumer behavior is defined as an act that directly

received by the consumer in obtaining, consume and wear of products or services, including the decision process that preceded the action.

### **Patient Satisfaction**

Mathew (2010:42) argues that the satisfaction of the patient can be assessed based on the interpretation of the patient against the received service is in compliance with their expectations as the completeness of facilities and infrastructure, friendliness and courtesy officer providing services as well as the skills of the officers at the time of the service. Rashid and Amina (2014:34) view that satisfaction can be divided into two kinds, i.e., the intangible satisfaction is satisfaction which can be felt and seen by clients as well as have been utilized, and satisfaction of a psikologika does not materialize from the delivery health but can be felt by the patient.

Kotler (2002:104) there are indicators to measure patient satisfaction. 1. The system of complaints and suggestions boxes with the provision of advice, hotline service, and others that provide opportunities to customers or patients in presenting complaints, suggestions and comments are the opinions of the customers. 2. Ghost shopping (the mysterious shopper) by hiring some people as a patient or a buyer of products reported his findings so that it can be used as consideration by an organization for decision-making. 3. Lost customer analysis by contacting customers who have quit or switch to another health kelayanan so that it is known to cause so that organizations can take a decision in the next refinement. 4. Survey of customer satisfaction by conducting surveys and research on customer satisfaction through questionnaires, interviews, telephone or direct mail.

### **Research Hypothesis**

1. Capitation Fund Puskesmas significantly influence service quality of Puskesmas in Polewali Mandar district, West Sulawesi.
2. Puskesmas Capitation Fund has a significant effect on patient satisfaction of Puskesmas in Polewali Mandar district of West Sulawesi.
3. The infrastructure facilities have a significant effect on service quality of Puskesmas in Polewali Mandar district of West Sulawesi.
4. The infrastructure facilities have a significant effect on the satisfaction of the Puskesmas patient in Polewali Mandar district, West Sulawesi.
5. Professionalism of human resources has a significant effect on the service quality of Puskesmas in Polewali Mandar district, West Sulawesi.
6. Professionalism of human resources has a significant effect on patient satisfaction of Puskesmas in Polewali Mandar district of West Sulawesi.
7. Service quality has a significant effect on patient satisfaction of Puskesmas in Polewali Mandar district, West Sulawesi.

## Analysis Model

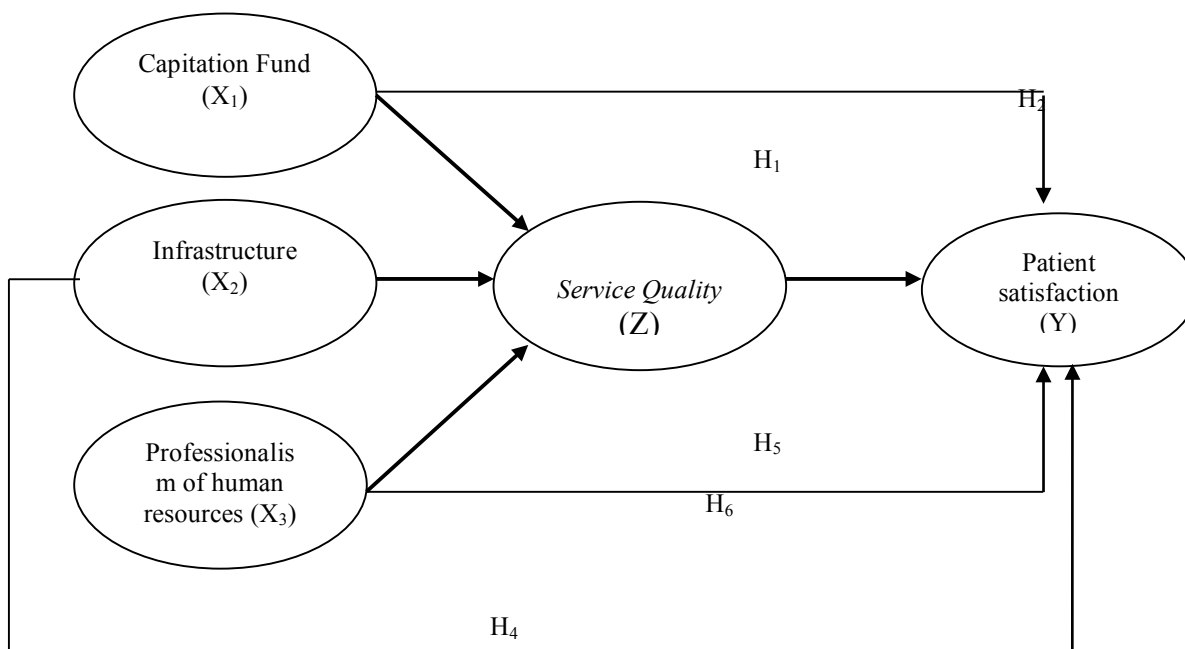


Figure 1. Analysis Model

## RESEARCH METHODS

### Research design

According to Nasir (2003: 9) suggests the design of research or research design is all the necessary processes in planning and implementation research. On the basis of this understanding, associated with the purpose of research, this research includes the type of explanatory research (explanatory research). Includes explanatory survey research because the researcher want to explain the causal relationship between free variables capitation fund, human resources infrastructure and professionalism, its influence to service quality as intervening variable and its impact on patient satisfaction of Puskesmas of Polewali Mandar Regency of West Sulawesi Province as dependent variable. Number of target population in this study were 665 participants. The sampling technique is done by using proportional random sampling method (proportional sample technique) by referring to the formula put forward by Slovin in Umar (1999) to 250 responden.

The variables in this study were divided into three groups of variables, the first independent variable (exogenous construct) consisting of capitation funds, infrastructure, and HR professionalism, the two dependent variables (endogenous constructs) in this study are patient satisfaction and intermediate variables (construct intervening) in this research is service quality.

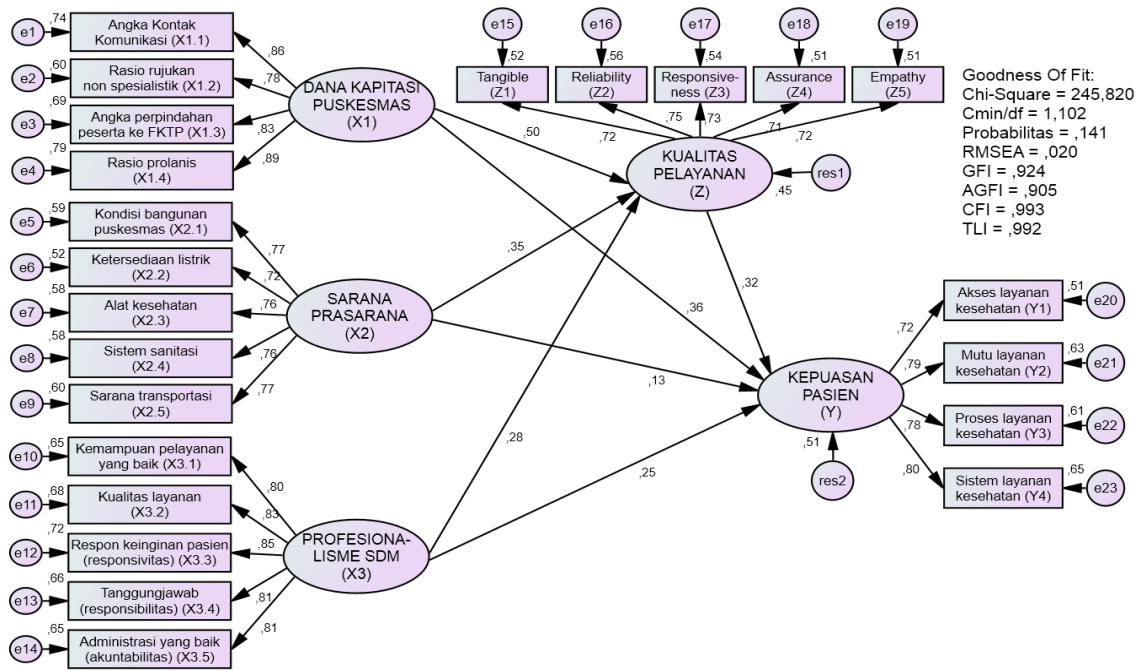
### Data analysis technique

Based on conceptual framework and research design that was built, this research use SEM analysis technique (Structural Equation Modeling) through AMOS 20.01 program, Ferdinand (2002: 40). This analysis tool is chosen because by using SEM method will be able to know the influence of a variable either directly or indirectly to other variables simultaneously. Other SEM advantages, influence analysis does not connect variables but between indicators of other variables. Complete SEM modeling basically consists of Measurement Model and Structural Model, Sharma (1996: 122). The Measurement Model is intended to confirm the dimensions

developed on a factor. While the Structural Model is a model of the relationship structure that forms or explains causality between factors.

**RESULTS AND DISCUSSION**

After the measurement model is met the next stage is a structural model. Stage structural model function to ensure the model has been in accordance with the data and ensure the presence or absence of influence between variables studied. In structural testing this model also uses the Maximum Likelihood Estimation (MLE) model estimation. At this stage the first thing to do is make sure that the model has been in accordance with the data or the model has been fit. Then if the model has been fit then hypothesis testing can be done. The result of structural model estimate analysis is presented.



**Figure 2. Full Structural Model**

The results show that all goodness of fit criteria have given a fit index. Furthermore, it will be followed by testing the reliability of SEM model and hypothesis testing.

**Table 1. Evaluation Criteria Goodness of Fit Indices**

<i>Goodness of Fit Measure</i>	<i>Results Model</i>	<i>Cut off</i>	<i>Description</i>
Probabilitas X <sup>2</sup> Chi Square	0,141	≥ 0,05	Fit
Cmin/DF	1,102	≤ 2,00	Fit
RMSEA	0,020	≤ 0,08	Fit
GFI	0,924	≥ 0,90	Fit
AGFI	0,905	≥ 0,90	Fit
TLI	0,992	≥ 0,95	Fit
CFI	0,993	≥ 0,95	Fit

The results show that all goodness of fit criteria have given a fit index. Furthermore, it will be followed by testing the reliability of SEM model and hypothesis testing. The results of the analysis of the relationship of causality between the variables research using program AMOS version 20 can be seen in table 2.

**Table 2. Test Causality Regression Weight**

The Relationship of Causality	Std. Estimate	C.R.	P Value	Description
Capitation fund (X <sub>1</sub> ) → Service Quality (Z)	0,505	7,390	0,000	Significant
Capitation fund (X <sub>1</sub> ) → Patient Satisfaction (Y)	0,364	4,711	0,000	Significant
Infrastructure Means X <sub>2</sub> ) → Service Quality (Z)	0,348	5,215	0,000	Significant
Infrastructure Means (X <sub>2</sub> ) → Patient Satisfaction (Y)	0,129	1,930	0,054	No Significant
Professionalism HR (X <sub>3</sub> ) → Service Quality (Z)	0,278	4,359	0,000	Significant
Professionalism HR (X <sub>3</sub> ) → Patient Satisfaction (Y)	0,251	3,873	0,000	Significant
Service Quality (Z) → Patient Satisfaction (Y)	0,322	3,607	0,000	Significant

### ***Effect of Capitation Fund on Service Quality***

The results of hypothesis testing using SEM method with the help of AMOS 20.0 Software proves that capitation fund significantly influence the quality of Puskesmas service in Polewali Mandar district, West Sulawesi. Significant causality test results between capitation funds on service quality are shown with p-value of  $0,000 \leq 0,05$ . The amount of influence of capitation fund on service quality is 0,505 (positive). With this result, the research hypothesis which states that capitation funds have a significant effect on the quality of Puskesmas service in Polewali Mandar district of West Sulawesi, is acceptable.

### ***Effect of Capitation Fund on Patient Satisfaction***

The result of hypothesis testing using SEM method with the help of AMOS 20.0 Software proves that capitation fund also have a significant effect on patient satisfaction of Puskesmas in Polewali Mandar district of West Sulawesi. Significant causality test results between capitation funds on patient satisfaction is shown with p-value of  $0,000 \leq 0,05$ . The magnitude of the effect of capitation funds on patient satisfaction is 0.364 (positive) With this result, the research hypothesis which states that capitation funds have a significant effect on patient satisfaction of Puskesmas in Polewali Mandar district, West Sulawesi, is also acceptable.

### ***Effect of Infrastructure Means on Service Quality***

The results of hypothesis testing using SEM method with the help of AMOS 20.0 Software proves that the infrastructure also has a significant effect on the quality of Puskesmas service in Polewali Mandar district, West Sulawesi. Significant causality test results between means of infrastructure to service quality is shown with p-value of  $0,000 \leq 0,05$ . The magnitude of infrastructure impact on service quality is 0.348 (positive). With this result, the research hypothesis stating that infrastructure facilities have a significant effect on the quality of Puskesmas service in Polewali Mandar district, West Sulawesi, is also acceptable.

### ***Effect of Infrastructure Facility to Patient Satisfaction***

The results of hypothesis testing using SEM method with the help of AMOS 20.0 software proved that the infrastructure did not significantly affect the satisfaction of Puskesmas patient in Polewali Mandar district, West Sulawesi. The result of insignificant causality test between means of infrastructure to patient satisfaction is shown with p-value of  $0,054 > 0,05$ . The amount of influence of infrastructure facilities on patient satisfaction is only 0.129. With this result, the research hypothesis stating that infrastructure facilities have a significant effect on patient satisfaction of Puskesmas in Polewali Mandar district, West Sulawesi, is unacceptable.

### ***Effect of Professionalism HR Service Quality***

The results of hypothesis testing using SEM method with the help of AMOS 20.0 Software proves that HR professionalism also has a significant effect on the quality of Puskesmas service in Polewali Mandar district, West Sulawesi. The result of significant causality test between HR professionalism on service quality is shown with p-value of  $0.000 \leq 0,05$ . The amount of influence of HR professionalism on service quality is 0.278 (positive). With this result, the research hypothesis stating that HR professionalism has a significant effect on the quality of Puskesmas service in Polewali Mandar district, West Sulawesi, is also acceptable.

### ***Effect of Professionalism HR Patient Satisfaction***

The results of hypothesis testing using SEM method with the help of AMOS 20.0 Software proves that HR professionalism also has a significant effect on patient satisfaction of Puskesmas in Polewali Mandar district of West Sulawesi. The result of significant causality test between HR professionalism toward patient satisfaction is shown with p-value of  $0.000 \leq 0,05$ . The amount of influence of HR professionalism on patient satisfaction is 0.251 (positive). With this result, the research hypothesis stating that HR professionalism has a significant effect on patient satisfaction of Puskesmas in Polewali Mandar district, West Sulawesi, is also acceptable.

### ***Effect of Service Quality on Patient Satisfaction***

The results of hypothesis testing using SEM method with the help of AMOS 20.0 Software proves that the quality of service also significantly influence the satisfaction of Puskesmas patient in Polewali Mandar district, West Sulawesi. Significant causality test results between the quality of service to patient satisfaction is shown with p-value of  $0.000 \leq 0.05$ . The amount of influence of service quality to patient satisfaction is 0.322 (positive). With this result, the research hypothesis.

## **CONCLUSIONS AND SUGGESTION**

### **Conclusion**

The results of this study generally can be concluded that Puskesmas capitation fund has an effect on service quality and patient satisfaction of BPJS participants registered at Puskesmas in Polewali Mandar district of West Sulawesi, thus Hypothesis 1 ( $H_1$ ), and Hypothesis 2 ( $H_2$ ) is acceptable. The infrastructure facilities affect the service quality of BPJS participants registered at the existing health center in Polewali Mandar district of West Sulawesi, thus Hypothesis 3 ( $H_3$ ) is acceptable, while the effect on patient satisfaction is not significant, so Hypothesis 4 ( $H_4$ ) is unacceptable. HR professionalism has an effect on service quality and satisfaction of BPJS participant registered at Puskesmas in Polewali Mandar district of West Sulawesi, thus Hypothesis 5 ( $H_5$ ), and Hypothesis 6 ( $H_6$ ) is acceptable. While the quality of service also affects the satisfaction of patients participating BPJS registered at the existing Puskesmas in Polewali Mandar district of West Sulawesi, thus Hypothesis 7 ( $H_7$ ) is acceptable.

### **Suggestions**

To the Puskesmas in Polewali Mandar district of West Sulawesi, it is expected that:

- a. Increase the Puskesmas Capacity Fund primarily through improving the proline ratio by encouraging hypertensive and high blood sugar patients to follow prolanic gymnastics, providing counseling to patients following prolanic gymnastics, and always checking patients periodically after doing proline exercises.
- b. Provision of complete and feasible infrastructure, especially through the availability of health equipment, by completing the availability of health equipment, and rearranging health equipment to be more neatly arranged.
- e. Increase patient's satisfaction, especially through easy access of services, by facilitating

entrance to Puskesmas, improving spatial arrangement, and providing complete information service.

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# Analysis of the Influence of Risk Management And Profitability of Companies At Companies Listed on The Indonesia Stock Exchange Year 2014-2016 With Hedging Strategies As Mediating Variable

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## ABSTRACT

The business world is increasingly advanced and supported by increasingly sophisticated technologies and information systems, brought the impact of increasingly intense competition among the businessmen. Even this will be increasingly tight competition after entering the era of liberalisation of world trade market, because besides is an opportunity for the company-company in Indonesia to enter the international market, it has also led to a flood of products and services from abroad to the domestic market. Therefore, to deal with the increasingly strict business competition, the management companies are expected to be able to work more efficiently and effectively. Any wisdom taken should be able to provide optimal results for the company so that the company is still able to compete with other companies. The hypothesis of the research is H1: Risk management strategy significantly to influential hedge on companies listed on the Indonesia stock exchange Years 2014-2016, H2: Influential profitability significantly to hedging strategies in companies listed on the Indonesia stock exchange Year 2014 - 2016, H3: influential hedge Strategy significantly to value the company at companies listed on the stock exchange The effect of Indonesia Years 2014-2016. The population in the research this is on the Indonesia stock exchange Year 2014 - 2016. Method of data processing is using SEM (Equational Structure Modeling) with AMOS version 18. The result of hypotheses shows of the variable risk management hedging strategy based on the indicators-charge indicators will show significant results with a value of CR 3,285. This value is greater than 1.96. Besides significance levels obtained 0.001 ( $p < 0.05$ ). The results of the estimation of parameters of the variable profitability against hedging strategies based on the indicators-charge indicators will show significant results with a value of CR 6.633. This value is greater than 1.96. Besides significance levels obtained 0.000 ( $p < 0.05$ ). The calculation result shows the value of the CR 0,383 and the significant value of 0,702 ( $p > 0.05$ ). This means that the results of the hedging strategy is not a positive and significant effect against the value of the company.

**Keywords:** Risk management, hedging strategy, and value of the company

## INTRODUCTION

The company can compete in the global market is largely determined by the performance of the company itself. Companies that have high competitiveness indicated the company should have good performance. The company is not able to maintain its performance will gradually ousted from the environment industry. Therefore the survival of companies maintained then the management must be able to maintain and increase its performance. With respect to the

improved performance of the company, the management will always be faced with decision making.

The financial report is a means of communication for the management and external parties to know the financial condition and business continuity company. Analysis of financial reports are used to help address gaps in that information. An analysis of the financial statements of an enterprise is basically done for want of knowing the level of profit, the level of risk or the level of health of a company. The application of risk management can also help companies devise strategies to achieve the goals of the company having regard to the balance of the interest of all stakeholders, as well as policy and protect the resources that belong to the company.

Companies that successfully implementing effective risk management has a long-term competitive advantage that can keep the stakeholders get their respective rights, because of the risk management system is designed properly will ensure that all activity containing the risk carefully evaluated by managers and workers who were responsible (Nocco and Stulz, 2006). Susilo and Kaho (2010), by applying risk management would be better in controlling risk, companies can better explore and exploit opportunities, improve relationships with stakeholders, can increase the reputation of the company and also protect directors and other officials in managing the company.

The value of the company may be determined by profitability. Profitability is the ability of the company gained profit. The company earned profit derived from the sale of the investments made and the decision of the company. Profitability is also a description of performance management in managing the company. High profitability shows the prospects of a good company so that investors will respond positively and the share price will rise. High profitability will provide profits to investors. This has been the attraction of investors to own shares of the company. (Ade, 2015). Investors will choose to invest in companies that have a score ratings criteria are included in the category of trust. Through the implementation of Good Corporate Governance will produce a good performance.

## LITERATURE REVIEW

### **Risk management**

According to Djohanputro (2008:43), risk management is the process of structured and systematic in identifying, measuring, mapping, develop alternative handling of risks, and monitor and control the handling of risk. According to Marthin and Bonny (2014), risk management is a structured approach in managing uncertainty relating to the threat; a series of human activity including: risk assessment, development of a strategy to manage it and risk mitigation by using empowerment/resource management.

Strategies that can be taken include moving the risk to another party, avoiding the risk, reducing the negative effect of the risk, and accommodate some or all of the consequences of a particular risk. Traditional risk management focuses on risks incurred by physical or legal causes (such as natural disasters or fires, death, and lawsuits. Financial risk management, on the other hand, focuses on risks that can be managed by using financial instruments. Risk management involves the processes, methods and techniques that assist project managers maximum probability and consequence of positive and minimum event probability and consequences of the event. The process undertaken in the management of risk is (Marthin and Bonny, 2014):

1. Risk Management Planning, planning involves deciding how to approach and planned risk management activities for the project.

2. identification of risk, the next stages of the process of identifying risks is to identify the types of risks that may be (and generally are) faced by every business person.
3. Qualitative risk analysis, qualitative analysis in risk management is the process of assessing the (assessment) the impact and likelihood of risks already identified. This process is done by arranging the risk based on the effect on the goals of the project.
4. Quantitative risk analysis is the process of identification in numeric probability of any risks and consequences against the purpose of the project.
5. Risk Response Planning, Risk response planning is a process that is done to minimize the level of risk facing up to an acceptable limit.
6. Control and Monitoring of risks, this step is the process of supervising the risks that had already been identified, the remaining risks, monitor and identify new risks, ensuring the implementation of the risk management plan and evaluate their effectiveness in reducing the risks.

### **Profitability**

Profitability is the ability of the company in generating profits or the ability of the various resources used in operating activities (David and Wilopo, 2011). The profitability of the company is the level of net profit gained by the company that is capable of at the time of running operations (Nurhayati, 2013). According to Weston and Copeland (1997) the profitability is the extent to which the company generates profit from sales and investment company. Brigham and Houston (2011) define the profitability is the end result of a number of policies and decision management company (Ade, 2015). According to Brigham and Houston (2001), profitability is a series of policies and decisions.

Profitability can be described as the ability of the company in generating net income from activities performed on the accounting period. According to Saidi (2004) Profitability was the company's ability to obtain profit. Investors infuse the stock in the company is to get the return, consisting of yield and capital gains. The higher the ability earn a profit, then the greater the expected return of investors, making the value of the company for the better. The company's survival is influenced by many things, among others, the profitability of the company itself. Profitability is one of the factors for assessing both the bad performance of the company.

Return On Assets (ROA) is a ratio of profitability that is used to measure the effectiveness of the company in generating profits by leveraging the total assets. As for factors that can affect the profitability of a company including *Current Ratio* (CR), *Total Asset Turnover* (TATO), *Debt To Equity Ratio* (DER), *Debt Ratio* (DR), Sales growth and the size of the company. The ratio of Profitability according to the Hanafi and Mamduh. Halim (2005) is a ratio that measures the ability of a company making a profit (profitability) at the level of sales, assets and capital stock. In general the company's profitability ratio can be measured by using some other ratio between the Return on assets, and Return on Equity (David and Wilopo, 2011).

### **Hedging strategies**

Hedging strategies according to Madura (2000:275) strategy of hedging are actions taken to protect a company from exposure against the exchange rate. Exposure against fluctuations in exchange rates was the extent to which a company can be affected by exchange rate fluctuations. Hedging strategies will ensure that the value of foreign currency used to pay (outflow) or an amount of foreign currency that will be accepted (inflow) on the foreseeable future will not be affected by changes in foreign exchange rate fluctuations (Faisal, 2001). Hedging strategy policy rationality based on two mainstream theory, each providing a different runway.

Multinational companies facing foreign exchange exposure which is highly significant because it delays the completion of their trade transactions. Such exposure caused by the time between the time of approval of the price and delivery of the goods, as well as by the dominant settlement prices in foreign currencies. In addition, multinational companies also run the risk of exchange rate fluctuations and that leads to uncertainty of the value of the company (Faisal, 2001).

The greatest risk of multinational transactions brought about by fluctuations in foreign exchange rates. Fluctuations in foreign currency exchange rates have a direct impact on turnover, product pricing, as well as the level of profit of the importers and exporters. Fluctuations in foreign exchange rates also contributed to the uncertainty of the value of assets and liabilities, as well as threatening the survival of the company (Levi, 1996). According to an analysis of the capital structure of the Modigliani-Miller (1958, 1963), policy strategies of hedging does not provide any added value. In a perfect capital market, each of the shareholders can manage their own portfolio strategy in accordance with the risk profile of their wills. However such assessment, the company operating on the capital market are not perfect, and market imperfections using risk management to explain the motivation of the policy strategy of hedging Suriawinata, 2004).

Davies et al. (2006) concluded that companies in Norway implemented a policy of hedging strategy is not for the purpose of alleviating the financial distress cost and access to external capital markets. His findings are that the size of companies, internationalization, and the liquidity effect on the policy of hedging strategies.

Klimczak (2008) contributed in the theory of risk management with comprehensive research over theories hedging strategies. His findings stated that the policy of hedging strategy in Poland is not based on one of the fundamental theories. However, foreign exchange exposure influenced, market-to-book value, the sector of information technology and services, as well as the size of the company.

### **The value of the company**

Rica and Islahudin (2008:7) is defined as the market value. The value of the company can deliver prosperity in maximum shareholder when the company's share price increases. The higher the stock price, then the higher prosperity shareholders. To achieve the company's value is generally the financier surrendered the management to the professionals. Professionals are positioned as Manager or Commissioner.

The value of the company is certain conditions that have been achieved by a company as an overview of the beliefs of the society against the company after going through a process of activities over the past few years, namely since the company was founded up to this time. According to Husnan (2013) the value of the company or also called the company's market value is the price payable by prospective buyers if the company were sold.

According to Brigham Ghapenski (1996) in Darminto (2010), management in managing assets efficiently in an effort to improve financial performance as well as the value of the company. One of the fundamental duties of the managers increase or maximize company value (the value of the firm). The value of a company showing the value of the assets owned by the company, including securities that have been rendered.

In research conducted by Wijaya and authority (2010), the company's value can be calculated using the Price to Book Value (PBV). Market value differs from the book value. If the book value is the price recorded on the company's stock value, then the market value is the price a stock that occurs in a particular stock market formed by the demand and supply of the shares by the market participants.

The ratio of market value to give management an indication of what investors think about past performance and future prospects of the company (Nurhayati, 2013). The market price of the shares of the companies that formed between buyers and sellers of at the time of transaction occurs is called the market value of the company, because the market price of the stock is considered a reflection of the real company asset value.

The value of the company formed through the indicator value of the stock market was heavily influenced by investment opportunities. A firm is said to have good value if the company's performance is also good. Corporate values can be reflected in its stock price. If the value of their shares could be said high value his company is also good. Because the main purpose of the company is to increase prosperity through increased value of the company owners or shareholders. Ratio-financial ratio used to find out the market value of the company.

## RESEARCH METHOD

### Draft Writing

The population in this study is that companies that are listed in the LQ 45 issuers on the Indonesia stock exchange in the period the year 2012 - 2016 a number of 45 companies. Election 2012 period up to 2016 as a period of research is based upon 2 considerations, namely: (1) that the period presents data last published by the Indonesian Capital Market Directory (ICMD), (2) that the period having gone through a period of economic crisis, thus assuming the economic conditions already back to normal.

First year research activity begins with data collection conducted through two techniques namely (a) Library study and (b) Field study consisting of observation, interview and questionnaire. Literature study is done by studying the books, literature, scientific writing, where researchers seek theoretical data as a comparison material by applying it to the problem under study. Field study aims to observe the object of research so as to understand the actual conditions. Interview is a technique of collecting data in the form of verbal communication with related parties. Data are analyzed through the following stages: (a) data processing; (b) Evaluation and Analysis of Results; (c) conclusions; and (d) develop financial literacy and financial inclusion models and strategies in the first year of research.

### Technique Analysis

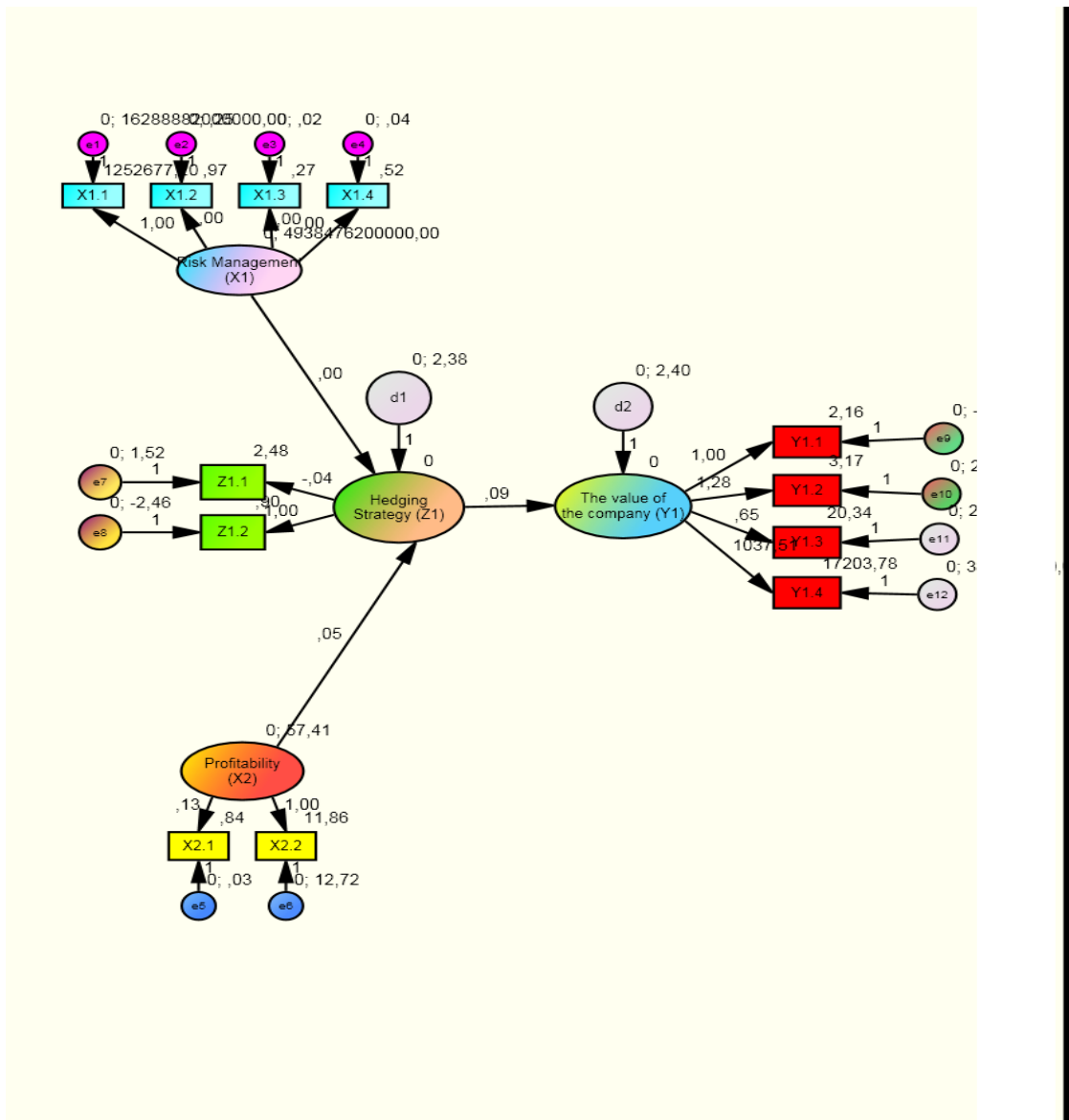
Data processing technique used is using factor analysis used to determine the dominant factors in explaining a problem. This analysis can be viewed as an extension of major component analysis which is basically aimed at obtaining a small number of factors that have the following properties:

1. Be able to explain as much as possible the diversity of data
2. These factors are mutually free
3. Each factor can be interpreted

Factor analysis was processed by SPSS to get factor (dominant indicator) from each research variable that is risk management, profitability, hedging strategy and corporate values. This research uses of data analysis in SEM (Equational Structure Modeling) using the AMOS version 18 (Ferdinand, 2000:6).

## RESULTS AND DISCUSSION

Results analysis using SEM research model shown in Figure 1. A model is said to be good in the development of the conceptual and theoretical hypothesis supported by empirical data, structural equation model test results are shown on the following picture:



**Figure 1. Structural Equation model**

The table below is a table of the results of tests of Goodness of Fit of the model taken from the last modified or the results of the development model of the best mods. The results of calculation of index of conformity (goodness of fit index) show that of the eight criteria are evaluated it turns out only two criteria that already meet (fit) i.e. the Goodness of Index (GFI) and RMR.

**Table 1. Index of Suitability Model In Structural Models**

<i>Goodness of Fit Measure</i>	<i>Indeks</i>	<i>Cut off</i>	<i>Description</i>
<i>Chi-square of estimate model</i>	89,055		
<i>Probability Level</i>	0,000	> 0,05	Fit model
<i>Goodness of Index (GFI)</i>	0,918	≥ 0,9	Fit model
<i>Adjusted Goodness of Index (AGFI)</i>	0,855	≥ 0,9	No fit model
<i>RMSEA</i>	0,050	≤ 0,08	Fit model
<i>RMR</i>	0,042	≤ 0,05	Fit model
<i>Tucker-Lewis Index (TLI)</i>	0,905	≥ 0,9	Fit model
<i>Comparative Fit Index (CFI)</i>	0,915	≥ 0,9	Fit model

Testing the hypothesis presented in this study was done based on the value of the Critical ratio of CR from a relationship of causality. The results of the analysis of the relationship of causality between the variables research using program AMOS version 6 can be seen in table 2.

**Table 2. Test Causality Regression Weight**

<b>The Relationship Of Causality</b>		<b>Std. Est.</b>	<b>SE</b>	<b>CR</b>	<b>Significant</b>
Risk management	→ Hedging strategies	,000	,000	- 3,285	,001
Profitability	→ Hedging strategies	,052	,008	6,633	,000
Hedging strategies	→ the value of the company	,093	,243	0,383	,702

### ***The influence of risk management against the strategy of Hedging***

Hypothesis 1 stated that influential positive risk management and hedging strategy significantly to. The results of the estimation of parameters of the variable risk management hedging strategy based on the indicators-charge indicators will show significant results with a value of CR 3,285. This value is greater than 1.96. Besides significance levels obtained 0.001 ( $p < 0.05$ ). So, based on statistically testing risk management variable is negative and significant effect against the value of the company. So it can be concluded that the first hypothesis is acceptable. The results of this study provide empirical understanding for management of risk management that tends to raise the value of the company. This condition describes the less note this factor by the perpetrators of the Exchange, because economic growth more describe future expectations of return. Therefore in the short term economic growth does not affect the value of the company.

### ***The influence of profitability against the strategy of Hedging***

The results of the estimation of parameters of the variable profitability against hedging strategies based on the indicators-charge indicators will show significant results with a value of CR 6.633. This value is greater than 1.96. Besides significance levels obtained 0.000 ( $p < 0.05$ ). So the second hypothesis States the profitability of influential hedge strategy significantly to proven truth. The results of the test showed that there was significant influence between the hedging strategy against profitability. The results of this study in accordance with the results of previous estimates and in line with economic theory of argumentation that the level of profitability will be able to improve the company's ability to protect the value of the company.

The results of this study provide empirical understanding for management that increases

economic growth tends to degrade the performance of the company, although the decline was not statistically significant. This condition is caused due to economic growth is the hope of the future, so that in the short term does not affect the performance of the company. Management generally viewed economic growth as a long-term prospect, so that the impact of the new economic growth can be felt in the future.

### ***The influence of hedging strategies against the value of the company***

Hypothesis 3 stated that the hedging strategy is not positive and influential value company. The higher the ability of foreign currency expenditure control a company, the higher the value of the company. The calculation result shows the value of the CR 0,383 and the significant value of 0,702 ( $p > 0.05$ ). This means that the results of the hedging strategy is not a positive and significant effect against the value of the company.

The test results are statistically, financial leverage and significant negative effect on the level of significant less than 1% ( $t = -19.335$ ; with the value of the  $\text{sig-t} = 0.000$ ) of good corporate governance. So, based on the test results are statistically the financial leverage effect negatively and significantly to the company's performance. The results of this study provide empirical understanding for management that the proper hedging policy, then the company will have a strong competitiveness that is reflected in the good corporate governance system. The findings of this research is that the use of debt for the company resulted in a decrease in ROA. This condition is caused due to the use of debt has not resulted in a maximum rate of return lower than the cost of the flowers. The average return (ROA) produced 2.75% is still lower than the cost of flowers, namely of 6.88%.

### **SUMMARY**

1. Significant effect against risk management hedging strategies in companies listed on the Indonesia stock exchange Years 2014-2016.
2. Profitability effect significantly to hedging Strategies in companies listed on the Indonesia stock exchange Years 2014-2016.
3. Hedging Strategy has no effect on the value of the company significantly to companies listed on the Indonesia stock exchange Years 2014-2016.

### **LIMITATIONS**

1. The amount of this research period of only three years, it's grown to a 5 year research period.
2. The number of the sample in this research less upgrades.

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## The Analysis of Corporate Social Responsibility in One of the private universities in Kurdistan Region of Iraq

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### ABSTRACT

The aim of this research paper is to analyze the corporate social responsibilities in one of private universities in Kurdistan region of Iraq. It starts with explaining the origin and the evolution of CSR, arguments with and against CSR, and then it crosses through the different views of CSR. In order to do that a quantitative method was used and a survey questionnaire from earlier research was adopted. The research setting was one of the private universities in Kurdistan region of Iraq, a sample of academic and administrative staff was chosen and a SPSS V. 23 has been used. As continuation to improve the work of the other researchers who analyzed the corporate social responsibility in higher educational institutions, this research paper will analyze the concept of the corporate social responsibility in universities in Kurdistan.

**Keywords:** Corporate social responsibility, university, corporate accountability, stakeholder's engagement, and sustainability.

### INTRODUCTION

For time, not too long the concept of CSR has emerged for humanitarian issues like poverty, reducing unemployment, and activating the role of people with special needs in the process of development and integration in society and the environment in particular. This concept was missing in the past decades for multiple and complex reasons, one of the most important reasons is that placing this responsibility on the government as its the sole responsible for securing all the needs of the society at that time.

Although the bases of corporate social responsibility have a very long developing history, it's the output of the 20<sup>th</sup> century, especially from 1920s until now days. Although of the recently development and the publicity for CSR concept , but when we go back in time to the decades evidence about the concerns of being socially responsible , for example when we go back to six decades ago we see that according to (2) in his book "**Social responsibilities of the businessman**" explained that corporation do have social responsibility from the context of expanding the accountabilities for the organizations performance . In the recent decades, CSR got the attention of many thinkers and researchers, not only on the academic field but also on the business world. Corporate social responsibility considered a measuring instrument of organizations contribution in the development of the societies by capturing the values and the criteria for this measurement. The main subject of CSR is about the social working forces that

make the organization act in a specific way and this will be done by wiping out all organizations activities that conflict with the social interests. The perception of business should have social responsibility raised before 300 years ago , when the economist and the philosopher, ADAM SMITH, explained in His book “The wealth of nations” (10) that “the support for market interactions that are freely participated in by individuals and organizations, saying that they could serve the needs of the society.

Because of the changes in the Global and Arabic world, particularly in Iraq ,Since the government is not able to fulfill all the society needs because of the unstable political and security situation that the country face, so all type of organization (Educational, economic or health) should have roles in the social responsibility activities toward the society not from the a perspective Charity , but from the point of education and community rehabilitation and providing effective mechanisms to address existing challenges and trying to find solutions to the problems that stand in the way of economic growth and long-term well-being of the society. The Higher education institutions since they are the source and the foundation for the development of societies intellectually and morally, so now they are required, more than ever, to take the responsibility toward the society by adopting CSR in their strategy, which includes conducting studies, developing measurement mechanisms, and indicators of success and this will be done by moving from the concept of volunteering to a wider application based on the concept of responsibility.

### LITERATURE REVIEW

Although the bases of corporate social responsibility have a very long developing history, it's the output of the 20<sup>th</sup> century, especially from 1920s until now days. Although of the recently development and the publicity for CSR concept , but when we go back in time to the decades evidence about the concerns of being socially responsible , for example when we go back to six decades ago we see that according to (2) in his book “**Social responsibilities of the businessman**” explained that corporation do have social responsibility from the context of expanding the accountabilities for the organizations performance . In the recent decades, CSR got the attention of many thinkers and researchers, not only on the academic field but also on the business world. Corporate social responsibility considered a measuring instrument of organizations contribution in the development of the societies by capturing the values and the criteria for this measurement. The main subject of CSR is about the social working forces that make the organization act in a specific way and this will be done by wiping out all organizations activities that conflict with the social interests. The perception of business should have social responsibility raised before 300 years ago , when the economist and the philosopher (ADAM SMITH ) explained in His book “The wealth of nations” (10) that “the support for market interactions that are freely participated in by individuals and organizations, saying that they could serve the needs of the society.

Since the argument about CSR started, advocators and critics begun to discussing the idea behind this argument. The researcher Friedman in 1962 (6) was one of the critics about CSR, he noted that the responsibility of business is to make profit only , and social issues solved by the un restricted work of free market . Moreover, he thinks that if free market is unable to solve these issues then legislations and governments should solve it.

The **second** objection made by Researcher Davis in 1973 (5) was which states that business is not prepared to deal with social issues and most of the mangers are qualifies in the financial and managerial issues. Since there are arguments against CSR, there are arguments of CSR has started and the discussion started with idea that in order to get long –term self-interest you should be socially responsible. The **first** argument states that if organizations want a better

work environment in the future they should start from now taking the right actions to guarantee long-term existence. The second argument with CSR is that it will prevent future government's regulations and this seems to be logical reason because when the organizations in a specific country are socially responsible there will be no need for government regulations since organizations have the ability to discipline itself with business policies and meets the society expectations.

Researchers, Lohman & Steinholtz in the year 2004, (7) put a three dimension definitions to view CSR as a set of three different agenda, which are: It is the obligations of a company to answer stakeholders question about the responsibilities of the company toward society and environment to find solutions of activities that its non-compliance with social standards. Is the procedure that organization follow in which it include people get effected by the decisions that organizations take or they may affect the application of the decisions, even they may support or object about a decision that they didn't find it suitable for achieving the organization objective. Is a broader term that used instead of corporate social responsibility and corporate citizenship to describe the ethical corporate practices? The goal of this business approach is to create long term consumer and employee value by following (green) strategy like protect the environment and take into consideration the corporation day-to-day operation that may affect environment, social and culture. The main features of CSR are the fundamentals about CSR idea that should be included and clearly to view through the organizations social responsibilities practices so here are the six main features (characteristics) are explained briefly: Researchers defined CSR as a representative of all companies' actions that are available and even go more than what law has specified. Many of the stakeholders of companies and countries governments in the developing nations assures on these features (3).

The external factors in CSR can be referred to all type of factors that has effect on the rights of various stakeholders that are not taken into consideration in the process of making decisions of corporation, while the environmental delineation is considered as a external factors because people outside feel the effect of production process. The main subject of the stakeholder management is to recognize the stakeholder guidance depending on three features that identifies their strength, urgency and legality of appeal. therefore, by defining the guidance of stakeholders it will help in the identification and to know what are the priorities of stakeholders by following a step by step approaches starting from the inside preparations, recruiting a team of inside stakeholders to manage, marketing, communications issues and operational units, HR departments, the relationship between investors, governmental and environmental issues, developing communication skills and finally comparing the performance of stakeholders with expected performance from the organizations. (1).

The core features of CSR comes from the balancing of various stakeholders needs and interests, while CSR concept seems to go beyond the close attention of profitability from the companies and shareholder, even others believe it shouldn't but CSR conflict with profitability. It's so obvious that CSR concept is about firms activities and the strategies that they use with social issues. The value feature in CSR consider one of the reasons why this concept is much argued, whether it was only about companies social activities won't be a reason of many arguments as much as the discussion of why companies do it? Research that done by (4) about the effect of personal values of managers on organizations CSR activities. The research investigated about the relationship between CSR activities and managers personal values. CSR is considered in some countries philanthropy or as it known as (charity work). In now days CSR is compulsory supported by rules and approved by world international standards that is moving from selfless to instrument or self-strategy. it's not considered any more as a selfless but it just more than doing charity work, since now is affecting all the organizational aspects like human resource management, marketing etc.

### **RESEARCH OBJECTIVES**

The aim of this research is to analyze the corporate social responsibility in one of the of universities in Kurdistan region of Iraq and this will be done by knowing the universities policies toward the society, the perceptions of the employees toward the university policy and what are the activities that has been adopted by the university as a social entity.

## METHODOLOGY

In this research a quantitative method was used, a survey questionnaire was adopted from earlier research that has been done by Indian researcher Satyanarayana in the year 2013 (9).The questionnaire were distributed personally in one of the private universities in Kurdistan region of Iraq and the sample of the question included 100 persons of the academic and administrative staff and the number of respondents were 87 out of 100 which represent 87% from the total respondent and for analyzing the data SPSS software program version 23 was used.

## ANALYSIS

**Table 1- Reliability Test for the questions 1 to 14**  
Reliability Statistics

Cronbach's Alpha	N of Items
.810	14

**Table 2- Reliability Test for the questions 17to 29**  
Reliability Statistics

Cronbach's Alpha	N of Items
.812	13

The tables above explains the reliability by using (Cronbach's Alpha) scale and the result of both tables were 0.81 for the first table and for the second table was 0.812 which are both more than the standard which is 0.7 (8).

**Table 3- demographic questions:**

Items		Frequency	Percent
Gender	Male	59	67.8
	Female	28	32.2
AGE	20-30	43	49.4
	30-40	31	35.6
	40-50	9	10.3
	50-60	3	3.4
	Above 60	1	1.1
Position	Lecturer	44	50.6
	Head of the department	11	12.6
	Dean of the faculty	5	5.7
	Administrators	8	9.2
	Other	19	21.8
Educational level	Bachelor degree	32	36.8
	Master degree	34	39.1
	PhD	19	21.8
Total		87	100%

<b>Table 4: CSR policies:</b>			
<b>Parameter</b>		<b>Frequency</b>	<b>Percent</b>
1) Does the organization having a CSR structure?	YES	50	57.5
	NO	8	9.2
	DON'T KNOW	28	32.2
	NOT APPLICABLE	1	1.1
2) Do your employees get encouragement to participate in local community activities for example (providing employee time and expertise, or other practical help)?	YES	68	78.2
	NO	7	8.0
	DON'T KNOW	10	11.5
	NOT APPLICABLE	2	2.3
3) Does your enterprise give regular financial support to local activities and projects like charitable donations or sponsorships)?	YES	62	71.3
	NO	9	10.3
	DON'T KNOW	15	17.2
	NOT APPLICABLE	1	1.1
4)Do you communicate your enterprise's values to customers, business partners, suppliers and other interested	YES	36	41.4
	NO	16	18.4
	DON'T KNOW	31	35.6
	NOT APPLICABLE	4	4.6
5) Does your Company make an assessment of impact of its business on the stake holders?	YES	35	40.2
	NO	15	17.2
	DON'T KNOW	35	40.2
	NOT APPLICABLE	2	2.3
6) Does your Company study the impact of its CSR activities on stakeholders?	YES	35	40.2
	NO	13	14.9
	DON'T KNOW	38	43.7
	NOT APPLICABLE	1	1.1
7) Based on your experience, would you agree the corporation is an instrument for wealth	YES	47	54.0
	NO	10	11.5

creation with CSR conceived as a strategic tool to promote economic objectives?	DON'T KNOW	28	32.2
	NOT APPLICABLE	2	2.3
8) Do you agree: CSR is an unconditionally acceptance obligation of Business?	YES	44	50.6
	NO	14	16.1
	DON'T KNOW	25	28.7
	NOT APPLICABLE	4	4.6
9) Does your Company make an assessment of impact of its business on the stake holders?	YES	55	63.2
	NO	9	10.3
	DON'T KNOW	19	21.8
	NOT APPLICABLE	4	4.6
10) Do you agree: Government should provide training to companies to help them to implement CSR ?	YES	52	59.8
	NO	13	14.9
	DON'T KNOW	19	21.8
	NOT APPLICABLE	3	3.4
11) There should be more public recognition given to companies doing well in the area of CSR?	YES	45	51.7
	NO	16	18.4
	DON'T KNOW	22	25.3
	NOT APPLICABLE	4	4.6
12) Do you agree with CSR budgets allocated by your company?	YES	38	43.7
	NO	13	14.9
	DON'T KNOW	33	37.9
	NOT APPLICABLE	3	3.4
13) Do you agree with the geographical area of CSR interventions?	YES	37	42.5
	NO	12	13.8
	DON'T KNOW	30	34.5
	NOT APPLICABLE	8	9.2
Q14) Do you agree with the nature of CSR	YES	41	47.1
	NO	16	18.4

activities undertaken by Your Company?	DON'T KNOW	24	27.6
	NOT APPLICABLE	6	6.9

The above table explains the university's policies towards the society, and the highest percent of the responses was with yes while the other chosen either don't know or not applicable.

**Q15) Please state any tool through which CSR was popularized?**

**Table (5)**

Name of the item	No. of respondents	%
News bulletins	24	27.5862069
Reports	30	34.48275862
Weekly News Video Magazine	24	27.5862069
Newspapers	16	18.3908046
Websites	55	63.2183908
Others	10	11.49425287

**Q16) Please state CSR activities of your organization relating to the following:**

**Table (6)**

Name of the item	No. of respondents	%
Environmental Care	50	57.47126437
Healthcare	30	34.48275862
Housing	14	16.09195402
Community Involvement	26	29.88505747
Rural Sports	51	58.62068966
Education	71	81.6091954
Peripheral Development	9	10.34482759
Village adoption	10	11.49425287
Employment & Employability	23	26.43678161
Welfare	18	20.68965517

**DISCUSSION**

This research conclude that the highest percent of the answers were positive, regarding wither the university have a CSR structure or not, encouraging the employees to participate in activities of the society, providing financial support to them, wither it communicates the enterprises values to the students or its stakeholders and whether they were satisfied or not with the nature of CSR actives, the geographical area of CSR was implemented and about the budget allocated by the university , while the second part of the questionnaire concluded that 63.2% of the respondents said that the first time they got introduced to CSR was through websites, 34.4% said it was through reports, 27.5% was through news bulletins and weekly new videos magazine , 18.3% said newspaper and the percentage of 11.4% belonged to "other tools". According to the activities that the university adapts as a corporate that is socially responsible, answers shows that 81.6% of the university's activities were toward the educational part, 58.6% were rural sports, 57.4% environmental care, 34.4% health care, 29.8 community involvement, 26.4% employment and employability, 20.6% welfare, 16.09% housing, 11.4% village adaption and 10.3% were peripheral development.



## CONCLUSION

Till the late in Kurdistan region the universities was only responsible for education and developing the students skill but with the educational institutions being characterized by various developments, universities now days are forced to be responsible not only toward education but also society, due to the faster communication , faster traveling means and the geographical boundaries shrinking people are becoming more aware of the responsibilities they have toward the organizations and society in general and the responsibility that the society and the organizations itself has towards them. Educational institutions depend on society for their existence so it is in their interest to take care of society. The purpose of this research is analyze the corporate social responsibility in one of the private universities in Kurdistan region of Iraq by asking the academic and the administrative staff of that selected university .The concept of CSR has been introduced in the late of 1920s and in the recent decades, CSR got the attention of many thinkers and researchers, not only on the academic field but also on the business world , from those thinkers were many critics and advocators begun to discussing the idea behind this concept. Researchers Put a three dimension definitions to view CSR which were (corporate accountability , stakeholder engagement and sustainability) as a set of three different agenda. The research objectives was set in order to explain the effect of the university as a social entity on the society, since its created by the society and for the society and this was done by examining the university policies toward the society, that starts from asking the employees inside the university which included the academic and the administrative staff . In this research the data was collected by self-administrated questionnaire that has been distributed personally to the staff and employees directly by the researcher, the questionnaire included four types of questions and all of them were close-ended questions, for the data analysis part, data was analyzed by using both SPSS and excel software to get the result from the respondent response.

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# The Opinion Paragraph in the Auditor's Report: The Bane of Auditing

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## ABSTRACT

The major threat in the accounting profession around the globe is the problem of corporate business failure. No doubt, strict efforts have been put in place to combat the problem of corporate business failure as well as limit the expectation gap, but all to no avail. At different stages and years, the opinion paragraph was changed severally; there were also conflicts to change the phrase from the term 'fairly present' to 'presents fairly' because fairness is a term that is imprecise. It was in a bid to proffer solution to the existing problems and hence narrow the expectation gap that suggestion (recommendation) was made to revert back to the previously used wordings of the opinion paragraph which were: "We certify that the above balance sheet (financial statement) in our opinion is a correct statement of the financial position of the company as of 31<sup>st</sup> Dec xxx and the accompanying profit and loss statement is correct"

**Keywords:** Opinion Paragraph, Fairly Present, Auditor's Report and Financial Statement.

## INTRODUCTION

Corporate Business failure has drawn considerable attention all over the world (Apotu & Isreal, 2014). It has shown that those who are the master mind of the financial statement cannot be singled out from the problem of business failure because it has become a threat to growth in accounting profession around the globe. Enyi, Ifurueze & Enyi, (2013) posits that any subsequent failure of business resulting from management misconduct, fraudulent practices, and economic instability are viewed as failures of auditors. The fact remains that no matter how this is argued, the value/duty of the auditor should not begin from where the work of the management ended but should be a total scrutiny of all aspects of work carried out (from scratch to finish). If it should be viewed as what the management/directors have done, then whose opinion is reported in the opinion paragraph? Because as it is, the opinion paragraph stands as the heart of the audit report, the summary of the report and as such the center point of attraction.

In the opinion paragraph, the auditor should report his observations on the financial position of the company; he should address those illegal/unethical behaviors identified within the company. Enyi, et al (2013) suggested that the auditor should not be seen as translating the illegal behaviors as legal behaviors which obviously are done to satisfy his demands. The auditor must be mindful of the fact that any unethical behavior could result to the entire profession being under fire or may lead to the destruction of the fundamental nature of auditing while the management is being exonerated.

Enyi, Ifurueze & Enyi, (2013) further emphasized that the role of the 21<sup>st</sup> century auditor is to redefine, refocus on public interest and the duty of separating non-audit functions (the roles expected of the Auditor today). These arguments are immaterial and will further widen the expectation gap. This is because Fraud/corruption still remains the major problem in the modern day business and has not changed. And it is almost emphasizing that the Auditor has lost touch of the aim of his employment.

In agreement with Boydet (2001) in Enyi, et al, (2013) they emphasized that bridging the expectation gap will take forever if the problems of corporate business failure are not addressed now or the auditor accepting the responsibility of detecting fraud are not corrected. They further stated that the auditor should retract his steps, go back to the drawing board, drop the attitude of self defence and self preservation to meeting society's expectation. They should extend their services as to where more work should be done to detect fraud and more internal control audits should be carried out. However, since efforts have been put in place all over the globe to combat the corporate business failure but have not yielded good results, it is worthwhile for the profession to look elsewhere for solution to this problem. May be it is time for the profession to look at the opinion paragraph of the auditor's report which may be the major culprit.

In Boockholdt (2014) it was stated that there has been a long standing debate on the form and content the auditor's report would take; he emphasized that an early Audit Practitioner was evident in the 1840s in the United States and in Great Britain. That in the 19<sup>th</sup> century by 1846 to be precise, auditing became prominent to the extent that auditing was done twice a year; the audit committee stood as the accountant of the company as well as the auditor of the company with an audit committee of two to three persons and a hand written audit report (this was the first audit opinion recorded). And their duty at that time was to audit all vouchers before they were paid by the treasurer.

McKee, (1870) espoused that by the 19<sup>th</sup> century, there was evidence of independent accountants and bookkeepers who used to assist the audit committee. Also the accountant was used as an auditor and employee of the company because of their ability to detect fraud. This was the first time an auditor is used for fraud prevention. That is, the accountant played the role of an auditor and an accountant at the same time.

To explicitly explain this, it was stated in the newly created Statement on Auditing Standards (SAS) No. 99 (consideration of fraud in a financial statement audit) which is similar to SAS 53 and 82, International Standard of Auditing Regulations Nos. 240 and 700 of the UK (which guides the Nigerian accounting body), which all emphasized that in assessing fraud risk, auditors should gather much more information or substantial information to uncover fraud (DeZoort & Lee, 1998). This is because it is the duty of the audit team to inform the client that fraud can cause harm to the client's company (Brickner & Peason, 2003). And in Chandler, Edwards & Anderson, (1993), it was equally stated in the accounting policies that in the past, the duties of the accountant was to detect fraud and irregularities; later, however, the main objective changed from fraud detection to 'verification of financial statements' which came as a result of changes in the opinion paragraph.

In the light of this, it shows that prior to this period, the accounting profession was actually into fraud detection but suddenly towards the 19<sup>th</sup> century a decision was made for auditors not to detect fraud and irregularities but rather verify data and information among others. This indeed, has to a large extent widened the expectations of the investors. Others like Sweeney, (1997) argued strongly that the only way of bridging the expectation gap, is by combining the

nature of the audit function with user expectations.

### **Evolution of the Opinion Paragraph of the Auditor's Report**

In the past, Accounting and Auditing professions had no standards backing the presentation and preparation of audit reports. At that time, what was available was a free form audit report (PCAOB, 2010). That is, by 1840s in the United States and in Great Britain auditing was performed only by the audit committees; the auditor's opinion and the entire auditor's report were hand written at that time. Brewster, (2005) espoused that financial statement prepared at that time was not well understood by the general public because all the accounting principles were suggested by accountants. The Steel Company called the United States Steel was the first to publish a financial statement and an auditor's opinion (Hermann, 2014). Doron, (2015) and Wiesen, (1978) confirmed that at that same time, people had little knowledge of auditing.

It was also emphasized that by 1903, audit opinion was still at its inception and there were series of changes in the auditor's report. The first change observed in the form of reporting the opinion paragraph which stood as the heart of the report was showcased firstly in 1903 where the wordings were stated as "we have verified cash and securities by actual inspection, and full provision has been made for bad and doubtful accounts receivable and for all ascertainable liabilities". This shows that proper scrutiny was made at that time, there was physical cash count and asset verification was significantly done.

The second change observed in the form of reporting the opinion paragraph was showcased in a bid to reduce the audit report to a single paragraph (PCAOB, 2010) and to promote uniform accounting. Another change took effect in 1920 with the wordings "we certify that the above balance sheet in our opinion is a correct statement of the financial position of the company as of 31<sup>st</sup> Dec 19xx and the accompanying profit and loss statement is correct."

Flesher, Burkett & Flesher (1996) emphasized that by 1933 auditing and accounting were still in a state of change and it was declared that the company should be responsible for its own actions. It was observed that during that period, the wording of the opinion paragraph was stated: "its financial statements fairly presents, in accordance with accepted principles of accounting, the financial position of a company"

Macneal (1939) defended the accounting profession and further criticized it stating that "though the accounting profession is not dishonest, yet upon the passage of a law, their profession, without a single important exception, felt impelled to change its form of certificate from one which states that "its financial statements fairly present in accordance with accepted principles of accounting, the financial position of a company" to the one that "presents fairly". He further exclaimed that accounting principles and the truth do not make good bedfellows".

Baxter and Davidson (1959) further stated that since the accountants changed the opinion paragraph from what it previously was "We certify that the above balance sheet in our opinion is a correct statement of the financial position of the company as of 31<sup>st</sup> Dec 19xx and the accompanying profit and loss statement is correct" to "In our opinion, the accompanying balance sheet and profit and loss statements fairly presents in accordance with accepted principles of accounting consistently maintained by the company under examination, its position and results of the operation for the year". It has shown that the statement presented in the financial statement is stating the opinion of the auditor but are not factual. And with that change, the financial statement will be viewed as a report that does not carry true information.

Prior to the year 1950, the audit report including the opinion paragraph were reduced in length to a single paragraph which was called bookkeeping audit. Due to lack of operational standards, most times, circumstances were the main causes of change to the report. This was because, after the amendment stated above, the reports were amended again to suit the situations at hand. This time it was the ultramares case that brought about the change in the reports (Solomon, (1968) and PCAOB, 2010). And this time the term “certify” began to disappear from the reports in an attempt to clarify that the report was an opinion and not a guarantee (Samsom, 1970). Thereafter, the wordings were then reverted to “In our opinion, the financial statement presents fairly”

By 1960, the wordings of the opinion paragraph were stated thus: In our opinion, the accompanying balance sheet and profit and loss statements present fairly the financial operations of the company from the date of inception to 19xx. At this point, the word “certify” had been removed and the word “In our opinion” was used. By the year 2000, which is before the year (2001) when IFRS was introduced all over the world as the global language. the wordings were seen as “In our opinion, the financial statements present fairly in all material respect, the financial position of XYZ as at 20XX and the results of their operation.... in conformity with accounting principles generally accepted in the country”.

By the year 2016, the wordings of the opinion paragraph was stated as “In our opinion, the financial statements give a true and fair view (presents fairly) of the financial position of XYZ as at 20XX and its financial performance, changes in equity and cash flow in accordance with IFRS, CAMA and the FRCN Acts 2011”. This has shown that there were little changes in the opinion paragraph before and after IFRS was introduced, the only significant changes were in Financial Regulations and standards. All the changes poured out above are aimed at limiting expectation gap and to emphasize that audit report (in line with Zeff, (2007) recommendation) should be an opinion and not a guarantee.

As a matter of emphasis, the change shown above from “we certify” to “in our opinion” had long been debated. This argument went on and it is worthy of note that by the year 1933, it was declared by some special committee that though auditing was in its infant stages, great liability should be imposed on the accountant because accounting was a profession concerned with the declaration of opinion. The accountant or auditor should be looked at as a watch dog and must be ready to work through all working papers tirelessly. Impliedly, the auditor’s report is not in its entirety a statement of fact but are expressions of opinion based partly on conventions, assumptions and judgments which can vary at will, but can be relied upon because it is based on accounting conventions and assumptions which are reliable judgments.

In conformity with why the changes made in the opinion paragraph were necessary, this was clearly stated in a paper written by Institute of Chartered Accountants England and Wales (ICAEW, 2009) on changes in financial reporting and audit practice. It was stated that the problem with auditing could be because “Some things are objectively very much harder to audit than others, but auditors make them auditable: auditing is an art; the auditing profession takes responsibility for developing practice in new areas. However, not all items are auditable and it would be better for the auditors to acknowledge that such items are un-auditable due to paucity of information”. In other words, whatever is un-auditable should be fairly disclosed to the parties involved and this will minimize litigation cases and corporate business failure.

### **The historical background of the term “Presents Fairly” (Pass/Fail Model)**

The presents fairly model which first appeared in US Financial Reporting Regulations in 1939 was introduced as a result of audit expectation gap. Though the true and fair view is seen to be

an equivalent of presents fairly, but it is believed that true and fair view does not comply with the GAAP, and that the word fair stands for partial assurance (Ngaire, 2006)

Wiesen, (1978) stated that between 1933 and 1934 there was a remarkable change in the accounting and auditing standards for listed companies on the US stock Exchange. as written in 1934 in a document called Audits of Corporate Account. This document led to the development of accounting principles. It was this same document that introduced the popular terms used in today's auditor's reports such as "accepted principles of accounting" and "accounting principles". And the document paved way for a standard form of auditing report and incorporated in the reports the term "presents fairly (pass/fail model)" and eliminated the words "we certify" in favor of "in our opinion" (McEnroe & Martens, 1998, Parker & Nobes, 1994).

Looking at the meaning of the term "presents fairly" it gives just one meaning but to the auditor, it could mean more than that. In the words of Zeff, (2007), he stated that when the words "presents fairly and were prepared in conformity with generally accepted accounting principles" are being used, it obliges the external auditor to give two opinions or is looked at as separate opinions and not just a single opinion (Mano, Mouritsen, and Pace, 2006). Due to this inconsistency facing the accounting profession, by 1939 the word "fairly presents" and "in accordance with accepted principles of accounting" were altered to "presents fairly ... , in conformity with generally accepted accounting principles" by the AIA's Committee on Auditing Procedure (Stewart, (2015), Previte & Flesher (2015), Zeff, (2007).

According to Al Sommer, (1975) in Zeff, (2007) they described fairness as truthfulness because fairness of financial statements poses an opportunity to move away from the rigidities of generally accepted accounting principles and other deterrents to meaningful financial disclosure. According to Aguolu, (2008) he described "true" as consistency with relevant facts and described "fairness" as a word that is imprecise because it involves a number of thoughts; fairness means expectation, relevance, objectivity and freedom of bias. In the light of this, the term "presents fairly" could be extended to mean "a true and fair view" and that showcases the reason why the auditors have decided to now parenthesize the opinion paragraph to stand as this: "In our opinion, the financial statements give a true and fair view of (or "presents fairly, in all material respects,") the financial position of the company as of Dec 19XX, and of the financial performance and its cash flow for the year then ended in accordance with international financial reporting standard".

Further on this, Ngaire, (2006) espoused that the American Institute of Certified Public Accountants (AICPA) recommended that "presents fairly" be deleted from the auditor's report because fairness "is not a property that can be objectively measured by the auditor". In 1980, due to the pressure from different bodies on the removal of the word "fairly", the Auditing Standards Board "proposed the deletion of "fairly" from the auditor's report stating that the word "fairly" is subjective and is interpreted differently by different users of the auditor's report but after considering so many issues, the board decided not to delete the word from the report. To this end, the word was actually in contention because some believed that the auditor only uses it to hide behind the GAAP which means shying away from responsibilities and preventing litigation issues but they forget that to be a perfect accountant, one has to have the sense of dignity, integrity, honesty, being impartial etc (Turner, 2005, Ngaire, 2006).

To addition to the above, Zeff (2007) reported that the comma in the word "present fairly" kept appearing and disappearing as time went on. It was seen that by the year 1988 the comma was

removed and by 1992 it appeared and disappeared again in the year 2000 signifying that the comma had no substantial value in the opinion paragraph since it can be used at will (Zeff, 2007).

Above all, this study agrees with Baxter and Davidson, (1959) that the accounting profession is not dishonest and as much as IFRS is the global language, the true and fair view remains a fundamental issue in the accounting profession. This is because the overriding objective in the profession, as well as the aim of the audit report, is basically to achieve a view that is original and without bias. Hence, other changes from the disappearing of the comma to changes in the term presents fairly were evidences of improvement in the profession which has gotten the accounting world to greater achievements today.

### SUMMARY/CONCLUSION

Auditing has passed through series of changes which has watered down the **heart** and **substance** for a proper audit. The evolutionary phases in the opinion paragraph of the auditor's report in the 1840's in the United States and in Great Britain started as a free form audit. Thereafter, the opinion paragraph which stood as the heart of the report was showcased firstly in 1903 and the wordings were stated as:

*"We have verified cash and securities by actual inspection, and full provision has been made for bad and doubtful accounts receivable and for all ascertainable liabilities"*

*By the year 1920 it was thus: "we certify that the above balance sheet in our opinion is a correct statement of the financial position of the company as of 31<sup>st</sup> Dec 19xx and the accompanying profit and loss statement is correct."*

By 1933 the wordings were seen as

*"its financial statements fairly present, in accordance with accepted principles of accounting, the financial position of a company". This time the wordings were not faulted but the phrase "fairly present"*

By 1960, the wordings of the opinion paragraph were stated thus:

*In our opinion, the accompanying balance sheet and profit and loss statements present fairly the financial operations of the company from the date of inception to 19xx.*

But in the year 2000 and up till the emergence of International Financial Reporting Standard (IFRS), the wordings were:

*"In our opinion the financial statements present fairly, in all material respect, the financial position of XYZ as at 20XX and the results of their operation, in conformity with accounting principles generally in the country"*

And with the introduction of IFRS, the wordings of the opinion paragraph became

*"In our opinion the financial statements gives a true and fair view (presents fairly) of the financial position of XYZ as at 20xx and its financial performance changes in equity and cash flow in accordance with IFRS, CAMA and the FRCN Act 2011".*

From the above, the auditor's opinion paragraph has undergone several changes and adjustments. The change from "**we certify....**" which ensured that the auditors did their job with maximum devotion to a mere expression of opinion "**in our opinion ... present fairly ....**"

It is obvious that these changes destroyed the heart and soul of auditing, and therefore has taken a toll on the credibility of the accounting profession, and by extension widened the audit expectation gap.

### RECOMMENDATIONS

Auditing, and by extension accounting profession has known no peace since the changes in the opinion paragraph of the auditor's report due to many cases of audit failures which has led to the collapse of many giant corporations and companies.

The resultant effect is that these audit failures took a toll on the creditability of the accounting profession. Therefore, it is being recommended that for auditing to recover its balance, it is important and pertinent for the profession to revert back to the previously used wordings of the opinion paragraph which were

*"We certify that the above balance sheet (financial statement) in our opinion is a correct statement of the financial position of the company as of 31<sup>st</sup> Dec xxx and the accompanying profit and loss statement is correct"*

By so doing, it will limit the expectation gap created; and will further force the auditors to roll up their sleeves and do the work they are being paid for. This is because financial regulations and code of ethics alone have not and will not solve this huge problem.

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## Medical ethics and profit motivated medical practice - the dilemma of a modern day private health practitioner.

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### ABSTRACT

The rapid emergence of for-profit health care organizations over the past few years poses critical questions on the ethics of health care delivery. The study explores the ethical implications of commodification of health care service as it relates to the healing relationship between the professionals and their patients. A cross-sectional study of for-profit health practitioners in Harare Metropolitan Province, Zimbabwe was done from a representative sample size which was randomly selected from the practitioners register. Respondents answered self-administered questionnaires and key informant interviews. Data was analyzed using Epi Info Version 7, to generate descriptive and inferential statistics. A significant proportion of for-profit medical practitioners are not practicing or adhering to good ethical practices but preferring alternatives which generate income. Medical ethics should be viewed as dynamic, situational and circumstantial. The study concludes that unregulated commodification of health care services, negatively affects the healing relationship between the professionals and their patients due to lack of trust which is the fundamental backbone of the relationship. The study recommends that regulators of medical practice, Health Professions Authority and Medical and Dental Practitioners Council, should regularly review the ethical conducts standards for practitioners since they are dynamic and not to rigidly codify ethics, as they prevent better human relations and adjustments.

**Key Words:** Ethics, medical ethics, medical practice, private health practitioner, Zimbabwe.

### INTRODUCTION

Health care services are provided to individuals or communities by health professionals or agents of the health services for the purpose of promoting, maintaining, monitoring, or restoring health (Farlex, 2012). The health care industry has traditionally included a mixture of for-profit and not-for-profit activities. Profit making was predominantly for manufacturing and marketing of pharmaceuticals and medical sundries while organizations that provided medical services to patients were predominantly not-for-profit. This is because providing health care to patients was perceived more as a social function of the government and philanthropic organizations (Gray, 1983).

Zimbabwe has not been spared from the change in the health care landscape. A growing middle class community is willing to pay for better treatment, shunning away from the ill equipped public facilities (HITREC, 2010). This has opened the door to the private sector, which is starting to play a new role, often working in partnership with investors to provide better

health care facilities (Janssen, 2012). In 2014, a total of 894 private for-profit institutions, excluding pharmacies were providing health care to patients compared to 1431 public not for-profit (HPA, 2015). The critical question in this discourse is, how can the present economic environment, safeguard the general ethical principle that a doctor should not associate himself with commerce in such a way as to let it influence; or appear to influence, his attitude towards the treatment of his/her patients?

### **REVIEW OF LITERATURE**

Medical professionalism as a concept can be traced back to 400 BC with the Hippocratic Oath which described medical ethical conduct to be followed by physicians. The oath up to today is virtually taken by every physician. The aim of the medical ethics is to improve the care and health of the public by examining and promoting physician professionalism. During the era of Nightingale, physicians would take oaths that they will do all in their power to maintain and elevate the standard of the medical profession (Pledge, 2011)

The aim of each physician clearly should be to care for and protect the interest and well-being of patients to the best of the physician's abilities, while making sure his or her abilities are maintained as new discoveries are made (Catherine, 2015). Qualities of medical professionalism include sound knowledge and skills, sound work ethics, accountability, excellence, good communication skills, ethical conduct, humanism, altruism, wise application of legal understanding and self-regulation. The three fundamental principles outlined in the charter for medical professionalism are the primacy of patient welfare, patient autonomy and social justices (Foundation, 2004). The charter further gives professional responsibilities of physicians; professional competence, patient confidentiality, honest with patients, improving quality of care, maintaining appropriate relationships with patients, improving access to care, just distribution of finite resources, scientific knowledge, maintaining trust by managing conflict of interests and professional responsibility (Foundation, 2004).

Professionals have an ideology that assigns a higher priority to doing useful and needed work than economic rewards, an ideology that focuses more on the quality and social benefits of work than its profitability (Arnold, 2007).

A major reason for the decline of medical professional values is the growing commercialization of health care systems. Health care has become a huge industry largely shaped by the entry and growth of private investor owned businesses that sell health insurance and deliver medical care with a primary concern for the maximization of their income and examples include Premier Services Medical Aid Society, CIMAS and First Mutual Medical Aid in our Zimbabwean context (Shamu, 2010). The economic crisis affecting the country has played a major part in eroding the ethical commitment of physicians. Many physicians have contributed to this transformation by accepting the view that medical practice is also in essence a business. This change in attitude has critical consequences to the value system of medical practice. When physicians think of themselves as being primarily in business, professional values recede and the practice of medicine changes (Arnold, 2007).

Critical insights on the behaviour of for-profit practitioners are raised by the study on assessing if regulating for profit providers in Zimbabwe work. Unethical behaviour which was observed was described as opportunistic behaviour, emphasizing that was selfish behaviour manifesting due to poor regulatory enforcement. These unethical behaviours included; referral of patients to service where the practitioner has self-interest, over-servicing, falsely billing medical insurance and use of unlicensed cheaper doctors (Hongoro, 2000).

### **Conflict of Interest between profit motivated business and medical ethics**

Among other reasons which influence human action, are individual values and interests. Conflict of interest arises in a situation when an individual has more than one competing interest in the performance or outcome of an activity (Manthous, 2012). Selfish interest can subvert supervening duties or obligations, such that care must be taken to ensure that neither conscious nor unconscious selfish interest unduly influence decisions.

Far more important and difficult is the question of whether physicians could sell more orthodox pharmaceuticals. It has long been recognized that physicians who sell their own remedies have a potential conflict of interest (Bradford, 1986). In contrary, business growth strategies promote forward and backward integration, where a physician can sell drugs as a form of forward integration to maximize revenue and acquire medical aid insurance as backward integration. Closely related, physicians may seek ways in which they could receive some remuneration, beyond their usual professional fee, for prescribing medication or referrals as rebates from pharmacists or referral centres (Bradford, 1986). These linkages make the smart business partnership, but however they are condemned as unethical in the medical field.

The health care system is undergoing a rapid socio-economic revolution. Within a general environment, promoting entrepreneurial ship, the number of for-profit health enterprise has more than doubled in the past decade (Arnold, 2007). The health care is being transformed from a profession into a business (Bradford, 1986). This research will focus primarily on the ethical implications of the growth of for-profit health care institutions in the legal sense. There are some moral concerns about the rise of for-profit institutions that focus on the profit motive. Their decision making forms and organizational structures are designed to maximize profit. Serious moral criticisms for-profit healthcare have been voiced, both within and outside of the medical profession (Bradford, 1986).

The ethical concerns about the growth of for-profit health care are based on the social assumption that health care is not a commodity and should not be left to the market (Hall, 2003). Access to health care should not depend on ability to pay, but it is a human rights issue. The right to health care is basic health care adequate to meet patient's objectively determined, basic health care needs. It is perceived that the ethical acceptability of for-profit health care delivery systems depends on whether health care is viewed as a right or as a commodity (Rosoff, 2001).

As much as common codes of ethics are desirable in everybody in the health care industry, there are important limitations the code can play. Ethical codes are important in establishing professional binding values and describe a common ethical context of health care, but is of limited use in solving new and complex ethical problems (Limentani, 1999). A code may raise some unrealistic expectations about its scope and some caution is required. It is important to strike a balance between the code and realities in the environment. The main difference between reality and ethics is, reality is seen primarily in terms of the objectives, external physical world, whilst values and ethics are seen as a separate, subjective and personal attribute (Hume, 1975).

### **Primary Ethical Theories to support decision making**

Different ethical theories can be applied to different situations to inform reasoning and support decision making. This section provides an overview of key theories applicable to health care.

### ***Consequentialism***

Consequentialist ethics hold the perspective that the right moral response is related to the consequence or outcome of the act. It is about the rightness or wrongness of an action/policy based on its consequences (Scotland, 2008). An action or rule is right if it produces a better consequence than alternative actions or set of rules. It aims to maximize the greatest good outcome, not necessarily the best for the greatest number of people. The 'good' may refer to values or 'utility' such as happiness, being pain or symptom free or another life enhancing outcome.

### ***Deontology***

Deontology is based on duties and rights, and respects individuals as ends in themselves (Scotland, 2008). It places value on the intentions of the individual rather than the outcomes of any action. Its focus is on rules, obligations and duties. Deontology considers acting ethically as absolute adherence to these obligations and duties. The consequences can matter, but they are not the main motivation for action. One of the key criticisms is that applying a strictly deontological approach to health care can lead to conflicts of interest between equally entitled individuals which can be difficult or even seemingly impossible to resolve (Scotland, 2008).

### ***Virtue Ethics***

The virtue ethics emphasizes the moral character, or virtues of the individual. Virtue ethics have emerged due to recognized deficits in ethical theories of consequentialism and deontology for healthcare. The virtues are embedded character traits which are held to be societally valuable such as truth-telling, trustworthiness, honesty and kindness (Scotland, 2008). Virtue ethics is about an individual of good character doing the right thing.

### ***Principlism***

Principlism emphasizes four key ethical principles, autonomy, beneficence, non-maleficence, and justice which most ethical theories share (Beauchamp and Childress, 2008). It blends these with virtues and practical wisdom. This is an attempt to bring together the best elements of ethical theories which are compatible with most societal, individual or religious belief systems. By incorporating virtue ethics it enables healthcare professionals, patients and significant others, to place value or added weight on a particular principle to find a balance and rationale for decision-making (Scotland, 2008).

## **RESEARCH METHODOLOGY**

The study sought to establish the relationship between medical ethics and commodification of health care services, thus was descriptive in nature. The study employed the use of mainly the quantitative paradigm and the case study approach.

## **DATA ANALYSIS**

### **Demographic Characteristics**

The respondents were predominantly male (58%), and ages ranged from 20-79 years with 65% of them between 30-49 years. Most (58%) of them worked in sole proprietorship surgery/clinics, practicing as general practitioners on locum basis (51%). Almost 60% of the respondents practiced in uptown and low/middle density geographical locations.

### **Current Ethical Practices**

The study sought the diversity of ethical opinions regarding frequent ethical dilemmas, as proxy to the respondent's ethical practices.

**Table 1: Current ethical practices of private for-profit physicians in Harare**

Variable	Characteristic	N=116 (%)
Would you ever consider halting life sustaining therapy because family can no longer afford, even when you feel that it is premature?	Yes	49 (42)
	No	50 (43)
	It depends	17 (15)
Would you ever prescribe a treatment that is a placebo, simply because the patient wants treatment?	Yes	57 (49)
	No	39 (34)
	It depends	20 (17)
Would you ever recommend or give life sustaining therapy when you judged that it is futile?	Yes	47 (41)
	No	38 (33)
	It depends	31 (27)
Would you ever hide information from a patient about a terminal or pre-terminal diagnosis in an effort to bolster their spirit or attitude?	Yes	15 (13)
	No	93 (80)
	It depends	8 (7)
Is it acceptable to perform a procedure that isn't medically warranted, for reasons of gaining high tariff?	Yes	26 (22)
	No	75 (65)
	It depends	15 (13)
Would you refer a patient to a physician simply to return a favor to the doctor, when you don't think that the person was the best qualified?	Yes	20 (17)
	No	69 (59)
	It depends	27 (23)
Is it ever acceptable to overstate or falsify a patient's condition when submitting claims or seeking prior authorization?	Yes	9 (8)
	No	81 (70)
	It depends	26 (22)
Would you feel conflicted about dropping insurers that don't pay well, even though some longtime patients would probably stop seeing you?	Yes	39 (34)
	No	67 (58)
	It depends	10 (9)
Would you ever "fire" a "non-compliant" patients so that you don't spoil your reputation?	Yes	18 (16)
	No	66 (57)
	It depends	32 (28)
Would you agree that you should refuse gifts or perks from pharmaceutical companies because they may influence your medical judgment?	Yes	49 (42)
	No	52 (45)
	It depends	15 (13)
Would you perform an abortion in illegal situations, if the patient insists to pay?	Yes	35 (30)
	No	68 (59)
	It depends	13 (11)

### Adherence to good medical ethical practices

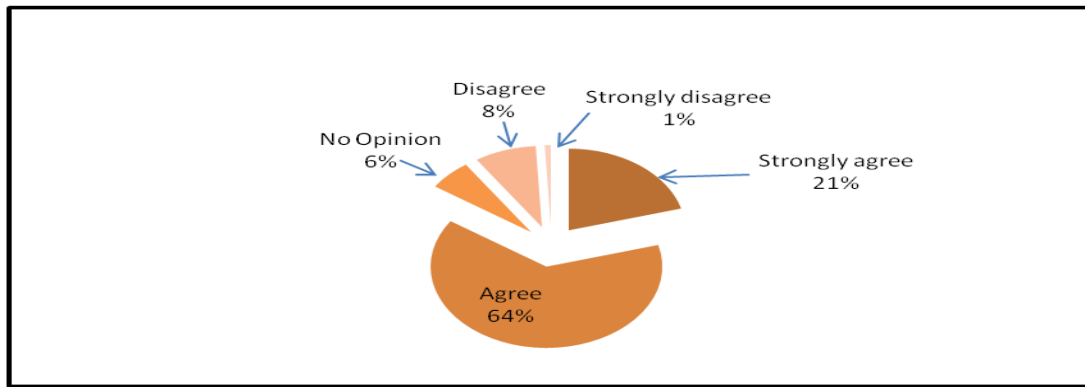
The study also sought the adherence to good medical practices in the current economic health environment. The Table 2 summarizes the reactions of the respondents

<b>Table 2: Adherence to good medical ethical practices</b>	<b>Characteristic</b>	<b>N=116 (%)</b>
I use an ethical approach to conflict resolution	Always	39 (34)
	Usually	54 (47)
	Occasionally	23 (20)
	Almost never	0 (0)
I use my authority solely to fulfill my responsibilities and not for self-interest or to further the interest of family, friends or associates	Always	34 (29)
	Usually	68 (59)
	Occasionally	11 (9)
	Almost never	3 (3)
I ensure equitable treatment of patients regardless of socioeconomic group or payer category	Always	39 (34)
	Usually	58 (50)
	Occasionally	11 (9)
	Almost never	8 (7)
I am mindful of the importance of avoiding even the appearance of wrongdoing, conflict of interest, or interference with free competition	Always	37 (32)
	Usually	64 (55)
	Occasionally	15 (13)
	Almost never	0 (0)
I personally disclose conflicts of interests before pursuing or entering into relationships with potential business partners or patients	Always	41 (35)
	Usually	66 (57)
	Occasionally	7 (6)
	Almost never	2 (2)
I protect patients' right to autonomy , clinical efficacy, and full information about their illness, treatment options, and related costs	Always	77(66)
	Usually	34(29)
	Occasionally	5(4)
	Almost never	0(0)
I am a patient advocate on both clinical and financial matters	Always	16(14)
	Usually	77(66)
	Occasionally	23(20)
	Almost never	0(0)

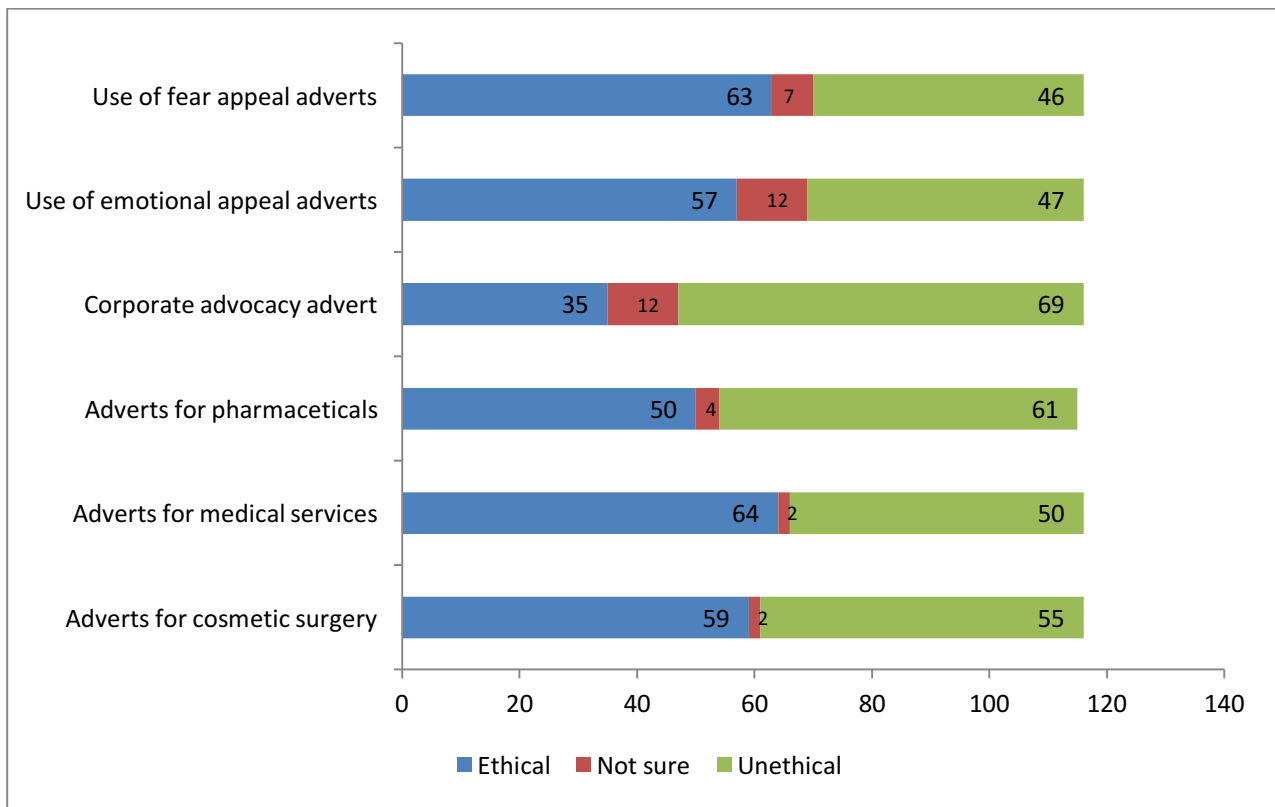
In ethical dilemma, 34% of respondents always use an ethical approach in conflict resolutions (Table 2). Twenty nine percent, always uses their authority solely to fulfill responsibilities and not for self-interest or to further the interest of family, friends or associates. Only 34% always ensure equitable treatment of patients regardless of socioeconomic group or payer category. In the discharge of duty, 32% of respondents are always mindful of the importance of avoiding, conflict of interest, or interference with free competition. Before pursuing or entering into a relationship with potential business partners or patients, 35% always disclose conflict of interest. Sixty six percent always protect patients' right to autonomy, clinical efficacy, and full information about their illness, treatment options, and related costs. Fourteen percent are patient advocates on both clinical and financial matters.

### **Roles of commercial strategists in health care**

The study also sought the diversity of opinions regarding advertising as a commercial strategy in healthcare. Initial respondents gave opinions on the feasibility running a profitable ethical medical business. The figures below summarizes the reactions of the respondents



**Figure 1: Opinions on feasibility of business to be both ethical and profitable**



**Figure 2: Ethical Views of respondents on advertising strategies in healthcare provision**

The majority of respondents viewed business strategies of using fear appeal adverts, emotional appeal adverts, advert for medical services and advert for cosmetic surgery as unethical while adverts for corporate advocacy and pharmaceuticals were perceived as ethical by the majority (Figure 2). However, there was no substantial difference in proportion (less than 5%) of those who perceived advertising cosmetic surgery as unethical and those who perceive it as ethical.

### Potential ethical implications of commodifying health care services

In the event that medical services are commodified, 57% of respondents had a view that risk to others should not be tolerated; irrespective of how small the risk might be (Table 3).



**Table 3: Potential ethical issues which may arise due to commodification of health care service**

Variable	Characteristic	N=116(%)
Risks to another should never be tolerated, irrespective of how small the risks might be	strongly agree	10 (9)
	Agree	56 (48)
	no opinion	12 (10)
	Disagree	26 (22)
	strongly disagree	4 (3)
The dignity and welfare of the people should be the most important concern in any society	strongly agree	43 (37)
	Agree	57 (49)
	no opinion	8 (7)
	Disagree	7 (6)
	strongly disagree	1 (1)
What is ethical varies from one situation and society to another	strongly agree	17 (15)
	Agree	73 (63)
	no opinion	7 (6)
	Disagree	19 (16)
	strongly disagree	0 (0)
Moral standards should be seen as being individualistic; what one person considers being moral may be judged to be immoral by another person	strongly agree	19 (16)
	Agree	71 (61)
	no opinion	5 (4)
	Disagree	12 (10)
	strongly disagree	9 (8)
Rigidly codifying an ethical position that prevents certain types of actions could stand in the way of better human relations and adjustment	strongly agree	19 (16)
	Agree	60 (52)
	no opinion	12 (10)
	Disagree	25 (22)
	strongly disagree	0 (0)
No rule concerning lying can be formulated; whether a lie is permissible or not permissible totally depends upon the situation	strongly agree	13 (11)
	Agree	58 (50)
	no opinion	12 (10)
	Disagree	22 (19)
	strongly disagree	11 (9)

### Inferential Statistical Analysis

The bivariate analysis of respondent characteristics of their perception of the notion that, it is possible for a business to be both ethical and profitable, is summarized in Table 4.

**Table 4: Factors associated with the perception that business can be both ethical and profitable**

Variable	Agree (N=98)	Disagree (N=18)	Odds ratio (95% CI)	p-value
<b>Age</b>				
20-39 years	41	9	0.72 (0.26-1.97)	0.265
≥40yrs	57	9		
<b>Sex</b>				
Male	58	9	1.45 (0.53-3.97)	0.24
Female	40	9		
<b>Qualification</b>				
First Degree	60	6	3.1 (1.1-9.1)	0.016*
Postgraduate	38	12		
<b>Geographic location</b>				
High density residential/	42	6	1.5 (0.52-4.32)	0.234
Low/middle residential density	56	12		
<b>Practicing experience</b>				
<3 years	39	7	1.03 (0.37-2.91)	1.03
≥3 years	59	11		
<b>Specialization</b>				
General Practitioner	84	12	3 (0.97-9.3)	0.037*
Specialist	14	6		
<b>Business Type</b>				
Individually owned	73	14	0.83 (0.25-2.77)	0.399
Corporate	25	4		

There was no significant difference ( $p > 0.05$ ), between those agreed and disagreed with the view that it is possible for a business to be both ethical and profitable, by age, sex, geographic location, practicing experience and business type. Those with the first degree were three times more likely to agree with the view, than those with a post graduate qualification and the relationship was statistically significant. General practitioners were three times more likely to agree with the view than their specialist counterparts and the relationship was statistically significant ( $p < 0.05$ ).

**Table 5: Variables associated with view that medical practice has a responsibility that goes to the society beyond profit making**

Variable		Agree (N=98)	Disagree (N=18)	Odds ratio (95% CI)	p- value																																																			
Have you ever considered halting life-sustaining therapy because family can no longer afford, even if you feel that it is premature	Yes	8	41	0.53 (0.21-1.35)	0.093																																																			
	No	18	49			Have you ever prescribe a treatment that is a placebo, simply because the patient wants treatment	Yes	15	42	1.56 (0.65-3.77)	0.167	No	11	48	Have you ever recommended or give life sustaining therapy when you judged that it is futile	Yes	4	43	0.2 (0.06-0.62)	0.001*	No	22	47	Have you ever hidden information from a patient about a terminal or pre-terminal diagnosis in an effort to bolster their spirit or attitude	Yes	1	14	0.22 (0.03-1.74)	0.059	No	25	76	Is it acceptable to perform a procedure that isn't medically warranted, for reasons of gaining high tariff	Yes	1	25	0.1 (0.01-0.81)	0.003*	No	25	65	Would you ever "fire" a "non-compliant" patients so that you don't spoil your reputation	Yes	2	16	0.39 (0.08-1.80)	0.112	No	24	74	Would you perform an abortion in illegal situations, if the patient insists to pay?	Yes	2	33	0.14(0.03_0.65)	0.002*
Have you ever prescribe a treatment that is a placebo, simply because the patient wants treatment	Yes	15	42	1.56 (0.65-3.77)	0.167																																																			
	No	11	48			Have you ever recommended or give life sustaining therapy when you judged that it is futile	Yes	4	43	0.2 (0.06-0.62)	0.001*	No	22	47	Have you ever hidden information from a patient about a terminal or pre-terminal diagnosis in an effort to bolster their spirit or attitude	Yes	1	14	0.22 (0.03-1.74)	0.059	No	25	76	Is it acceptable to perform a procedure that isn't medically warranted, for reasons of gaining high tariff	Yes	1	25	0.1 (0.01-0.81)	0.003*	No	25	65	Would you ever "fire" a "non-compliant" patients so that you don't spoil your reputation	Yes	2	16	0.39 (0.08-1.80)	0.112	No	24	74	Would you perform an abortion in illegal situations, if the patient insists to pay?	Yes	2	33	0.14(0.03_0.65)	0.002*	No	24	57						
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Would you perform an abortion in illegal situations, if the patient insists to pay?	Yes	2	33	0.14(0.03_0.65)	0.002*																																																			
	No	24	57																																																					

There was a general consistence in answering of questions by the respondents as summarized in Table 5. Those who consider halting life-sustaining therapy because family cannot longer afford, even if they feel that it is premature, or those who prescribe a treatment that is a placebo, simply because the patient wants treatment, or those who hide information from a patient about a terminal or pre-terminal diagnosis in an effort to bolster their spirit or attitude, or those who fire" a "non-compliant" patients so that they do not spoil their reputation where less likely to agree that medical business has an ethical responsibility that goes beyond profit-making.

Statistical significance ( $p < 0.05$ ) was found in those who give-life sustaining therapy when they judged that it is futile, those who found it acceptable to perform a procedure that is not medically warranted for reasons of gaining high tariff and those that would perform an abortion in illegal situations, if the patient insists to pay. All these groups were less likely to agree that medical practice as a business have responsibilities to society that go beyond profit making.

### **THEMES GLEANED FROM KEY INFORMANT INTERVIEWS**

#### **Ethical behaviour**

Instances have been observed where a medical doctor pursuing a wealth maximization agenda acts in an unethical manner or in conflict of interest. These instances include, having a private surgery/clinic next to the hospital where the doctor is employed full-time and government doctors with private surgeries/clinics "poaching" affording patients from public facilities to

their private surgeries in the guise of offering faster better medical services. Doctors who sell drugs in their rooms, tend to prescribe what they have in stock not what is the best or cheaper, same effect and available elsewhere.

### **Role of private for-profit physicians**

Private for-profit medical organisations offer complementary alternative health services to the population. Ideally since users of private health services pay per cost, quality of services should be much better than public facilities and a doctor can be seen on demand. There is a better doctor patient ratio such that patients spend more time with the doctor resulting in a better doctor patient relationship.

Regulators find nothing wrong with doctors pursuing for-profit medical enterprise. It is a form of entrepreneurship, which just needs regulation and control, and doctors also need extra income to survive. As long as doctors fulfil their occupational obligations in an ethical manner according to the rules and regulations, there is no hindrance to private practice. The advantages of doctors pursuing a profit motivated health enterprise include; provision of high quality of health services due presumably to better facility equipment and motivation of the doctor. It may overall lower the price of health services due to competition. The community overall benefits from employment creation and availability of alternative social amenities.

However, civic society in contrast, is against doctors pursuing a profit motivated enterprise. It puts the risk of abuse of vulnerable patients by doctors since there is a huge asymmetry of information. They fear doctors will forget their primary function of offering health services to the community as they concentrate on how to make as much profit as possible through vulnerable unsuspecting patients. The doctors will have a conflict of interest as they choose on best medical services versus lucrative options. Consequently, it reduces trust, which is critical to the doctor patient relationship. In an effort to maximize profit, there is a risk that service providers may compromise quality of care.

### **Recommendations for doctors in for-profit organisations**

Civic groups recommend a doctor in for-profit enterprise to be paid a fixed amount by State per month for a geographic area served. This reduces the incentive induced unethical behaviours. Regulators recommend the continuous engagement of the for-profit service providers in provision of ethical review continued health education and monitoring of practices. They further propose enforcement of price controls and monitoring of adherence to treatment guidelines.

## **POLICY IMPLICATIONS AND RECOMMENDATIONS**

The study encourages the regulator of medical practice, the Health Professional Authority and Medical and Dental Practitioners Council, to regularly review the ethical conduct standards for practitioners since they are dynamic.

The study recommends regulators not to rigidly codify ethics, as they are situational and society dependent. With the ever changing socioeconomic environment, rigidly codifying ethical position prevents better human relations and adjustments.

The Health Professional Authority should allow health practitioners to advertise through different media channels, but should regulate the content to prevent misinformation and duress due to fear and emotional appeal adverts.

The practice of for-profit medical practitioners should be monitored more closely by the regulators since it has an apparent conflict of interest and information asymmetry between service provider and client. Patients should be sensitized on potential pitfalls and should be given open channels of reporting unethical behaviour.

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# The Model Of Performance Based Evaluation Of Civil Servants In Vietnam

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## ABSTRACT

The performance-based evaluation and payroll systems for government employees formed in the late 1980s in many developed countries. Survey results on strategic human resource management in the 29 OECD countries show that these systems are applied based on individual performance evaluation and one third of OECD countries have developed a performance management system for senior civil servants. This article introduces legal regulations and the application of the performance-based evaluation model for civil servants in Vietnam. The author uses analytical method to justify the significant implications that the research poses in the improvement of the civil servant management regime in Vietnam. The author focuses on researching and clarifying status of the evaluation work after the Law on Cadres and Civil Servants came into force in 2010, points out the shortcomings and causes to formulate renovation and improvement proposals. At the same time, expert method is used by the author to seek advice from managers and experts on human resources management and related issues, identifying the prerequisites for applying the performance-based evaluation system in Vietnam. The author also uses sociological survey method, questionnaire form for civil servants working in four-level authorities. At central level, there are Ministries, including the Ministry of Home Affairs, the Ministry of Health, the Ministry of Labor, Invalids and Social Affairs, the Ministry of Finance, the Ministry of Justice, the Ministry of Agriculture and Rural Development, Ministry of Natural Resources and Environment, the Office of the Government, the State Bank, the State Audit; Localities include provinces: Hai Duong, Ninh Binh, Bac Giang, Hung Yen, Cao Bang, Quang Ninh, Quang Nam, Hue, Daklak, Daknong, and cities under central control: Ha Noi, Hai Phong. The surveyed localities are selected on the basis of ensuring representative for localities with urban and rural characteristics; delta and mountainous areas. Results of this survey support the analysis and evaluation of the situation part.

**Key word:** civil servant evaluation, performance evaluation

## INTRODUCTION

In the management and evaluation of civil servants, to measure and classify civil servants there are several approaches based on theories in the world over different periods, which are as follows:

First, evaluating civil servants by inputs is a way of assessing people in the organization based on what is available to determine their ability to fulfill their tasks in the future (degrees, certificates, age, gender, experience ...)[3]

Second, evaluating civil servants by their process of work performance is defined as activities to transform inputs into outputs to achieve the desired outcomes. Civil servants evaluation in this way can be expressed through the time spent doing the work, the way it is performed, the standards of behaviors and attitudes while working, focusing on strict adherence to the regulations of State agencies and laws in association with the procedure control mechanism. [3]

Third, evaluating civil servants by performance results. The result is the final product of the process by which the civil servant performs the work. This approach is linked to a

performance-based management<sup>1</sup> and/or results-based management system<sup>2</sup> in the context the countries of the Organization for Economic Co-operation and Development (OECD)<sup>3</sup> implement strategies for improving operational effectiveness under the pressure of the economic crisis leading to budget deficit. [3]

Evaluating civil servants by performance results is very significant to the civil servant management system. For civil servant management agency, it is an important way to manage human resource. Based on the specific criteria for measuring work performance, civil servant evaluation by performance results has important implications for civil servant management agencies such as:

Strengthening control of work performance results; enhancing edictability of operational risks; ensuring impartiality and objectiveness in rewarding, payment, appointment, rotation or termination on the basis of specific measurement criteria; Identifying training needs and potential development of civil servants to prepare succession planning; Linking and mobilizing strengths of the organization with its human resource to achieve goals; Monitoring and evaluating the implementation progress compared to the set objectives; Identifying the shortcomings to take timely adjustments; Allowing the implementation of activities to improve the performance quality of civil servants ... [2]

### **SPECIFIC CASE**

The evaluation of civil servants by performance results in the Party agencies is currently based on the following documents:

- Regulation on evaluation of cadres and civil servants issued in conjunction with Decision No. 286-QD / TW dated 8 February 2010 of the The Political Bureau (Politburo)
- The Law on Cadres and Civil Servants 2008 took effect from January 1, 2010, Section 6 with 4 Articles from Article 55 to 58 stipulating the evaluation of civil servants.
- Decree No. 24/2010 / ND - CP dated March 15, 2010 regulating the recruitment, employment and management of civil servants (amended and supplemented by Decree No. 93/2010 / ND-CP dated August 31, 2010).
- The Government's Decree No. 56/2015 / ND-CP of June 9, 2015 on the evaluation and classification of cadres, civil servants and officials took effect on August 1, 2015 (amended and supplemented by Decree No. 88/2017 / ND-CP dated July 27, 2017).

Civil servant evaluation according to the Law on Cadres and civil servants distinguishes between cadres and civil servants. For civil servants, the evaluation shall be based on the following six basic criteria (Article 56): Observance of the line and policies of the Party and laws of the State; Political qualities, ethics, lifestyle and working style and manners; Specialized or professional capabilities and qualifications; Task performance progress and results; Sense of responsibility and collaboration in work; Attitude in serving the people. However, the implementation of Decree 24 and Decree 93 shows that these criteria are scattered and not focused on work performance to measure actual results, it makes the application of results-based evaluation more difficult.

To overcome such weaknesses, the Government's Decree No. 56/2015 / ND-CP of June 9, 2015 on the evaluation and classification of cadres, civil servants and public employees determines the evaluation and classification of civil servants by work year, which is carried out in December every year (Article 5). Evaluation results are an important basis for arranging, employing, appointing, terminating, rotating, rewarding, disciplining and implementing other policies towards civil servants. The results of evaluation and classification of public employees shall comply with the provisions in Clause 3, Article 29 and Clause 3, Article 58 of the Law on

Cadres and Civil Servants (Clauses 1 and 2, Article 6). The contents of civil servant evaluation comply with the provisions in Clauses 1 and 2, Article 56 of the Law on Cadres and Civil Servants.

Decree No. 56/2015/ND-CP defines the principles for evaluating and classifying civil servants (Article 3) as follows: (1) Ensuring proper authority: cadres are evaluated by the authorized levels; civil servants are evaluated by the heads of agencies, organizations or units. At any level, the evaluators shall simultaneously perform the classification and be responsible for their decisions; (2) The evaluation must be based on the responsibilities, tasks assigned and performance results. The evaluation should clarify strengths, weaknesses, shortcomings and limitations on the quality, capability and qualifications of civil servants; (3) ensuring objectivity, fairness, accuracy, without repression, bias, formalism;

(4) The evaluation and classification of leading and managerial civil servants must be based on the results of activities of their own agency, organization or unit. The level of their task completion must not be ranked higher than that of the agency, organization or unit. The evaluation of civil servants is based on their duties, ethics, behavioral conduct and service culture and what they are not allowed to do as regulated in the Law on Cadres and Civil Servants; Standards of civil servant categories, managerial leadership positions; Tasks assigned under annual programs and work plans (Clause 2, Article 4 of Decree 56).

Regarding authority and responsibility for evaluating and classifying civil servants: The heads shall directly evaluate and classify their deputies and civil servants, take responsibility for evaluation & classification results; The heads of agencies, organizations and units are evaluated by the heads of higher-level agencies and the evaluation and classification results are under responsibility of these agencies (Article 16).

Simultaneously, based on classification of the results of civil servant evaluation under the provisions of the Law on cadres and civil servants, Decree 56 specifies the criteria for four levels of performance results including: Excellent task completion, good task completion, task completion but limited competence and task incompleteness. In which, civil servants who achieve excellent completion task must fulfill 100% of their tasks under annual programs and plans, ahead of schedule, with quality and efficiency; promptly and qualified, effective completion of the extraordinary tasks; Having at least 01 scientific work, project, theme or initiative that have been applied effectively in public activities of the agency, organization or unit and recognized by competent authority (Article 18).

The performance result is a key element in the evaluation of individual civil servants. The Decree also clarifies that the evaluation results will be used to apply to future policy and mechanisms. Evaluation criteria are also important to be applied throughout the system, with determined percentage to measure the levels of task completion. The requirements and criteria for the excellent task completion are significantly heightened, forcing civil servants to make greater efforts to achieve this level of evaluation. The specification of this criterion overcomes the limitation of the fact that the proportion of civil servants with excellent task completion is high but the performance of the functions and tasks of the agency is inadequate.

### **PRINCIPLES FOR ASSESSING CIVIL SERVANTS BY WORK RESULTS**

In government agencies, there are different levels of result evaluation, such as evaluation of system performance, individual agency performance and individual civil servant performance. These levels are closely interrelated, interacted with one another. To ensure the effectiveness



of individual evaluation to facilitate agency and system, it is important to ensure that the following key principles are met:

- The performance results of the individual must clearly reflect the organization's performance;
- The individual's work performance must be appropriate and reflect the nature of the work position.
- The individual's work performance must be comprehensive, covering the overall performance of the work on different aspects.
- The individual's work performance must be reliable, reflecting the devotion by authentic information system and recognized by others.
- The individual's work performance must be measurable for comparison to others.

### **PRACTICAL IMPLEMENTATION OF THE MODEL IN VIETNAM**

On the basis of the Law on Cadres and Civil Servants and guiding documents of the Ministry of Home Affairs, Hanoi City has implemented the evaluation work by Official Letter No. 2888 /SNV-VP dated 9 Dec 2013 of Ha Noi's Department of Home Affairs guiding the evaluation of cadres, civil servants, public employees in 2013;

Da Nang People's Committee issued Decision No. 7786/QD-UBND dated November 18, 2006 detailing regulations on the evaluation of cadres and civil servants annually and has implemented results-based evaluation model in Official Letter No. 908/BNV- CCHC from July 2012, piloted with 600 officials of 10 administrative units (7 departments and 3 districts), accounting for 1/3 of the total number of civil servants in the city, divided into 4 groups: head of division and equivalent positions, department's deputy directors and the equivalent, civil servants who perform general consultation and advisory work, and civil servants who perform support and operational work. Based on the initial results, the People's Committee continued to issue Official Letter No. 2035/UBND-NCPC dated March 18, 2013 to implement this evaluation model. The evaluation is monthly implemented on the online software. The implementation in the two above cities has shown significant changes in the application of civil servant evaluation method in public administrative agencies.

In Ha Noi, the work standardization method for civil servants is classified into four main groups, including: (1) Performance results of assigned tasks; (2) Political qualities, execution of the Party's lines, guidelines and policies, and the State's laws; (3) Moral qualities, lifestyles, style and manner of work; (4) Organizational discipline. The first group of standards for professional civil servants and leadership managerial civil servants is specified as follows:

**Table 1. Performance evaluation standards for civil servants of Ha Noi city**

Standard	Object	Specific standard	Explanation
<b>Performance of assigned tasks</b>	Specialized/ professional civil servants	1. The level of performing tasks assigned in the year (according to the quantity, quality, progress and work efficiency in each position and time, including regular and extraordinary tasks)	
		2. Results of the implementation of the Directive No. 01 / CT-UBND dated 04 January 2013 of the Chairman of the City People's Committee on the implementation of "Administrative discipline year - 2013"	2.1 The spirit/attitude and responsibility of individuals in performing assigned tasks to improve work quality and efficiency 2.2. Results of work cooperation with colleagues in the agency; the attitude of serving the people
		3. The self-learning spirit to improve capability, professional qualifications and skills to meet the requirements of job position, assigned tasks	
	Managerial civil servants	1. Leadership and management competence; the ability to gather and unite civil servants, the level of completion of assigned tasks (expressed in quantity, quality, progress and efficiency of each position and time, including regular and irregular tasks)	
	Managerial civil servants	2. Results of the implementation of the Directive No. 01 / CT-UBND dated 04 January 2013 of the Chairman of the City People's Committee on the implementation of " Administrative principle Year - 2013"	2.1. The results of the assignment of specific responsibilities to each department, division, section., each cadre, civil servant and employee, without duplication or overlapping
			2.2. The results of the review and finalization of documents for issuance or proposal to competent authorities for issuance of internal rules, working regulations and procedures for settling affairs of agencies in order to ensure uniformity with the current law regulations; To well organize the implementation of democratic regulations at grassroots level, set regulations on public service culture at agencies and units
			2.3. Results of work cooperation with departments, units in the agencies or the related agencies; morale and attitude to serve the people
		3. The performance level of tasks assigned in the year and operational results of the agencies, organizations or units	
		4. The self-learning spirit to enhance capability, professional qualifications to meet the requirements of work position, tasks assigned	

**Source: Summary based on Ha Noi civil servant evaluation scale in 2013**

The above evaluation criteria of Ha Noi are measured by the 100-points marking method. Each rating scale is divided into 4 levels: good/fair/average/weak as the basis for marking. For example, for criterion of group 4 (sense of discipline) the maximum is 20 points. In which, the compliance of rules and working regulations of agencies and units; preservation of the public service culture; ensuring working time is marked 5 points but divided into levels as follows: good (5 points); fair (4 points); average (3 points) and weak (0 points).

**Table 2. Scale of civil servant evaluation in Ha Noi**

Object	Maximum point												Total points
	(1) Performance result of assigned tasks				(2) Political qualities, compliance with the Party's policies, the State's laws		(3) Moral qualities, lifestyle, manner and work style			(4) Organizational awareness and discipline			
	60				10		10			20			
	Work result	Results of the implementation of Directive No. 01/CT-UBND	Improving capability and level	Leadership competence	Political thought	Compliance with guidelines, policies	Maintaining ethics and lifestyle	Honesty, solidarity, criticism and self-criticism	The attitude of serving the people	Compliance with internal rules and regulations	Compliance with the assignment of the organization	The spirit of cooperation, improving qualifications	
<b>Specialized civil servant</b>	30	25	5		5	5	4	3	3	5	5	10	<b>100</b>
<b>Managerial civil servants</b>	10	25	5	20	5	5	4	3	3	5	5	10	<b>100</b>

**Source: Summary based on Ha Noi civil servant evaluation scale in 2013**

In Da Nang, with the method of marking (100 points), in the criteria prescribed by the Law on Cadres and Civil Servants, the criterion "Observance of the line and policies of the Party and laws of the State; Political qualities, ethics, lifestyle and working style and manners" is marked 10 points; the criteria "Task performance progress and results; Attitude in serving the people" is 20 points; and the criterion "Specialized or professional capabilities and qualifications" is 70 points. There is also marking criteria to civil servants with good performance and negative points for those with under performance.

**Table 3. Scale of civil servant evaluation in Da Nang City**

Object	Self evaluation						Bonus points						Total
	Regulation compliance	Attitude, responsibility	Performance effectiveness	Performance time	Leadership competence	Subtotal	Regulation compliance	Attitude, responsibility	Performance effectiveness	Performance time	Leadership competence	Subtotal	
Civil Servants who are Supporting staff	8	18	35	21		82	2	2	10	4		18	100
Civil Servants who perform Advisory tasks and general affairs	8	18	40	16		82	2	2	10	4		18	100
Head of section	8	18	35	11	10	82	2	2	10	2	2	18	100
Department Vice-Director	8	18	25	8	23	82	2	2	10	2	2	18	100

**Source: Summary based on work performance evaluation forms for civil servants of Da Nang City**

At the same time, the monthly evaluation on online software helps to ensure the objectivity, fairness and transparency as the software will sum up the points and result the level of task completion as prescribed in the Law on Cadres and Civil Servants. The software will automatically announce results of the evaluation and information after the Evaluation Board reviews the highly different points between the direct supervisors, civil servants and those who have long time off in the month that affects the work ... and select individuals with excellent results.

Over 2,000 employees have logged in, used the software; 35,000 working tasks have been declared and input in the system. In 2013, the proportion of administrative civil servants in departments, sections, districts was 4.5 times lower than in 2012, indicating a significant change from the previous classification by votes. The increase in proportion of under performance civil servants proves the initial success in working result classification of civil servants and employees in the agencies and units.

### EVALUATION OF THE MODEL

actual evaluation of civil servants in Ha Noi, Da Nang shows that the renewal of civil servant evaluation method associated with service performance has achieved the following achievements: Forming general legal framework for the evaluation of civil servants; Being proactive in innovating civil servant evaluation model in localities; Highlighting the performance result in civil servant evaluation and the results have made the classification of civil servant's work devotion more clearly.

In addition to the positive changes, the evaluation of civil servants under the Law on Cadres and Civil servants reveals the following limitations:

**Firstly, the evaluation criteria still do not really focus on the performance of individual civil servants**

Six evaluation criteria of Article 56 include: (1) Observance of the line and policies of the Party and laws of the State; (2) Political qualities, ethics, lifestyle and working style and manners; (3) Specialized or professional capabilities and qualifications; (4) Task performance progress and

results; (5) Sense of responsibility and collaboration in work; (6) Attitude in serving the people. In particular, the performance of the task only accounts for 2/6 criteria (criterion 4 and 5), no weight or different rate when evaluating. Criteria mainly focus on personality characteristics and compliance with general regulations rather than specific work objectives; Too emphasizes that civil servants must obey obligations rather than creatively fulfill or exceed personal goals associated with the goals of the unit or agency.

According to the author's survey, the question "Which of the current civil servant evaluation results highlights the following?" The six options are: (1) Performance result; (2) Task performance progress; (3) Political qualities; (4) Ethics, lifestyle, spirit of cooperation; (5) Compliance with regulations; (6) Personal Achievement. In particular, respondents can choose from a variety of options. Through the survey, the results are as follows:

**Table 4. Results of the survey on the most focused content through civil servant evaluation**

Unit: %

Contents	Central level	Provincial level	District level	Commune level
Completion of task	76.00	76.92	68.18	78.88
Political qualities, ethics, lifestyle and working style and manners	98.00	53.84	37.50	54.03
Compliance with regulations of the the State/organization; task performance process	72.00	32.05	36.36	38.50
Personal achievements	37.00	33.33	23.86	24.84

**Source: Survey data of the author**

With the above results, it can be seen that civil servants at all levels have been fairly evaluated. There is no big difference between the criteria and the evaluation results are closely linked to the ethical evaluation, lifestyle and rule observance. In which, the evaluation of civil servants in association with the completion results takes the highest percentage. This is also an important orientation in renovating the civil servant evaluation in the view of the Law on cadres and civil servants. The problem is that the percentage of evaluation result that focuses on personal achievement is relatively low.

Obviously, this is a huge contradiction when task completion is a factor of concern but it is not associated with individual achievement. This is in line with the statement in the Summary report on the implementation of Ordinance on cadres and civil servants from 1998 to 2008 "method, content and criteria of evaluation on cadres, civil servants have not focused on work effectiveness and result... The proportion of civil servants rated as excellent, fair, average, and poor has not been linked to the results and task completion level of the agency or unit. The situation "retreat to avoid a conflict" is still common in evaluation so it is not clear to define the well-performed civil servants with the underperformed ones". Thus, the result-focused evaluation of civil servants meets difficulties due to inadequacies from the criteria system.

### **Secondly, names of the criteria are not consistent**

According to Article 56 of the Law on Cadres and Civil Servants 2008, among the 6 criteria for evaluating civil servants, if criteria 3, 4, 5, 6 are relatively clear and consistent in terms of names, criteria 1 and 2 are still duplicated and unconfirmed leading to difficulties in actual evaluation. In which, criterion 1 is "Observance of the line and policies of the Party and laws of the State"; The second criterion is evaluation through "Political qualities, ethics, lifestyle and

working style and manners". The political qualities of civil servants show their loyalty to their career, helping them to overcome difficulties, challenges and temptations to form the bravery of daring to do, daring to take responsibilities before the law.

The problem is that what is the different between the political aspect of criterion 2<sup>4</sup> and criterion 1, and in fact, when conducting the evaluation, the political quality is often expressed through the "perception" of the subject, which is not linked to work performance. This leads to a staff with very good moral qualities has his work incompleting or completed on average level and vice versa. Therefore, the use of the names of the criteria 1 and 2 is not generalized to unify the way of implementation.

### **Third, some criteria are difficult for measurement**

With the criterion "*Political qualities, ethics, lifestyle and working style and manners*" (Criterion No. 2 of the Law on Cadres and Civil Servants), the content of "political qualities" here coincides with criteria No. 1, so these two groups are in-distinguishable and quantifiable, which will often be ignored when conducting the evaluation. In terms of "Political qualities, ethics, lifestyle and working style and manners", it can be understood as follows:

- 1) The ethics are associated with the implementation of the principles and norms of work on the basis of law and agency regulations. If not clearly defined, it will be confused with the personal ethics in daily life and used as a basis for evaluating work performance;
- 2) Lifestyle is reflected in the relations between civil servants and colleagues, the cooperation and collaboration spirit between civil servants and related organizations and between the civil servants' behavior and organizations, citizens in the society. These expressions are not always clearly identifiable but are sometimes reflected through public opinion, the people's opinions by praise or criticism;
- 3) Working style and manners, ethics of civil servants are evaluated through behaviors and attitudes of civil servants in performing their duties, including the following: compliance with the provisions of law; communication language, gestures... to communication objects;

However, these criteria are very difficult to measure accurately, mainly based on the perception of the evaluation subject. The undefined standards to evaluate qualities will lead to maximum points given to civil servants in this group of criteria, becoming the "life buoy" of the total score for the underperformed person. Criteria are difficult to quantify, for example, for the criteria of spirit and attitude to serve the people, the role of citizens in evaluating civil servants should be documented, institutionalized to take effective and become a part of the overall ratio of public servant evaluation.

The above limitations are due to the following reasons:

*Firstly, the system of jobs and positions has not been completed.* The determination of work position will be the basis for the competent agencies, organizations and units to carry out the evaluation accurately, objectively and fairly for civil servants. The job description and/or role description sheet is a quantitative measure of the quality of civil servants that is not based on willingness or through other factors. However, the job description and position-based system has not been completed, so it is not possible to develop consistent measurement tools.

*Second, there is a lack of formal commitments between the subject and the object of management as the basis for the evaluation.* This reflects the fact that the civil servants themselves evaluate their results and do not remember all the work/tasks they have done. This can be done very easily if there are archives such as work logs, work plans.

*Thirdly, the evaluation results are not directly linked to job rearrangement and the application of policy and mechanisms to civil servants.* It can be seen that the current evaluation results are mainly used to classify civil servants at the end of the working year, which is not a direct basis for planning, appointment, training and retraining decisions, development plans and the dismissal of underperformed civil servants.

As a result, the results of specific civil servant evaluations are not really linked to the development of civil servants, which makes them satisfied with the need to develop and assert themselves. The salary regime in state agencies is based on grades and categories; focusing on experience and qualifications of civil servants expressed through diplomas. Those of the same grade and category get the same salary despite their different dedication and performance. There is no competition for benefits, which discourages the evaluators to be responsible for evaluation contents. Since then, the process of evaluation has become increasingly less critical to minimize shortcomings of colleagues. This is the reason why the number of "advanced labors" title occupies such a large proportion in state agencies over the past time.

### CONCLUSION

With the well-defined rules of civil servant evaluation in Vietnam, there is much to be done in order to have a management approach that is able to promote qualified people and eliminate the weak. If there is no basis for performance evaluation, it is difficult to highlight the result factor in order to apply related policies. In order to effectively carry out the evaluation of civil servants, the following prerequisites must be taken into account:

- Results-based evaluation system should be linked with the development strategy of the organization. Hence, gradually integrating into the system, making members of the system to socialized, adapt, trust, and welcome. This is the basis to form the evaluation of individuals by work results, achievements, dedication.
- The results-based evaluation system requires active and responsible participation of all stakeholders in the organization, including the head and staff to be able to formulate evaluation criteria with high consensus and agreement.
- The results-based evaluation system should ensure the consistency of the whole system so that the evaluation can be standardized and compare results among individuals. Therefore, the role of leaders, specialists, and officers of the organization will play a decisive role in the design, development and improvement of the system.
- Results-based systems need to focus on performance rather than on other factors. Where there are many results, there must be indicators for measurement, reflecting the end result.
- The results-based evaluation system should provide valuable, reliable and practical information for the leader to use for assigning, arranging, rearranging the agency's policies such as results-base payroll, planning, appointing, and personal development.

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# The Role of Employee Training and Development in Achieving Organizational Objectives: A Study of Accra Technical University

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## ABSTRACT

Training and development is the field which is concerned with organizational activity aimed at bettering the performance of individuals and groups in organizational setting and to achieve the set objectives of the organization. It is a combined role often called human resources development meaning the development of "Human" resources to remain competitive in the marketplace in achieving objectives. Training focuses on doing activities today to develop employees for their current jobs and development is preparing employees for future roles and responsibilities. It carries out an analysis that the objective of training and development is to create learning organizations which ensure that employees through value addition can effectively perform their jobs, gain competitive advantage and seek self-growth: this measurable performance resulting from good training and development, shall enhance organization development. It is a process transferring information and knowledge to employees. It is equipping employees to translate that information and knowledge into practice with a view to enhancing organization effectiveness and productivity, and the quality of a management of people. It should be considered along with education policies and systems which are crucial to the development of human resources.

**Keywords:** Training and Development, Objectives, Organizations, Accra Technical University, Performance, Employee

## INTRODUCTION

Employee training and development is a necessary tool for achieving organizational objectives. The quality of staff in every organization leads to effective progress and development of the organization and the nation as a whole, the growth of every country or organization depends on the quality of its people or human resource. Human Resource Management is the key resource in creating a quality-oriented organization. It is the process of accomplishing organizational objectives by acquiring, retaining, terminating, developing and properly using the human resources in an organization. Human Resource is the backbone of every successful business. Recent technological advancement has brought about the need for the development of human resources of the organization. Organizations can survive or perform effectively if they obtain and develop the quality and quantity of its human resource. The quality of employees and their development through training and development are major factors in determining long-term profitability of an organization. A company's most valuable resource is its people. Managers and supervisors need to protect and enrich this resource (Noe, 2006). If you hire and keep good employees, it is good policy to invest in the development of their skills, so that they can increase their productivity. The quality of employees and their development through training and education are major factors in determining long-term profitability of any organization. According to Rothwell (2001), employees frequently develop a greater sense of self-worth, dignity and well-being as they become more valuable to the firm and to society. It is

against this background that this research was conducted to ascertain and to bring to the fore, the importance of Training and Development of staff of Accra Technical University.

## **LITERATURE REVIEW**

### **Training and Development**

Training and development refers to the process to obtain or transfer KSA (knowledge, skills and abilities) needed to carry out a specific activity or task; therefore, benefits of training and development both for employer and employees are strategic in nature and hence much broader. In order to meet the current and future challenges of our business, training and development assumes a wide range of learning actions, ranging from training of the employees for their present tasks and more so, knowledge sharing to improve the business horizon and customer's service. It also focuses on their career development, thus expanding individual, group and organizational effectiveness. A comprehensive training and development program helps in deliberating on the knowledge, skills and attitudes necessary to achieve organizational goals and also to create competitive advantage (Peteraf 1993). In fact, in the start of the twenty-first century Human Resource Managers have opined that one of the main challenges they are to confront had involved issues related to training and development (Stavrou, Brewster and Charalambous 2004).

### **Training and Development and its Process**

In order to ensure that our employees are equipped with the right kind of skills, knowledge and abilities to perform their assigned tasks, training and development plays its crucial role towards the growth and success of our business. By choosing the right type of training, we ensure that our employees possess the right skills for our business, and the same need to be continuously updated in the follow up of the best and new HR practices. To meet current and future business demands, training and development process has assumed its strategic role and in this regard few studies by Stavrou et al.'s (2004) and Apospori, Nikandrou, Brewster and Papalexandris's (2008), have attained much importance as these highlight the T&D practices in cross-national contexts. Apospori et al. (2008) had deduced that there is a considerable impact of training on organizational performance. Differently from these studies, Cunha, Morgado and Brewster (2003) were the only ones who could not determine the impact of training on organizational performance, and suggested that another study on analysis of this relationship was needed.

### **Need of Developing the Employees**

Jackson (2002) opined that some cultural assumptions underlie human resource management with regards to developing employees: he deliberated through an example which highlighted the distinction between the hard and soft approaches on developmental aspects, appearing in the strategic HRM literature. The hard approach assumed the employees in the organizations as mere resources to achieve the objectives of the organization, whereas the soft approach viewed the employees more as valued assets capable of development (Tyson and Fell 1986; Hendry and Pettigrew 1990). The need for developing our employees is compelling because a sound Training and Development plan has its contributions to increase productivity and quality of work. The development strategy reduces staff turnover and absenteeism and also helps in improving motivation among the employees. In order to stay ahead of our competition, training and development plan must incorporate innovation and reinvention and this is only possible when training encompasses a wide range of learning actions. Therefore, an ideal training shall become part of a company-wide strategy and it must be linked to business goals and organizational performance.

According to Robinson (1999) development must be systematic and adequate to enable the individual perform the given task or job. Organizations develop where employees and employers have recognized training as a means of improving performance of individuals or groups. Bateman and Snell (1999) define training as teaching lower level employees how to perform their present jobs. Training is using guided experience to change employee behaviour/attitude and is the process of changing employee behaviour/attitude through some type guided experience. Human resource plays a central role in molding a company's workforce into a motivated and committed team that can help the company and its management manages change more effectively. The fact that today, employees are central to helping companies achieve competitive advantage and manage change has led to the emergence of strategic human resource management and development with strategic goals and objectives in order to improve business performance and develop organizational cultures that foster innovation and flexibility. Strategic human resource means accepting the human resource function as a strategic partner in formulating the company's strategies as well as in executing those strategies through human resource activities like recruiting, selection, training, development and rewarding.

### **Importance of Training**

At Accra Technical University, the aim of orientation and training is to socialize new employees and to foster high level commitment and identification with values, traditions and goals. This process involves teaching employees the core values such as standing behind the institution, taking the initiative and being able to work in teams. Pratt and Bennett (1979) defined training and development as a systematic development of knowledge, skills and attitudes required by an individual to perform a given task whilst development on the other hand, refers to the acquisition of knowledge or skills to be used in possible future jobs. Development tends to be more person centered than training.

### **The Impact of Employee Development**

Touching on the issue of employee development or human resource development, Walton (1999) has this to say, "Whereas much marketing literature talks about products and achieving sales, in terms of human resource development, we talk about identifying and satisfying learning needs". He says that human resource practioners should think about the provision of consultancy and monitoring services and conduct of training needs analysis should be considered as avenues for reaching and satisfying employees and meeting their learning needs. Over the years, human resource development function has proved to be one of the most vulnerable areas of being downsized or dispensed with when an organization is in crises or is looking for efficiency savings. One reason is that in financial terms, the provision of training and related activities has frequently been treated as one of the outgoings that can be forgone without the basic product or services of the organization being sacrificed. Training, other than basic skills training, has often been seen as a luxury, and it has proved extremely difficult to establish any tangible relationship between the cost incurred and the benefits gained especially in terms of the "bottom line". We are in an environment where the mutuality and reciprocity of the employment relationship is constantly being emphasized.

### **Employee Development Programs: Key Components**

There is no single formula for creating an employee development program, but there are some important components that should be considered. A truly effective employee development program should include learning, career planning, goal setting, and evaluation. These areas will help the program be beneficial to the employees who utilize and to the organization that provides it. Without them, the employee development reverts back to being simply training.

One of the main reasons learning is becoming more and more crucial is the rise of technology. Knowledge and information are moving faster than ever with the Internet and a business cannot keep up in today's world if its employees do not have access to it. Although higher education is important to prepare people to work in business, they still need a new set of skills by the time they start working (Gerbman, 2000). It becomes the responsibility of the employer to make sure people have these skills, and it must be an on-going process. When employees need information, they often need it right now and two days from now is not soon enough. Therefore, companies need to make sure people can learn anytime (Garger, 1999). For this reason, intranets and computer-based training modules are necessary. In addition to technology, Eileen Garger also cites reorganization of companies and the changing relationship between employers and employees as reasons for the move from training to learning (1999).

According to Cunniff, (2000) "knowledge is capital, for both the individual worker and the company". Organizations and individuals should value knowledge as they do money, because in today's market they go hand in hand. Individuals must value learning as much as the organization. Ralph Bates, vice president of learning and professional development for American Management Systems, Inc. out of Fairfax, Virginia, recognizes that, "the best learning is done when individuals are motivated to learn on their own" (Garger, 1999). Companies no longer feel an obligation to control and direct employees' careers, so people at all levels are taking charge of their own career management (Feldman, 2000). It is the role of companies to provide opportunities, but individuals must take the initiative to utilize those opportunities and position themselves for future career success (Garger, 1999).

Since companies can no longer guarantee employees promotions to the top, it is important that they help employees with career planning and skills development. Some organizations fear that career planning will communicate to employees that their jobs are at risk, but it can be framed differently to communicate that they are willing to invest in helping employees reach their potential (Moses, 2000). Companies can also help ease employees' minds by making career planning a standard part of their employee development process rather than introducing it when they know they are going to be facing a period of downsizing or restructuring (Moses, 2000).

In conclusion, much of the recent literature on career development has it that, in today's organizations, there is no longer a guarantee of a career for life in a single institution and individuals who were previously cosseted need to take greater responsibility for their own career development. Traditional approaches to career path analysis and targeted development are breaking down. This trend is borne out as a result of empirical studies into a number of large corporations.

## DISCUSSION

### **Employee Performance and Training and Development Activities**

Today, the relationship between the organization and the employee has changed. A greater importance is attached to the value of individuals and the team contributions, to find effective business solutions which play key role towards successful organizational performance through its objectives. The employee is viewed as a 'learning customer', bringing personal preferences and motivation to the workplace, and thereby displaying innovation in his managerial skills. There are positive relationships between training and development and organizational objectives as a measure of performance. In case of learning organizations like Accra Technical University, training has been linked to both strategy plan and organizational performance: training must be aligned to organizational strategy in order to result in high performance

(Delery and Doty 1996). The strategic formalization of training facilitates organizations to analyze and carry out effective internal and external scanning of their work environments (Lyles, Baird, Orris and Kuratko 1993): clearly defined vision/mission statements and organizational strategies are part of the strategic planning process which contributes towards the development of specific functional strategies needed to achieve business objectives. Strategy formulation is important in the development of HR strategies needed to attract and retain the human capital required for gaining competitive advantage (Poole and Jenkins 1996). Therefore, it is proposed:

***Hypothesis 1: Employee performance (job satisfaction, competitive advantage and measurable performance being its levers) will mediate the relationships positively between T&D activities and organizational objectives.***

### **Training Formalization Including Implementation and Its Evaluation**

The new trends and current business challenges have created the need for strategic approaches to training and development. HRD Department must have the ability to formalize training and development plan, its alignment with the business strategy, and its implementation and evaluation to enhance organizational performance. Training and development does not take place in a void but within specific contexts as perceived by scholars. Many studies demonstrate the importance of understanding the human behaviors. There are human resource practices which are considered important in one scenario but the same may be considered less important in the other. We have to understand that at the organizational level, culture, values and work force diversity are major features which affect the relationships between training and development and organizational performance. Similarly, ownership, size, technology and organizational structure are few other features which influence HRD activities and organizational. Therefore, it is proposed:

***Hypothesis 2: T&D formalization including its implementation and evaluation will be positively related to organizational performance.***

### **Learning Organization and its Strategic T&D Alignment**

Training and development process includes a wide range of learning actions and therefore to develop an organization with a strategic focus, it becomes a model of learning organization. In order to maintain and nurture such organizations, we require strategic focus on the needs of learning, both for the employer and the employee. In order to create a win-win situation both for the organization and the employee, the employer must consider the learner (the employee) as a vital investment for organization's successful performance. In these organizations, a direct linkage between the organization's mission and its learning culture, benefits both the employer and the employee, highlighting the positive associations of learning, motivation and organizational performance. The learning organization therefore requires an environment that supports growth for individual capability and experience and, at the same time, increases business performance. For a learning organization to become effective, it is necessary that leadership support and guidance for continuous learning is vital, specially steered by the CEO. Therefore, it is proposed:

***Hypothesis 3: Learning organization and its strategic T&D alignment will be positively related to organizational performance.***

### **Training and Development**

#### ***Identification of Training and Development Needs***

Management of Accra Technical University are expected to discuss training and development needs with each of their staff at least annually as part of the Performance Review and Planning process in achieving institutional objectives. The training and development needs of staff newly appointed to their positions should be discussed within three to four weeks of their

taking up the position, whether or not they are new to the organization. However, in Accra Technical University, the case is of the reverse.

### ***Internal Training and Development Sessions***

The Training and Development Unit under the university's registrar organizes training for staff on campus and at times outside the university and sets up specific sessions to meet identified needs for a department or section group of departments, or occupational group.

### ***External Training and Development***

The university sponsored staff attending external courses from time to time. The university may decide to send staff to specific external courses. Depending upon the nature of the course and the time frames, nominations may be sought by the Registrar and Departmental Heads as appropriate. Representation will be decided by the scholarship Committee. Fees (and approved travel and accommodation where applicable) will generally be met from the centralized training budget. Any other incidental costs are the responsibility of the nominating department or section. Staff members supported from this budget are generally expected to submit a brief report to the Registrar, the Vice Chancellor and where appropriate, may be expected to pass on the knowledge and skills gained to a wider group, for example through seminars or workshops.

### **Training and Development Its Role in Achieving Organizational Objectives**

Is investment in the area of training and development linked to the bottom line within the business. Increasingly, high performing organizations today are recognizing the need to use best training and development practices to enhance their competitive advantage. Training and development is an essential element of every business if the value and potential of its people is to be harnessed and grown. Many studies have highlighted the clear links between well designed and strategic training and development initiatives and the bottom line within the business. The image of an institution and of individual employers is also influenced by the extent and quality of staff training and development. Potential employees in such an open labour market will assess the track record of prospective employers in this vital area. Career Progression and development is an increasingly attractive or even basic requirement for many such employees. In today's business climate where all industries are experiencing staff and skills shortages, companies are faced with stiff internal and external competition for quality employees. Each employer who invests seriously in the area of training and development will reap the benefits of an enriched working environment with higher levels of staff retention as well as increased productivity and performance.

### **Training and Development Objectives in an Organizational Development**

The types of training and development goals identified will depend on the personal and organizational objectives identified through the strategic planning process and the agreed appraisal procedure. In any event the goals shall, as a minimum standard, take account of the following.

- Continuing personal and professional development
- Equal Opportunities Policy
- Requirements for core competencies
- Requirements for organizational change
- Requirements for professional and vocational qualification in further education
- Requirements for professional, vocational and workplace updating
- The mission
- The strategic objectives of the University
- The Values

## TRAINING AND DEVELOPMENT ANALYSIS AND FINDINGS

The analysis of the T&D research revealed that HR's role is to establish and implement a high-level roadmap for strategic training and development. The strategic positioning of training and development directly promotes organizational business goals and objectives, and thereby enhancing organizational performance. The findings emerged as a result of survey are discussed as under:

- Organizations must focus on continual learning and job trainings in order to achieve their stated objectives
- Registrars, VCs and managers should be involved in policy decisions for training
- Good training must provide opportunities to learn and grow
- Employee Performance is augmented through competitive advantage

## CONCLUSION

There is still a big gap between the knowledge and skills imparted and acquired in the institutions and its applications as seen in the industrial environments. Due to this gap, organizations now feel that there should be a close liaison between such institutions and the industry so that employee development programs are made more purpose oriented. There are training institutions which offer customized as well as off-the-shelf programs based on their client's business operations but yet, there is much to be improved. Therefore, training and development cannot be disconnected from the business activities of the organizations; on the contrary, this is the area that clearly illustrates positive relationships between training activities and the organizational objectives. In particular it is recognized that an effective training and development policy can be a crucial factor in addressing inequalities in employment in relation to race, gender and disabilities. It is recommended that organization produce a training and development plan, the aim of which shall be to empower all employees to carry out their roles to the highest standards, and deliver high quality services to customers based on the organizational objectives. In these, training and development are broadly defined as those activities aimed at raising the standards of employee practice and thus lifting the quality of the employees, and customers learning and organization experiences.

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## Proximity and creation of relational value: Case of the automotive subcontracting of level two's relationships in Morocco

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### ABSTRACT

The challenge which represents the risks related to the relation of subcontracting and the importance of the modes of management of these risks in the performance of the relation of subcontracting, the comprehension and the determination of interaction enter the subcontractor and the customer; they lead the subcontractors particularly to search or create relational values able to maintain, to sustain the relation and to avoid all risks of opportunism and uncertainty of the customers. And thus we supposed that the proximity will play a significant role in the search and the creation of relational values. We put our attention on automobile subcontracting since recently the development of the subcontracting of proximity in automobile industry in Morocco becomes the concern first with the needs for the companies of the sector (Moroccan association of industry and the automobile Trade, 2014).

**Keyword:** Proximity, relational value, automobile subcontracting, relation between firms, Correlation of Pearson.

### INTRODUCTION

Dupuy et Torre (2000) suppose that *“the geographical proximity can constitute, by establishment of generating repeated relations of common culture and cooperative links, even of confidence, a factor of cohesion and diffusion of information, favorable to the establishment and the perpetuation of cooperative relations”*( Dynamic of proximity, p.77). On their assumption, the authors specify only the geographical form of proximity. Only, so that a link of confidence is founded in the relation between economic actors, the intervention of the forms of no geographical proximity is essential and complementary. In general, they are to be regarded as most important with the establishment of a perennial confidence between two companies. However, confidence is a relational value among others. The innovation through the training rises from the co-operative interaction between actors (OECD, 1992) and the proximity facilitates the interactions at the same time direct and repetitive. For Boschma (2004), the proximity (cognitive) stimulates the learning and the innovation in a relation between companies. The satisfaction is considered as the mediator of the behaviors of actors in relationship (Oliver, 1980; 1997; Westbrook, 1987). It represents *“an emotional state coming from a process of evaluation emotional and cognitive which occurs at the time of a specific transaction”* (Plichon, 1998, Vanhamme 2002). Satisfaction is a value searched by the companies in their relation with their partner.

The study of our paper is to bring brief replies to the principal question: could the proximity create relational value in a relationship between a subcontractor and his customer?

The plan of our paper will be conveyed by four main axes:

Firstly, a literature review on the link which can exist between the proximity and different relational value with knowing confidence, the learning and satisfaction, abstraction made as of

other existing values in a relation of companies. Secondly, the methodology which we followed to bring of the brief replies to our study through a directing survey addressed to 41 companies of automobile subcontracting of second level installed in Morocco. Thirdly, the results which we obtained. Fourthly, proposals for the development of the analysis followed by a conclusion of our article.

## LITERATURE REVIEW

A value, in the subjective sense, is perceived as the expression of the interest which a particular agent carries to a product, a service or a behavior, which results from a psychological process of evaluation. We refer here to the subjective values (relational) and no objective. Analysis of space dimension in the economy, we incite to discover the concept of proximity regarded as one of the bases of the coordination of economic agents in a geographical space. The proximity is a short distance which separates two or several companies. It is generally articulated around two principal dimensions: a dimension of nature geographical and another of no geographical nature (Torre, Rallet, 2005). We are considering to bring elements of the literature on the existing link between the proximity and different relational value: Confidence, Learning and Satisfaction.

### Proximity and Confidence

The Confidence maintains the dialectical relationships to the proximity (Dupuy et Gilly, 1994; Servet, 1994; Torre, 1995). To study the link between confidence and proximity, it is initially to distinguish a double dimension from confidence (Sabel, 1992). The first dimension is the multiplicity of the interpersonal exchanges where the geographical proximity plays a significant role with its creation (interpersonal confidence). On the other hand, the second dimension relates to the presence of a history and a common representation between the actors in relation where the no geographical proximity appears largely in this dimension (Community confidence).

In a context of shared exchanges, the interpersonal relationships are more important compared to the industrial relation or commercial relation. The establishment of the agreement protocols relatively informal, which can be regularly validated, requires the need for geographical relations of proximity. This need for space bringing together between two individuals allows direct contacts and repeated known on the expression the "*face-to-face repetitive discussion*". Indeed, when two actors meet regularly the confidence is reinforced owing to the fact that problems of coordination can be easily solved, through physical bringing, in contrary, to contacts located at a distance that could harm confidence in the relation and would thus generate uncertainty between the two parts. The relation which is established between the individual actors is founded on the repetition of the interactions. More the distance is weak and more repetitive the interactions will be, what creates a multiplicity of the exchanges between the individuals. The repetition of the relations of face-to-face discussion, permitted by the geographical proximity, will be born from the links of partnership. These links of partnership, as for them, are founded on a confidence which would imply a total co-operation. Generally, the geographical proximity is a solution with the reduction of uncertainties by supporting the face-to-face discussion direct and repetitive between the economic actors what would reinforce the introduction of the link of confidence. But the geographical proximity must remain at the very least a "*setting of relational availability*" (Bergson, 1984), between companies located in same space. The trust relationship must be due by the no geographical presence of proximity, such as: the culture, organization, institution, community...

The presence of a representation and a common history between two economic actors makes it possible to tie and maintain a trust relationship. In a relation between actors, to have the same culture, the same religion, the same language or the same ethnic heritage a bringing together in no geographical matter represents. According to Giddens (1991), a no geographical proximity is important as regards link of confidence especially when it acts of ethnic networks, in which the reference to the same origin gives birth to the trust relationship. Orléan (1994) had given an explanation on this subject in which it estimates that *“when a firm A seeks to evaluate if it can trust a firm B, what it analysis is the nature of the relation of the firm B at a certain community and its rules by raising the following question: is it a reliable and faithful member of this community?”*. The Confidence is thus related to a community of actors in relation. Harrison (1992) also defines that: *“Proximity, therefore experiment, therefore confidence, therefore collaboration, therefore reinforced regional economic growth”*. There thus exists well a significant link between proximity and confidence in a relation between companies.

### **Proximity and Learning**

Learning and interaction are currently two important concepts with all processes of technology innovation. The proximity is source of creation of training and innovation by stimulating the interactions between the economic actors (companies, association, public administration, university, etc). Lundvall (1988) supported that the companies learn and adapt to *“better practice”* when they are in interaction with the other companies and the other organizations. So the innovation rises from the co-operative interaction between actors (OECD, 1992). In the literature on the innovation of the evolutionary economy, several researches insist on the basis of interactive and institutional of the learning and the creation of the knowledge (Asheim, 1996). Indeed, the concept of learning is central. It allows the economic agents to generate dynamic advantages the such as innovation thus exceeding any attempt at search for imitation (Storper, 2000). The innovation is the result of interactive Learning. According to the thought of Boschma (2004), the proximity stimulates the interactions and contributes to the training and the innovation. The organizational proximity for example in its rather broad definition refers to the way in which the interaction and coordination between actors are organized within a company or in a network of actors. The actors share here the same space of relation. Moreover, the actors can also share the same space of reference and knowledge. The organizational proximity explains clearly why the interactions between companies or organizations are generally influenced, modeled and limited by their institutional environment. The institutional proximity can be another stimulative form of the interactions between actors and thus learning and innovation’s creation (Boschma 2004, Zukin and Di Maggi 1990). As it was defined higher, this form of proximity indicates that the economic actors will share *“[...] a space common compound of representations, models and rules applied to the thought and the action”* (Kirat and Lung, 1999). Other forms of no geographical proximity can stimulate interactions and thus create training and innovation the such as cognitive proximity (Boschma, 2004, Boba-Olga and Grosseti, 2008), social proximity (Boschma, 2004), political proximity (Talbot, 2008), cultural proximity (Boschma, 2004), circulatory proximity (Frigant, 1996) or technological proximity (Tremblay D.G. et al., 2003). Moreover, without being unaware of its greater importance, the geographical proximity’s form also makes it possible to support the interactions between actors by the short distance who separate them and makes the interaction increasingly repetitive what makes it possible to reinforce the process of learning and innovation (Nonaka1994, Carrincazeaux and Lung, 1998; Malecki and Oinas, 1999; Gilly and Torre, 2000). Torre (2009) could give according to his study a space translation of the relations between actors within the dynamic framework of the training through the proximities by determining exactly three sequences different of interactions close or remote of the joint project of production and exchange of knowledge.

Grabher (1993) supports the fact that the cultural and geographical proximity are intermingled and are reinforced one the other, which facilitates the interactive learning: *“a homogeneous culture creates rules and generates confidence, and its geographical limits increase the probabilities of social interaction and communication, which reduce the problem of limited rationality”*. The membership of networks of institution and knowledge generates *“a mental adhesion with common categories where agents are at short cognitive distances from/to each other”* (Torre, 2010; Torre and Beuret, 2012). Any form of proximity can intermingle and become combinations of proximity supporting the capacity of the economic actors to be learned and innovate. A play of complementarity and substitution takes shape thus between the geographical proximity and other forms of proximity. Several researchers could show the substitution effect and of complementarity between the forms of proximity and the influence on the training and the innovation of the economic actors (Hausmann, 1996; Sierra, 1997; Edquist, 1997, Rallet and Torre, 1999; Nooteboom, 2000; Frenken, 2001; Maskell, 2001; Boschma, 2004).

### **Proximity and Satisfaction**

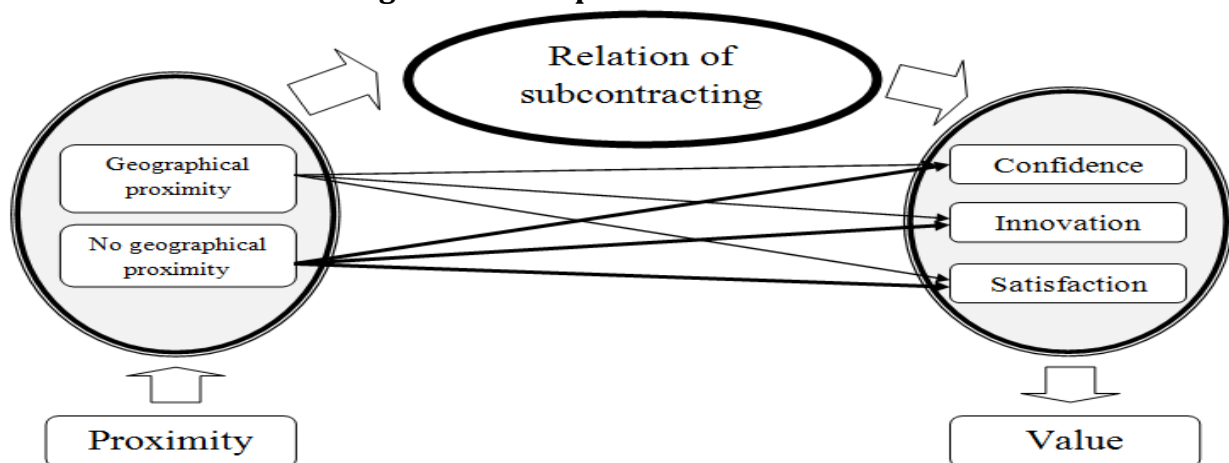
The satisfaction is a value searched by the companies in their relation with other companies. The satisfaction, in the strict direction of the term, is a state which results from the achievement of a desire. That means that there will be satisfaction if and only if the product/service exactly provided to the customer what the latter wished. However, this definition does not take into account the aspect of the behavior (Hunt, 1977; Aurier and Evrard, 1998). However, each relation of actors has a characteristic different from/to each other concerning their satisfaction. Indeed, each actor in relation with his own characteristic to satisfy such or such relation with such or such actor and different factors important which enables him to be satisfied with the relation with its partner. In a relation between two companies, satisfaction depends mainly on the performance carried out by one of the two companies in relation. In other words, for a customer satisfaction will depend on the performance carried out by the supplier as regards the respect of the legal tendencies describes in the contract (Atkinson, 1999). Moreover, satisfaction is regarded as the mediator of the behaviors of actors in relation (Oliver, 1980; 1997; Westbrook, 1987). It represents *“an emotional state coming from a process of evaluation emotional and cognitive which occurs at the time of a specific transaction”* (Plichon, 1998). Indeed, according to this definition, we note that satisfaction also refers on the behavioral aspect of the actors within a relation. She is regarded for certain authors as a psychological state and a phenomenon not directly observable (Aurier and Evrard, 1998).

We suppose that the proximity makes it possible to stimulate satisfaction in a relation between two or several economic actors particularly between sub-contracting company and customer company.

The geographical proximity is relating to the distance which separates two companies in space. A reduction of the space distances makes it possible to reduce costs of transaction between the subcontractor and the customer. The bringing together physical and temporary between the subcontractor and the customer allows the knowledge of the two parts, the mutual understanding of the problems and the practices of work what contributes to the cost cutting of negotiation and writing contract of the subcontract. For the theory of the costs of transaction, the relation between the subcontractor and the customer are one of the means of reducing the sum of the manufacturing costs and transaction (William Son, N; Quélin, 1997). Relational satisfaction between company can be generated by the availability and the bringing together of infrastructure. On this level, the use of a circulatory proximity allows the cost

cutting of circulation of the goods. In other words, the subcontractor needs to imbricate transport of the products within the productive processes, while controlling the temporal constraints related to tended flows (Frigant, 1996). The geographical proximity depends much and in a fundamental way to the development on the means of communication and New technologies of Information and the Communication (Torre, 2009) who generates a strong cost cutting of coordination between the subcontractor and the customer. The adoption of standards and common rules between the subcontractor and the customer is an important asset with the satisfaction of the relation. An organizational and institutional proximity is likely to generate this satisfaction. The use of the standards of production and organization adopted by the subcontractor makes it possible to have better a quality of the organization of this one on its activities and its production especially when these standards are appreciated by the customer. Generally, the concept of satisfaction for companies necessarily refers the specific satisfaction of a transaction between two or to several individuals representing the company who are placed high in terms of decision. We can join Vanhamme (2002) but on the basis of satisfaction of the customer companies specific to a transaction with their sub-contracting companies. Moreover, the satisfaction of the customer on the performance of his relation with the subcontractor reflects a competitive advantage of the subcontractor. The benefits of a cultural, political and social proximity on the behavior of two companies in relation make it possible to generate satisfaction. Indeed, two companies are satisfied with their report when they have for example a common language of communication which to allow them to facilitate the realization of the activities or having a common social culture which facilitates the meetings and, generally, the meetings of business. Boschma (2005) specifies that a cognitive proximity, understood as the division of the same knowledge base, is regarded as the essential condition with the creation of values as the innovation because it allows the learning between the economic agents. The use of this form of proximity does nothing but satisfy the relations between the subcontractor and his customer owing to the fact that it generates a trust relationship and of learning contributing to the innovation with the companies of subcontracting.

**Figure 1. Conceptual schematization**



**Proximity, Relation and relational Value**

Source: EL KANDILI (2016)

### METHODOLOGY

Our methodology of work rests primarily quantitative analysis through a questionnaire addressed to 41 companies of automobile subcontracting of second level installed in Morocco. The results of this questionnaire will be the object of two types of analysis: Descriptive analysis and Correlative analyze.

## Field of Analyze

Establishment of the Renault factory to attract several subcontractors of the automobile equipment: about twenty equipment suppliers of row 1 and several equipment suppliers of row n+1 are already present to provide the factory. For the year 2015, we have count nearly 250 companies belonging to automobile industry installed in Morocco.

**Table 1. The number of automotive manufacturer and automotive equipment installed in morocco**

Category	Effective	Frequency in %
Automotive	2	0,8
Manufacturer/Assembler	23	9,2
Automotive Equipment of Row 1	<b>225</b>	<b>90</b>
<b>Automotive Equipment of Row n+1</b>		
Total	250	100

Source: EL KANDILI (2016)

### ***Automotive Equipment's Suppliers of Row 2:***

These firms are part of the automotive equipment's suppliers of row n+1 and are also selected the suppliers of row 2 who are more or less internationalized companies and mainly local. Their customers are particularly subcontractors of the equipment suppliers of row 1 but also of the manufacturers or assemblers of vehicle. Generally, the equipment suppliers of row 2 are suppliers in direct contact with the equipment suppliers of row 1. The suppliers of row 2 manufacture primarily parts and components which return in "subsets" manufactured by the suppliers of row 1 who thus deliver them to the customer. As a whole, these companies are of less scale and constitute a dense and complex grid companies which gather a multiplicity of trades: 1) Founders of the metallurgists, 2) the manufacturers of filters, 3) the industrial rubber manufacturers... The automobile subcontractors of second level are of the subcontractor of capacity and speciality.

### **Quantitative Survey**

The directing questionnaire was selected for reasons of no availability in face-to-face discussion with the respondent. In other words, in the event of no availability direct of the respondent, the questionnaire can be sent and answered by this one without our presence. However, in the event of presence with the respondent we use in parallel the questionnaire with closed questions and a questionnaire with questions neither entirely opened, nor entirely closed. This questionnaire will be guided according to the maintenance followed with the respondent.

### ***Choice of the blocks of questioning***

So that we can prepare our questionnaire, we initially started to reflect on the choice and the number of the block of question which we will put in the questioning. We identified five blocks of questioning represented by the following items:

- 1) Item a: IDENTIFICATION
- 2) Item b: REPORTS CUSTOMERS
- 3) Item c: TRUST & DEVELOPMENT OF CONSUMER LOYALTY
- 4) Item d: LEARNING & INNOVATION
- 5) Item e: SATISFACTION

Each block edge contain 2 to 6 is questions has total of 15 questions<sup>1</sup>.

### **Sample of the analysis:**

The companies answering our investigation concern the equipment suppliers of second rank. This category of company of Moroccan automobile industry is part of automobile equipment of row N+1. These companies having a direct relationship with the equipment suppliers of first rank or row N+1 and often with the car manufacturer.

- a. Answering company: Equipment supplier/Subcontractor of row 2.
- b. Locality: the answering companies all are localized in the Moroccan territory<sup>2</sup>
- c. Origin: the answering companies are in the majority originating in France, Morocco and Spain
- d. Type of subcontracting: subcontracting of capacity and subcontracting of speciality.

Customer relation: equipment suppliers of row 1 and manufacturer (and or assembler). Nationality: Moroccan (15), French (12), Spanish (6), German (2), Portuguese (2). Four companies only did not specify their nationality.

For the directing questionnaire, 41 out of 150 persons in charge of companies having answered our directing questionnaire<sup>3</sup>. Table below watch this result:

**Table 2. Many companies answering the directing questionnaire**

Category of Survey	Sample size	Size of the population of reference	Rate of answer expressed as a percentage
Directive	41	150	27.33 %

**Source: Investigation 23rd-25th April 2014**

### **Descriptive and correlative analysis**

The data resulting from the directing questionnaire were treated and analyzed by statistical application software (SPSS). The representation of the tables and graphs was allowed by the transfer of data towards Excel. We could satisfy us only with the description of the data of the directing questionnaire. In other words, we analyze our data according to the tables of absolute and relative frequency and the representations of graphs statistical (pie-chart, histogram, and diagram in stick). Moreover, we carried out an analysis of correlation (Pearson)<sup>4</sup> to determine the link and the effect between the variables of our study. This analysis also makes it possible to test a good part of our assumptions.

<sup>1</sup> See Appendix: Directing questionnaire of the investigation (French/English).

<sup>2</sup> The majority of these companies are localized in the Moroccan territory and mainly in Casablanca and Tangier. Here proportions amongst participating companies gathered by town of localization:

- 1) Town of Tangier: 59 participating companies is 44,02%
- 2) Town of Casablanca: 39 participating companies is 29,10%
- 3) Other Moroccan cities: 6 participating companies is 4,50%
- 4) Foreign cities: 30 participating companies is 22,38%

<sup>3</sup> See Appendix: Professional statute of the respondent to the investigation (Table 8)

<sup>4</sup> Also called linear coefficient of correlation, the correlation of Pearson makes it possible to study the intensity of the connection which can exist between two or several continuous variables. It makes it possible to detect the presence or the absence of a linear relation between two or several continuous quantitative characters.

The correlation of Pearson<sup>5</sup> also called linear coefficient of correlation makes it possible to study the intensity of the connection which can exist between two or several variables continuous. This coefficient makes it possible to detect the presence or the absence of a linear relation between two continuous quantitative characters. The coefficient of correlation must be significant (the value of  $p$  must be smaller than 0.05). If the coefficient is no significant, it is considered that it is similar to  $R = 0$ . On the other hand, when it is significant, the coefficient of correlation gives two important information: the direction of the linear relation between the two variables and the force of the linear relation between the two variables.

## RESULT

We consider in terms of our results an analysis of correlation in order to determine the existence of link between the proximity (geographical and no geographical) and certain relational values (confidence, learning and satisfaction) in the relation between automotive subcontractor in Morocco and their customers.

### Proximity and Trust

The relation between the geographical proximity and trust is negative (-.435 \*\*). That means that even companies located at very weak distances cannot enter directly in trust relationship. Moreover, the exchanges between the companies (subcontractor and customer) are not influenced by a geographical proximity where two companies are located in the same area. We can that to confirm that the geographical proximity is only one setting of relational availability between the companies and does not allow to be able at it a relation to only integrate and thorough of exchange and confidence between the companies of automobile subcontracting in Morocco with their customers. However, the relation between the adoption of rules and common values and the trust relationship is positive and significant (.567 \*\*). This relation also supports the division between the automotive subcontractor and his customer (.257\*). In the same way, the relation is positive and significant between an institutional proximity and the joint design and development between the subcontractor and his customer (.547 \*\*), are the creation of learning. Finally, the relation between company is satisfactory when the two companies (automobile subcontractor and customer) adopt the same rules and values within their organization (.397\*), that is to say the creation of satisfaction<sup>6</sup>.

We could note that 40/41 answering companies have a relation based on confidence and the development of consumer loyalty and that 29 of them have an intense partnership with their customers. This result, it is clear that the value confidence exists in the relation of the companies of automobile subcontracting with their customers. The table shows that all the companies having answered our investigation approve that the development of consumer loyalty is important with the confidence of the customers. The development of consumer loyalty makes it possible to gain the confidence of the customer and to reduce any spirit of mistrust. It rests primarily with the regards of the commitments prescribed in the specifications of the customer (37/41). This respect is sign of confidence on the realization of waiting's customer. The respect of behavioral, organizational and technical standards by the subcontractor ensures the customers a confidence making it possible to reinforce the relation. For example, the fact that a subcontractor protects the information from the customers and respects the preferences of the customers about the use of their personal information is a

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<sup>5</sup> We have to use the correlation of Pearson within our framework of study since this coefficient of correlation makes it possible to analyze the linear relations and we do not have to use the coefficient of correlation of Spearman since it concerned the monotonous non-linear relation which does not concern the results of our case.

<sup>6</sup> See Appendix: Table 5, Table 6 and Table 7



development of consumer loyalty in oneself and thus allows the latter, the customers, to call on the sub-contracting company again and to recommend it. The respect of the commitments by the sub-contracting company enables him to have a good reputation (35/41) in the market and thus inspires the confidence of the customers. To have a good reputation a component of confidence (Kreps, 1990) represents. Moreover, to subscribe to rules and standards recognized universally by the companies of the sector also makes it possible to inspire confidence with the customers. For our investigation, 26 companies out of 41 admit that to have a certification is source of inspiration of the confidence of the customers. It can be regarded as a component of a trust relationship between two companies.

**Table 3. Aspects of Trust**

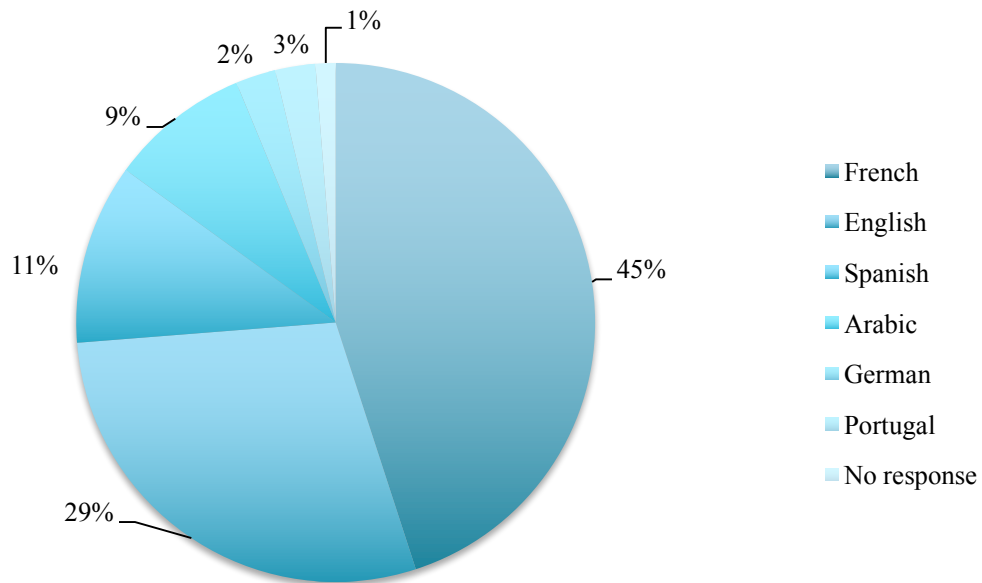
Aspects of Trust	Frequency			Percentage		
	Yes	No	Total	Yes	No	Total
Development of consumer loyalty	41	0	41	100	0	100
Respect of the specifications	37	4	41	90,2	9,8	100
Reputation	35	6	41	85,4	14,6	100
Certification	26	15	41	63,4	36,6	100

**Source: Investigation April 23rd-25th, 2014**

Confidence requires relations between direct face-to-face discussions and the customers is 97.6% of the companies answering known as just this aspect (40/41). The action of commitment between the subcontractor and his customer is effective only through mutual observations of the actions to realize between the two partners. These observations will be done according to the meetings and of the interactions frequent and organized in time (36/41) what makes it possible to detect and to reduce the intentions being able to harm confidence between the two partners. These meetings characterize the relations of co-operative subcontracting. Moreover, to show transparency in the dialogue makes it possible to support confidence in the relation especially when this dialogue is written or recorded (38/41). The subcontractor and the customer conform to all the written agreements and verbal representations. When that the subcontractor and the customer communicate themselves in all honesty on actions maintained during their commitment, the risk of uncertainty decreases and it is thus easier to find solutions with conflicts of behavior to coordination. The membership of common representations can contribute to found a confidence in the relation between subcontractor and customer. The membership common to cultural representations (43.9%) or social (24.4%) supports confidence in the relation of subcontracting.

The results of the figure presents the answers of the persons in charge of companies on the language used to communicate with their customers. It is French who is used more with 45% of use by the guarantors followed by English with 28.75% and of Spanish with 11.25%. These results explain the importance of at the same time cultural, historical and geographical bringing together particularly at the time of a communication of the companies installed in Morocco with their customers with the French customers and Spanish.

**Figure 2. Language of communication**

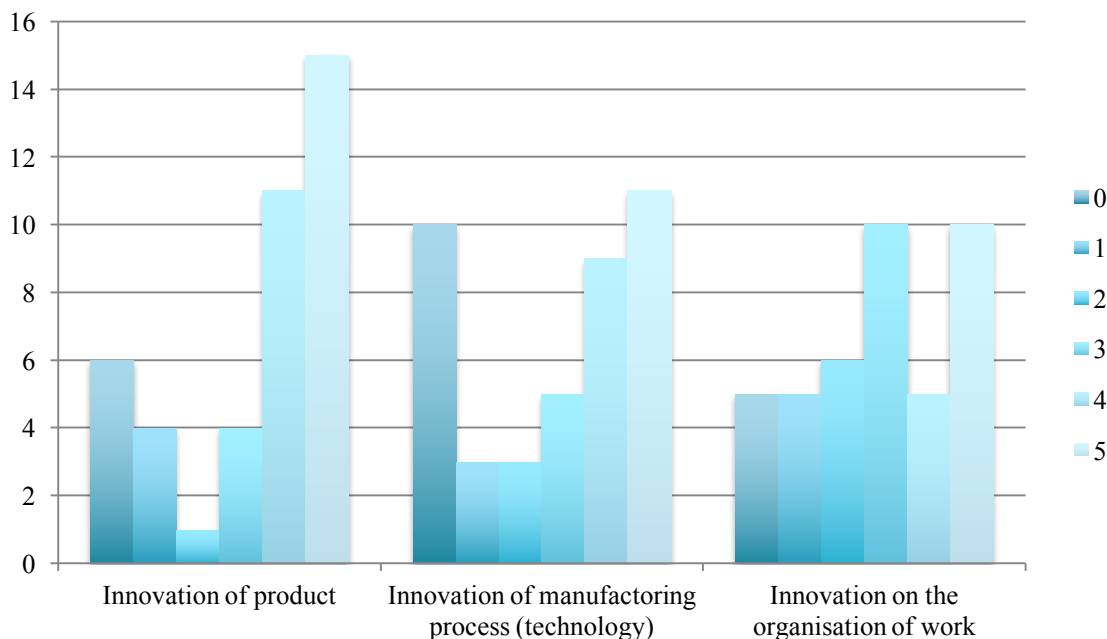


**Source: Investigation April 23rd-25th, 2014**

### **Proximity and Learning**

There exists a significant positive relation between the geographical proximity and the personal interaction of two companies in relation (.528 \*\*). Moreover, the relations of companies located at very short geographical distance facilitate the direct face-to-face discussion. By the means of the interaction and face-to-face discussion, confidence can be easily founded what can make favorable the training and thus the innovation between the companies of automobile subcontracting in relation to their customers and very near geographically (located in the same industrial area). A positive relation, less significant, is present between the organizational proximity [2] (common organizational procedure) and various variables like the interaction (.268\*), the design and the development joint (.247\*), and the access to the information networks (.260\*). This aspect of organizational proximity influences the training and the innovation of the companies sub-contracting at the time of the relation with their customers. There exists a positive relation between the common language and the design and the common development between the automobile subcontractor and the customer (.588 \*\*). That means that the innovation is supported by of the adoption has common language between the two companies. Moreover, thesis companies cuts access to the information networks easily what also supports to their learning (.267\*). However, we note a negative relation between the common language and the respect of the specifications of the specifications (- .250\*). This explains why this respect is based much more on technical sides and organizational of the subcontractor that on cultural aspects and common languages. The innovation can relate to the products, on the technology or manufacturing processes and organization of the production and work<sup>7</sup>.

<sup>7</sup> See Appendix: Table 5, Table 6 and Table 7

**Figure 3. Types of innovation of the answering companies**

**Source: Investigation April 23rd-25th, 2014.**

The relation between subcontractor and customer based on the exchange and the division of information makes it possible to support the training and thus the innovation of the companies of subcontracting in particular. The innovation rises from the aptitude to share information and knowledge when two companies are in relation. A company which practices subcontracting seeks more and more to find information, knowledge, methods or technologies outside the company to enrich its own processes of innovations. 92.7% of the answering companies approve the division of information and know-how in their relation with their customers. The information flow in a relation between firms supports the value innovation. The development of the TIC would have an impact on the geographical structuring of the scientific exchanges and technological which contribute to the emergence of the training and thus of the innovation (Massard, Torre, Crevoisier, 2004). Information or the knowledge can be circulated by the individuals or the staff of companies. 82.9% of the answering companies carry out exchanges and displacements of their staffs with their customers. We also attend a setting in computer network in the relation under-treat-donor of orders by the means as of computerized systems of data exchange (70.7%).

To note that certain companies of automobile subcontracting installed in Morocco put in the forefront the proximity like one of the important bases to their strategy in the relation with the customers. In the document presented at the time of the event, the company of X5 subcontracting is given like partner of proximity engaged to the sides of the car manufacturers, equipment suppliers and industrialists: *"Beyond the geographical proximity of our factories and centers of engineering, the proximity reflects the direction of the relation built with our customers. We are at their sides by the reactivity of our teams, the flexibility of our industrial engineering and the Co-development of the products and processes"*. (Source: Extract of the advertising document presented at the time of the event by the company of X5 subcontracting.

### **Proximity and Satisfaction**

There exists also a relation positive, less significant, between the geographical proximity and satisfaction (.215\*). That means that the companies of automobile subcontracting are satisfied with their geographical position with their customers. More the relations between automobile

subcontractor and customers are close geographically and more the relations are more or less satisfactory in general. Finally, the relation between company is satisfactory when the two companies (automobile subcontractor and customer) adopt the same rules and values within their organization (.397\*)<sup>8</sup>.

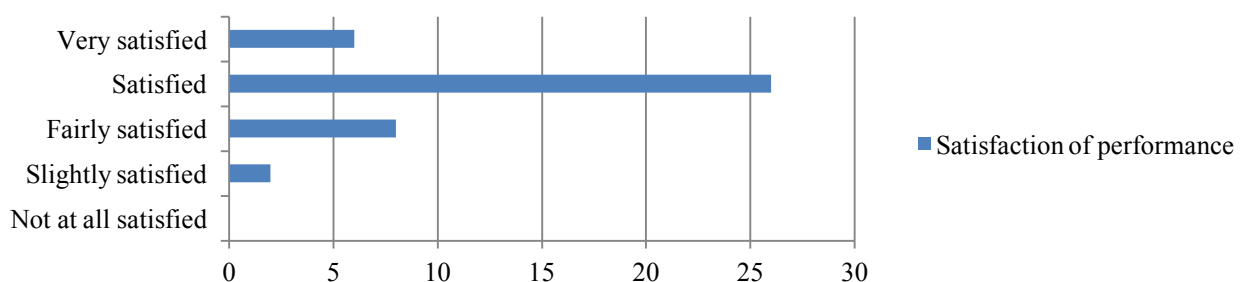
**Table 4. Factors of relational satisfaction**

Factors	Number of response	Frequency in Percentage (%)
Respect	12	92.3
Commitment	10	76.9
Communication	9	69.2
Exchange	9	69.2
Division	6	46.1
Participation	4	30.7
Recognition	3	23,1
Support	1	7.7

**Source: Investigation 23rd-25th April 2014**

The results presented in the table show that the respect (92.3%) and the commitment (76.9%) are two factors very important to satisfy the automobile relation of subcontracting. The communication and the exchange are also important with relational satisfaction between the automobile subcontractor and its customer is a common proportion of 69.2%. The division and the participation carried out within a relation of company are source of satisfaction. In terms of results, we have 46.1% for the division and 30.7% for the participation in projects customers. Other factors can have effect on relational satisfaction like the recognition and the support on behalf of the customer. In the figure, 26 guarantors admit that the customers are satisfied with their performance within the relation, that is to say a proportion of 63.4% of the total of guarantor. Moreover, 8 companies approve an excellent satisfaction of the customers on their relational performance.

**Figure 4. Satisfaction of performance**



**Source: Investigation 23rd-25th April 2014**

Concerning the satisfaction of the customers on the behavior of the relation whom they have with their subcontractor, we note that the recipients in these relations are mainly satisfied with the behavior of the relation (24 responsible) and very satisfied for some (7 responsible).

<sup>8</sup> See Appendix: Table 5, Table 6 and Table 7

## PROPOSAL FOR A DEVELOPMENT OF THE ANALYSIS

### Proposal 1. Structural Equations (PLS Path Modeling)

It is possible to model the link between Proximity, Value and Relation. The use of an approach PLS Path Modeling makes it possible to study a number of blocks of variables on the same individuals and give an estimate of the network of causality between group of variable (Tenebaus, 1998). It enrolled perfectly within the scope of a modeling of structural relations on latent variables. In other words, this method of analysis makes it possible to bind built (latent variables) to their measurements (manifest variables) and consequently to give an estimate of the whole of the links between built (Formell and Lacker, 1981). We give a proposal for a model by an approach PLS-PM by introducing the following blocks: Geographical proximity (GP); No Geographical Proximity (NGP), Relation (R), Trust (T), Learning (L) and Satisfaction (S)<sup>9</sup>.

### Proposal 2. Small-World and Relational Graphs

We also propose the use of the methods of analysis through the model of the small-world network and the relational graphs for the development of our study. Indeed, these methods apply the studies on the existing relations between a small group of individuals or company. One of the methods of partitioning of graph having had the most success is that proposed by Newman and Girvan (2003): a) to calculate the intermediarity of the links of the graph, b) to remove that which has strongest (in the event of betweenness equalizes, to draw one with the fate from them), c) to recompute the intermediarity of the remaining links and again. The relevance of cutting obtained is checked via the calculation of the modularity (modularity). Because of this partition, it would be easier to study each type of proximity with the value created within a relation of company.

## CONCLUSION

The proximity plays a significant role with being able to create value or to facilitate its creation within the relation which is between the automobile subcontractors with their customers. It can exist other factors which influence the relational values within a relation between subcontractor and customer. Our approach of investigation enabled us to obtain certain information on the subject. The automotive production is a complex activity in which the companies of subcontracting are confronted with two facets of actions: it is initially a question of designing a complex product, combination of many components, and recovering dissimilar technological fields; it is then a question of articulating massive flows of information and matters taking into account the mass production (Frigant, 2005). According to our point of view on the range of our work, we recognize the existence of limits which pushes to open several questions about the contents of this research and which it is important to take into account.

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<sup>9</sup> See Appendix PLS-PM Proximity and Relational values (Figure 5)

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## APPENDIX

**Table 5. Correlations between the importance of the proximity geographical and various variables (Confidence, Training, Satisfaction)**

Variables	Geographical proximity 1 (correlation Pearson)	Sig. (2tailed)	Geographical proximity 2 (correlation Pearson)	Sig. (2tailed)
Trust relationship and development of consumer loyalty	-.435**	.002	-.096	.552
Partnership	-.230	.148	-.148	.357
Sharing	-.084	.603	.041	.798
Exchange	.092	.569	-.584**	.000
Respect	-.162	.312	-.014	.933
Face-to-face	.295*	.042	-.096	.552
Personal interactions	.528**	.000	-.057	.721
Conception and development	-.008	.960	.172	.282
Networks of information	.081	.617	-.146	.363
Global satisfaction	.215*	.030	-.057	.721

\*\* Significant correlation at the 0.05 level.

\* Significant correlation at the 0.01 level.

**Table 6. Correlations between the importance of the organizational proximity and various variables (Confidence, Training, Satisfaction).**

Variables	Organizational proximity 1 (Pearson correlation)	Sig. (2tailed)	Organizational proximity 2 (Pearson correlation)	Sig. (2tailed)	Organizational proximity 3 (Pearson correlation)	Sig. (2tailed)
Trust relationship and development of consumer loyalty	.154	.335	-.220	.168	-.536**	.000
Partnership	-.123	.444	.237	.136	.116	.471
Sharing	.287*	.015	-.193	.227	-.277	.080
Exchange	.578**	.000	.237	.136	-.134	.404
Respect	-.008	.960	.063	.694	-.196	.219
Face-to-face	.154	.335	.114	.478	.090	.577
Personal interactions	.573**	.000	.268*	.040	.038	.813
Conception and development	-.008	.960	.247*	.031	-.005	.977
Networks of information	-.020	.904	.260*	.036	.222	.164
Global satisfaction	.065	.684	.111	.489	-.049	.762

\*\* Significant correlation at the 0.05 level.

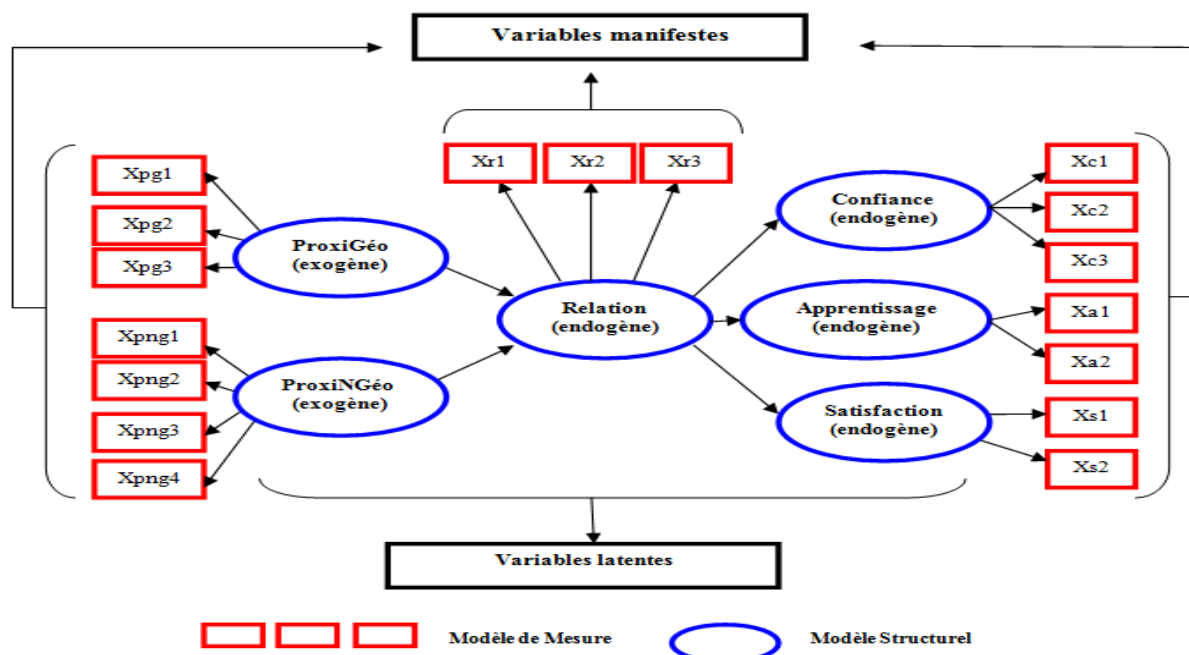
\* Significant correlation at the 0.01 level.



**Table 7. Correlations between the importance of the institutional proximity and various variables (Confidence, Training, Satisfaction)**

Variables	Institutional proximity 1 (correlation Pearson)	Sig. (2tailed)	Institutional proximity 2 (correlation Pearson)	Sig. (2tailed)	Institutional proximity 3 (correlation Pearson)	Sig. (2tailed)
Trust relationship and development of consumer loyalty	-.120	.455	.567**	.000	.138	.391
Partnership	.068	.673	-.011	.945	-.047	.769
Sharing	-.019	.906	.257*	.023	-.108	.503
Exchange	.068	.673	.102	.526	.207	.194
Respect	-.250*	.000	-.063	.694	-.108	.503
Face-to-face	-.120	.455	.220	.168	.368*	.018
Personal interactions	.026	.870	.046	.775	.010	.951
Conception and development	.588**	.000	.547**	.000	.227	.154
Networks of information	.267*	.012	.057	.725	.570**	.000
Global satisfaction	.026	.870	.397*	.010	.147	.361

\*\* Significant correlation at the 0.05 level.  
 \* Significant correlation at the 0.01 level.



**Figure 5. Proposal for a model between Proximity, Value and Relation by the approach PLS Path Modeling**

Source: Fact by the author according to Tenenhaus (1998)

**Table 8. Professional statute of the guarantors to the investigation**

<b>Professional statute</b>	<b>Effective</b>	<b>Frequency in %</b>
Director / Sales Manager	11	26,8
General manager	9	21,9
Manager	4	9,7
Leader	3	7,3
Director	2	4,9
Chief Executive Officer	2	4,9
Managing director	2	4,9
Responsible business	1	2,4
Technical director	1	2,4
Tooling expert	1	2,4
Managing Director	1	2,4
Engineer / Consultant	1	2,4
Project Pilot	1	2,4
Partner Manager	1	2,4
Export Manager	1	2,4
<b>Total</b>	<b>41</b>	<b>100</b>

**Source: the investigation of April 23-25 2014**

## Effect Of Resource Management On Students' Satisfaction In ISO 9001: 2008 Certified Universities In Kenya

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### ABSTRACT

In the present competitive business environment, quality of products and/service offered by any organization play an important role in determining the satisfaction of the customer. Customer satisfaction on the other hand contributes to firm performance. Similar to other organizations, universities endeavor to ensure quality of their service is attractive to the customers. To enhance the confidence in the quality of teaching, learning and research, most Universities in Kenya choose to be certified on ISO 9001 quality management standard. The Standard requires the organizations to establish a quality management system (QMS) to ensure provision of quality services and products that satisfy the customers. Since quality of university education has been a subject of concern in Kenya, there is need to understand what action is being taken to address the quality concerns. It is against this background that the study sought to establish the role of resource management based on ISO 9001 standard on the students' satisfaction in ISO 9001:2008 certified universities in Kenya. A sample of 384 students drawn from all the 24 certified universities participated in the study. Data was collected using questionnaires. Quantitative data analysis methods used to generate frequency distribution, descriptive and inferential statistics. Specifically, ordered probit regression model was used to analyse the data using STATA software whereas chi square test was used to test the hypotheses related to students' satisfaction. The findings established that resource management enhanced the students' satisfaction among the ISO 9001 certified universities in Kenya. The inferential statistics analysis revealed that resource management was positively and significantly related to students' satisfaction. It is concluded that ISO 9001 certified universities in Kenya had better students' satisfaction as a result of resource management. Based on the findings it is recommended that the universities should embrace better strategies to enhance the satisfaction of the students through resource management, a better effective leadership management, enhance product realisation and cultivate a culture of improvement management of the Quality Management Systems (QMS).

**Key Words:** Resource management, Students' satisfaction, ISO 9001 , and Universities in Kenya.

### INTRODUCTION

#### Background of the Study

The global growth of enrolments in university education can be explained by the emergence of a private tertiary education sector. While public universities have continued to grow, the number of private universities has exploded (Wanzala, 2013). The World Bank notes that

private university education has become the fastest growing segment of university education worldwide (World Bank, 2009; Clothey, 2011; McCowan, 2008; Waweru, 2013). University education plays an important role in the development of the knowledge based economy in a highly competitive and rapidly changing global environment (Ojiambo, 2009) consequently Kenya's university education system must be focused, efficient and able to create knowledge and deliver relevant and quality learning to sustain a knowledge economy that is internationally competitive (MOE, 2012) and satisfactory to the students/learners and stakeholders in the society.

### ***Quality Management System***

Saizarbitoria (2006) stated that there are many quality management systems approaches used by organizations to achieve quality products/services and customer satisfaction. These include lean management, Six Sigma and total quality management (TQM) and the most common approach is ISO 9001 quality standard. According to Manders, (2014) ISO 9001 sets out the requirements for a quality management (QMS) system where an organization can demonstrate its capability to deliver quality products and services that fulfil customer and regulatory requirements. It is designed to help organizations ensure that they meet the needs of customers and other stakeholders (Lushi, Mane, Kapaj & Keco, 2016). In this regard 32 universities have implemented QMS based ISO 9001 standard. According to Kumar and Balakrishnan (2011) ISO 9001 certified organizations are supposed to have effective QMS and quality products/services. This study will seek to explore the role of adopting ISO 9001 certification as quality management strategy by Universities in Kenya to enhance students' satisfaction.

### ***ISO 9001 standard in the University Education System***

The ISO 9001 is a generic standard that is applied and implemented to any QMS in any business: for profit, not for profit, government agencies or academic institutions (El Abbadi, Bouayad & Lamrini, 2013). Organizations, including universities require management systems to control and utilize its resources towards fulfilling its mission and goals (Ismail & Gadar, 2008). According to Ismail and Gadar (2008), a quality management system is required to direct and control an organization with regard to quality product and services to enhance customer satisfaction. It requires that all the activities necessary to produce the product or service be documented if the quality management system is to conform to the standard (Lazibat, Sutic & Jurcevic, 2009). ISO 9000 standards have also become a popular choice for universities worldwide (Thonhauser, 2005; Singh & Sareen, 2006; El Abbadi, Bouayad, & Lamrini, 2013).

### ***Statement of the Problem***

Universities just like any other business need to understand the perception of the students (customers) regarding the services offered (Naidoo, 2011). According to Helgesen and Nasset (2007), Purgailis and Zaksa (2012), Sultan (2013), Yusoff and Woodruffe-Burton (2015) students' satisfaction is an outcome of quality service which is driven by quality management system established by the university. To enhance the quality of services offered in universities and heighten students' satisfaction, it is essential to adopt QMS based on ISO 9001 standard (Sarbu, Ilie, Enache & Dumitriu, 2009). However, despite the merit that surrounds QMS and ISO 9001 standard; there has been growing concern on its influence on the customer satisfaction (Lazibat, Sutic, & Jurcevic, 2009; and Mabururu, 2011).

Empirical studies on implementation of quality management systems have brought a conflicting debate between QMS based on ISO 9001 and customer satisfaction. For instance,

Becket and Brookes (2006); Papadimitriou and Westerheijden (2010); and Lushi et al. (2016) established that implementation of the QMS such as the ISO 9001 played a key role in enhancing quality of services and/or products offered by the organizations thus promoting satisfaction among the customers. On the other hand, Mehralizadeh and Safaeemoghaddam, (2010); and Vusa (2016) contended that customer satisfaction was mainly determined by the customer service and ability of the organizations to meet their needs but not through implementation of some QMS based on ISO 9001. This explicitly shows the need for a study to clear the doubt on the roles of QMS based on ISO 9001 on customer satisfaction.

The studies on influence of QMS on students' satisfaction were conducted in more than a decade ago where much has changed since then in relation to service and/or product quality and the strategies of quality management as well (Faganel & Macur, 2005; Poksinska, Kahlgaard & Antoni, 2002; and Sakthivel, Rajendran & Raju, 2005). Locally, the studies on QMS and satisfaction focused on other industries such as state corporations and NGOs unlike the current study that focused on educational sector which is a major sector as far as country's development and growth is concerned. Mekic and Goksu (2014) and Lushi, Mane, Kapaj and Keco (2016) in their studies on influence of QMS implementation and customer satisfaction used regression model to carry out the analysis. The current study adopted a different model, the ordered Probit model which according to O'Connell (2006) fulfills the requirements for both discrete and ordinal outcomes. Majority of the previous studies were carried out in developed countries such as Canada and UK where the systems and organizational management strategies are more diverse unlike the current study which was carried out in Kenya which is a developing country.

Based on the gaps reviewed, the current study was therefore deemed appropriate to examine the relationship between ISO 9001 Quality Management System implementation and students' satisfaction. Specifically, the influence of resource Management on students' satisfaction in ISO 9001 certified universities in Kenya

### **Research Objective**

The general objective of this study was to determine the role of resource management program in quality management system implementation on Students' satisfaction in ISO 9001:2008 certified universities in Kenya

### **Research Hypotheses**

**H<sub>A</sub>:** QMS resource management has a positive significant influence on students' satisfaction positively in ISO 9001 certified universities in Kenya.

## **LITERATURE REVIEW**

### **Theoretical Review**

#### ***Quality Management Systems***

Quality management (QM) is a set of opinions and ideas for improving the quality of products or services, which widely called "management philosophy" (Al-Ibrahim, 2014). Its main aims are to satisfy customers and survive in the market (Neyestani and Juanzon, 2016). Without doubt, quality experts (gurus) had the significant roles to expend and transform the concept of quality from a mere technical system to a broader body of knowledge known as total quality with management implications in production (Maguad, 2006).

#### **Quality Gurus**

Historically, QM was first emerged by the contributions of quality gurus, such as Deming and Juran in Japan after Second World War. Then Crosby, Feigenbaum, Ishikawa, and others had

developed this powerful management technique for improving business quality within the organizations. During the period 1980s to 1990s, many national and international quality awards (QAs) have been established to provide guidelines for implementing TQM based on the suggestions and theories of QM gurus (Neyestani and Juanzon, 2016). The gurus extensively made substantial contribution to quality management by their theories in improving quality. QM techniques and tools could be innovated by these theories( Alamri, Alharthi, Alharthi, Alhabashi, & Hasan, 2014).

### **Quality Management Principles**

Levitt (2005) stated that ISO 9001 requirements are based quality management principles which are: Customer Focus, Leadership, Involvement of people, Process Approach, System Approach to Management, Continuous Improvement, Factual Approach to Decision Making, and Mutually Beneficial Supplier Relationships which are embedded in ISO 9001:2008 standards (Pryor, Toobs, Anderson & White, 2007; Cianfrani & West, 2009; Sheps, 2011). Quality management principles establish the direction for the people in charge of establishing and documenting the ISO 9001 standard for all interested stakeholders (Nyuke & Gasva, 2015). Implementing ISO 9001 QMS in a university requires the institution to establish a quality management system to ensure that all activities and processes in teaching and learning meet the specified requirements consistently. The ISO 9001:2008 provides a framework for a university to direct and control all processes and resources specified by statutory bodies, internal and external customers, stakeholders and prospective employers are met (Lazibat,

### **Resource input model**

The resource - input model proposed by Cheng and Tam (1997) to evaluate the concept of education quality and students' satisfaction. It illustrates the different conceptions that can be used to deepen the understanding of and development of quality management strategies (Ling, Piew & Chai, 2010). The model stresses the importance of obtaining scarce and quality resource inputs to the education institutions to fulfill various objectives and to provide quality services in a short period of time. It assumes that the quality of education and students' satisfaction depends on the quality of resource input (Tam & Cheng, 1996). According to Cheng (2003), the education quality and students' satisfaction indicators for the resource-input model may include high quality student intake, more qualified staff recruited, better facilities and equipment, better staff-students ratio, and more financial support.

Education, awareness and training are some of the key elements of QMS in which many people are involved, so the success of the implementation depends directly on how well they have been done (Alharbi & Yusoff, 2012). To effectively support their quality effort, organizations need to implement an employee compensation system that strongly links quality and customer satisfaction with pay (Brown *et al.*, 1994). An organization's quality management system initiative must be supported with a recognition and reward system that encourages and motivates employees to achieve the desired performance. Organizations that are serious about achieving quality and customer satisfaction must integrate these aspects of QMS into their recognition and reward system.

### **Organizational learning model**

Organizational learning model proposed by Cheng and Tam (1997) to evaluate the concept of education quality and illustrate the different conceptions that can be used to deepen understanding and develop management strategies. The organizational learning model assumes that Quality of education is a dynamic concept involving continuous improvement and development of staff, practices, process, and outcomes of a University (Cheng & Tam, 1997). A

number of researchers have indicated that organizations, like human beings, can be empowered to learn and innovate to provide quality services (Fullan, 1993; Schmuck and Runkel, 1985; Senge, 1990). This model emphasizes the importance of learning behavior for ensuring quality in education; whether the internal process is currently smooth is not so critical (Cheng & Tam, 1997). This line of thinking supports the current emphasis of strategic management and development planning in education (Dempster *et al.*, 1993; Hargreaves & Hopkins, 1991). The model is useful when educational institutions are developing or involved in educational reform, particularly in a changing external environment (Cheng & Tam, 1997). The indicators of education quality may include awareness of community needs and changes, internal process monitoring, programme evaluation, environmental analysis and development planning.

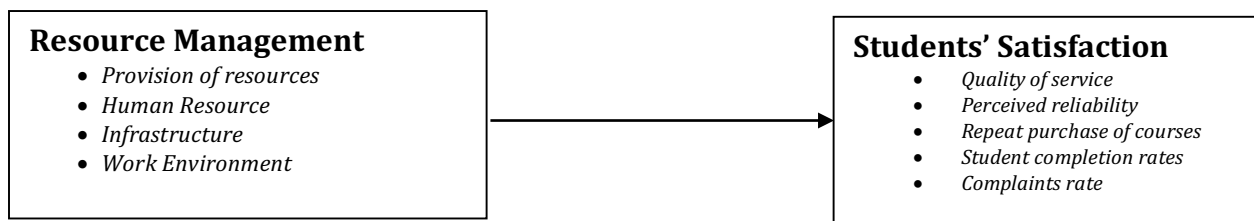
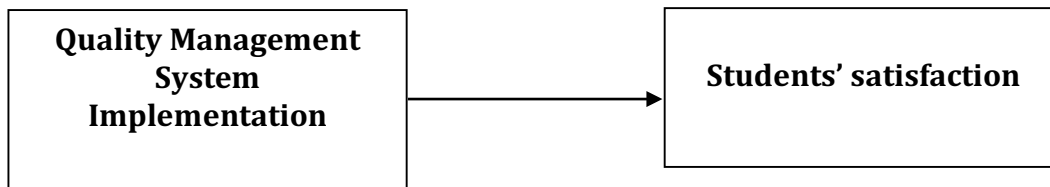
In developing countries, there are many new educational institutions because of the expansion of the education systems (Cheng & Tam, 1997). The new institutions have to face many problems in establishing organizational structures, educational processes, dealing with poor quality students, developing staff, and struggling against adverse influences from the community (Cheng & Tam, 1997). Also, changes in the economic and political environment demand an effective adaptation of the education system in terms of curriculum change, management change, and technology change (Cheng, 1995b). Against such a background, this organizational learning model may be appropriate for studying education quality.

According to ISO (2008), Education, Awareness and training are one of the key elements of Quality Management System in which many people are involved, so the success of the implementation depends directly on how well they have been done (Kanji & Asher, 1993; Alharbi & Yusoff, 2012). In an organization, all of the management, supervisors, and employees should accept quality education and training. Quality education and training include quality awareness education and basic quality management methods, such as statistical process control, problem solving methods, basic tools and techniques.

### **SERVQUAL Model**

The SERVQUAL model was made of ten dimensions of service quality when created; tangibles, reliability, responsiveness, communication, credibility, security, competence, courtesy, understanding the customer, and access, (Parasuraman *et al.*, 1985) but later on these dimensions were reduced to five because some dimensions were overlapping (communication, credibility, security, competence, courtesy, understanding customers and access) and they included, Tangibles- physical facilities, equipments, and staff appearance. Reliability- ability to perform the promised service dependably and accurately; Responsiveness- willingness to help customers and provide prompt service; Assurance- knowledge and courtesy of employees and their ability to inspire trust and confidence; Empathy- caring, individual attention the firm provides its customers (Parasuraman *et al.*, 1988). A Service quality result from a comparison of perceived with expected performance and is based on the disconfirmation paradigm, which creeps in from the discrepancies between prior expectation and actual performance.

## Conceptual Framework



### **Resource Management**

Resource management is the efficient and effective deployment of organization's resources when they are needed (Clegg & Bailey 2008; Miller, 2007). Clause 6 of ISO 9001 draws together the entire resources-related requirements (Hoyle, 2009). Resource management is a key business processes in all organisations. In practice, resource management is a collection of related processes that are often departmentally oriented. This variable is anchored on Resource input Model and Organizational learning Model and Therefore, the relationship is formally stated in its alternative form as follows:

**H<sub>3</sub>:** *Resource management has positive significant effect on students' satisfaction in ISO 9001:2008 certified Universities in Kenya.*

### **Students' Satisfaction**

In a University, students are the main customer of the organization (Hill, 1995; Sakthivel *et al.*, 2005; Zairi, 1995; IWA, 2007) therefore students' satisfaction should always be considered by the university when measuring the quality of education. Assessing students' satisfaction, achievement and absorption capacity are critical not only for the students and their institutions but also for the business industry who are potential recruiters of these students (El-Hilali, Al-Jaber, & Hussein, 2015).

According to Pitman (2014), quality of university education is therefore defined hierarchically as one that: (i) supplied students and the market with in-demand skills (fitness for purpose), (ii) retained and graduated a high proportion of students (efficiency); and (iii) generated positive student feedback (customer satisfaction).

### **The Empirical Review**

Brucaj (2014) concluded that in order to be competitive, successful and achieve quality education in the market the management and leadership need to rethink their strategies and open to new leadership management strategies. Those strategies will contribute to enhance quality of education in the university. Therefore the role of leadership management is very important in designing and implementing the most appropriate strategies for their institutions to enhance quality of education and students' satisfaction.

A study by Sarbu, Ilie, Enache and Dumitriu (2009) reached the conclusion that, in order to have real quality in higher education, it is important to introduce a quality management system



and to constantly improve it, using the feedback from the satisfaction of the student and other interested parties, with the intention of attaining quality of education.

Magutu, Mbeche, Nyaoga, Nyamwange, Onger and Ombati (2010) studied quality management practices and academic services at the University of Nairobi and concluded that the University of Nairobi has applied quality management and public universities should abandon the status quo and be supportive of new ideas in order to respond to the ever-changing environment in higher education and enhancing quality of education and customer satisfaction (Kagumba & Gongera, 2013).

In their study on successful ISO 9001 implementation in Taiwan, Lin and Jang (2008) developed a conceptual framework that aimed at determining, among other hypotheses, whether management responsibility was positively related to operational performance. They found that management responsibility was not significantly related to operational performance. However, most findings from other studies have consistently emphasized the significant role of management responsibility in ISO 9001 implementation (Rayner & Porter, 1991; Lamprecht, 1991; Vloeberghs & Bellens, 1996). A study by Mekic and Goksu (2014) on implementation of ISO 9001:2008 at a private university in Bosnia and Herzegovina concluded that implementation of ISO 9001:2008 leads to increase of quality at institution level. According to the study by Lazibat, Sutic and Jurcevic (2009), measurement and analysis of teaching and learning has to be conducted to measure the teaching process capability, conformance of process output to standard or specified requirements, relevance of programs to beneficiaries' needs, students' performance and quality of graduates in term of achieving beneficiaries and recipients' satisfaction.

### **Research Gaps**

Although Tam and Cheng (1996) argue that resource-input model of education service quality can be adopted by the administrators of universities to evaluate perceived service quality and students' satisfaction, there is a lack of empirical testing in the existing literature to support this contention which is a gap in the literature and will be further explored in the current research. The researcher agrees with Pratasavitskaya and Stensaker (2010) that the analysis of models and approaches of quality management at the University level has been rare address in the literature, which is considered by (Rosa, Sarrico & Amaral, 2012) as an unfortunate situation.

The existing literature has showed that research has been done on TQM practices in Kenya higher education, Factors affecting TQM Processes in State Corporation on Customer Satisfaction, and TQM practices in Kenyan secondary schools. Little or no empirical research has been conducted dealing with ISO 9001 Model and their effects on overall business performance and Quality of Services or Education in Kenya. In order to bridge this gap, an investigation into the effects of ISO 9001 Certification on students' satisfaction in Kenya in Universities is needed. Finally, the study may contribute to this knowledge field by examining the relationship between ISO 9001 and students' satisfaction in universities, which is rarely done previously in developing countries. Most of the studies in the field are focused on analyzing this relationship for American or European universities. Thus, a relevant contribution of this study would reveal new insights of a sample of Kenya universities for the empirical research.

## **RESEARCH METHODOLOGY**

### **Research Design**

This study adopted a cross-sectional survey research design to examine the effect of QMS

implementation based on ISO 9001 on students' satisfaction in the universities. Cross-sectional survey entails the collection of data on more than one case and at a single point in time in order to collect a large amount of quantifiable data in connection with two or more variables which are then examined to detect patterns of association (Azarian, 2011).

### **Population of the Study**

According to CUE (2016) there are 70 universities in Kenya, 33 of which are public and 37 private that have been authorized by the Commission for University Education to offer university degrees either by being awarded charters, letters of interim authority, or letters of registration as at October, 2016. The target population was 70 universities which were either private or public universities ISO 9001: 2008 Certified in Kenya.

The population of study was all the ISO 9001: 2008 certified universities authorised to operate in Kenya as at October, 2016 which was 24 universities. The researcher was interested in finding out how the students are satisfied with the education service provided by the universities which were ISO 9001 certified based on the established Quality Management system.

### **Sample and Sampling Technique**

The researcher obtained the list of accredited universities from the Commission of University Education website as the sampling frame then compile a list of ISO 9001 Certified and Non-ISO 9001 Certified Universities by getting the status from each university through the Quality Management representatives or University Administration. Target population of the ISO 9001 certified universities was 24 as at December 2016, hence no point to sample the population since this was a small population. The researcher conducted a census survey to collect data.

The research used non-probability sampling technique to select the respondents for the study. Ilker, Sulaiman, and Rukayya (2016) stated that non-probability sampling technique is useful when choosing sample when randomisation is impossible like when the population is very large and the resources, time and workforce is limited. The researcher used non-probability convenience sampling technique to select the potential students' respondents because of the proximity and accessibility of the respondents.

### **Research Instruments**

Keeping in view the nature of the problem and population, questionnaires which contain structured questions with Likert-type scale was used to collect data. According to Sekaran and Bougie (2010) questionnaires can be administered personally, mailed to the respondents, or electronically distributed. Moreover, they have the advantages of covering a wide geographical area in the survey and the ease with which the respondents can complete the questionnaires in their homes at their own pace.

### **Data Collection Method**

The study collected primary data from the respondents identified in the research. For this study to collect primary data, questionnaire was used. Each questionnaire was accompanied by a cover letter providing explanations and assurances that all individual responses were treated with confidentiality.

### **Data analysis and Presentation**

In this research the response categories are inherently ordered. The dependent variable was discrete as well as ordinal. Under these circumstances, conventional regression analysis is not

appropriate (Greene, 2012). Instead, the ordered probit model is used to estimate models where the dependent variable associated with more than two outcomes is discrete and ordered (Long & Freese, 2014) and to address the requirement of ordinality as well as the requirement of discreteness, the researcher will use an ordered probit model in the study. O'Connell (2006) stated that ordered probit model fulfils both the requirements as it is suitable for producing probability estimates for outcomes that are discrete and ordinal

## FINDINGS

### Response rate

The study sought to find out the rate at which the targeted respondents participated in the study. This would therefore help to determine whether the study attained a reliable number of respondents to make conclusions and recommendations. The study had a sample of 384 respondents who were surveyed using a structured questionnaire from the 24 universities that were ISO 9001 certified as at December 2016 as shown in table 4.1. A response rate 70% (269 respondents) was achieved and the data used for the analysis. This therefore makes the study appropriate to make conclusions and recommendations since according to Creswell (2005) and Kingslay (2012) a response rate of 30-60% in a study is adequate for making conclusions and recommendations

**Table 4.1 Response Rate**

Response Rate	Frequency	Percentage
Responses	269	70
Non-Response	115	30
<b>Total Sample size</b>	<b>384</b>	<b>100.0</b>

### Improvement management

In the study, improvement management was operationalised into: Customer Satisfaction measurement; Internal audit; Monitoring and measurement of product; Monitoring and measurement of processes; Analysis of data and Continual improvement measurement .A five - point scale was used to measure each of the sub-variable and the results were presented in tables.

### Reliability Test

To test for the reliability of the research instrument on the variable continual improvement, a reliability test was carried out. The results are as presented on the table.

**Item-total Statistics**

Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Alpha if Item Deleted	
VAR00050	27.7727	39.1014	.5996	.8457
VAR00051	27.3485	40.4459	.5511	.8502
VAR00052	27.1212	38.7235	.7399	.8322
VAR00053	26.9091	41.1608	.5916	.8466
VAR00054	26.8182	42.8280	.4532	.8584
VAR00056	27.4091	39.5993	.6422	.8413
VAR00058	27.1818	39.6895	.5787	.8477
VAR00059	27.1212	39.7082	.6492	.8408
VAR00060	27.4091	40.8301	.5074	.8547

Reliability Coefficients

N of Items = 9

Alpha = 0.8612

On 'System Improvement' Likert question, the alpha value for the nine items is 0.8612, which is above alpha value of 0.7 threshold; hence the items have internal consistency retest was done as shown in the table below. The retest results indicated that the Alpha value increased to 0.8924 implying that the reliability became stronger after the retest.

**Table 4.2: Cronbach's Alpha on Product/service realization**

Variable	Test		Retest	
	Cronbach's Alpha	Number of items	Cronbach's Alpha	Number of Items
<b>Product/Service Realisation</b>	0.8612	9	0.8924	9

**Validity Test**

The extent to which an instrument measures what it purports to measure is the validity of the said research instrument. Validity requires that an instrument is able to measure the intended purpose as per the researcher's intentions. The consistency of the questions was checked with reference to experts and the supervisors and the questions were declared valid.

**Descriptive Analysis**

The study sought to determine the effect of QMS resource allocation on Students' satisfaction in ISO 9001 certified universities in Kenya. This was an attempt to find out the respondents' opinion on the statements on resource management and its impacts of satisfaction of the students in universities certified under ISO. The findings as presented in table 4.9 below indicates that on the first statement that there are sufficient human resources to support education services; 10.4% of the respondents said that they were very dissatisfied with the statement, 14% said that they were dissatisfied, 18.8% were uncertain, 41.4% were satisfied and 15.1% were very satisfied with the statement. On the second statement that the students have access to facilities and equipment, 9.1% of the respondents were very dissatisfied with

the statement, 11.5% were dissatisfied, 16.1% were uncertain, 39.8% of the respondents were satisfied and 23.4% of the total respondents were very satisfied with the statement. The third statement was that location and availability of buildings, playgrounds, libraries and labs are provided to students and on this, 6.8% of the total respondents said that they were very dissatisfied with the statement, 9.6% were dissatisfied, 14.6% were uncertain, 40.4% were satisfied and 28.6% were very satisfied.

**Table 4.3: Level of Satisfaction on statements on Resource Management**

Statement	Very dissatisfied	Dissatisfied	Uncertain	Satisfied	Very satisfied	Total
There are sufficient human resources to support education services	10.4	14.3	18.8	41.4	15.1	100.0
The students have access to facilities and equipment	9.1	11.5	16.1	39.8	23.4	100.0
Location and availability of buildings, playgrounds, libraries and labs are provided to students	6.8	9.6	14.6	40.4	28.6	100.0
Education environment conditions are conducive for education services	3.9	9.9	15.6	46.4	24.2	100.0
The university assess educational service environment for associated risks, security, safety and hygiene	6.8	9.1	18.0	45.8	20.3	100.0

The study also sought to find out the respondents' opinion on the statement that education environment conditions are conducive for education services. On this, 3.9% of the respondents said that they were very dissatisfied, 9.9% said that they were dissatisfied, 15.6% were uncertain, 46.4% indicated that they were satisfied and 24.2% said that they were very satisfied. The last statement on the questions was that the university assesses educational service environment for associated risks, security, safety and hygiene where 6.8% of the respondents were very dissatisfied with the statement, 9.1% were dissatisfied, 18.0 were uncertain, 45.8% were satisfied and 20.3% were very satisfied.

The findings of the study concur with an argument by Venkatraman (2007) who contended that one of the strategies to ensure effective total Quality management (TQM) is through effectively managing organizational resources and ensuring that every stakeholder may it be employee or customer are well catered for. According to Hutyra (2011) resources needed in a university such as educational materials and conducive working environment play an important role in making the customers (students) satisfied with the university. When the institution pays attention to the service delivery through provision of better resources as the ISO 9001:2008 states, the students feel more secure and become more satisfied.

### **Inferential Analysis of the Ordered Probit Model on Resource Management and Students' Satisfaction**

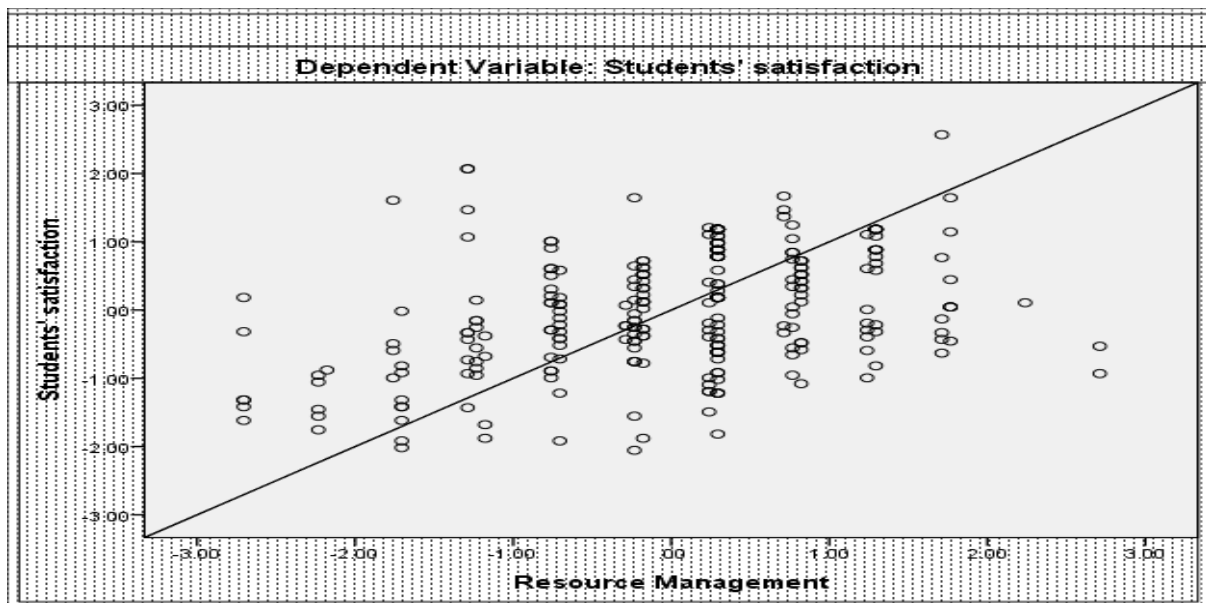
**H<sub>A3</sub>:** QMS resource allocation had positive significant effect on students' satisfaction in ISO 9001 certified universities in Kenya.

To determine the level and the impact of resource management on students' satisfaction,

ordered Probit model was carried out. As the model output shown in table 4.10 below indicates, documentation of the resource management is significantly and positively related to students' satisfaction. The P-value is 0.000 which is less than 0.05 meaning the variables are positively related. The findings further show that resource management can explain up to 82% (0.82375) of the students' satisfaction. The findings compare with those by Shibru and Darshan (2011) whose model established that resource management had a p-value of 0.001 thus concluding that resource management was significantly related to customer satisfaction and firm performance. According to Cruz, da Souza and Melleiro (2010) resource management is one of the key factors that enhances satisfaction among the users or receivers of a product/service. Through provision of the required resources and enhancing the accessibility of the shared needs, the users have more feeling that their requirements are well taken care of thus become more satisfied. However, the findings does not concur with those of Kaingi (2012) who found that satisfaction of students did not contribute to the satisfaction of the students but only made them feel associated with the institutions.

**Table 4.10: Estimation of the probit model for Resource Management and Student's Satisfaction**

Satisfaction	Coef.	Std. Err.	Z	P>z	[95% Conf. Interval]
Resource Management	.9477518	.0632649	14.98	0.000	.8237548 1.071749
Number of obs	269				
Pseudo R <sup>2</sup>	0.1087				



### CONCLUSION

The study concluded that leadership management through proper students' engagement and provision of proper human resources enhanced the satisfaction of the students. The study also concludes that resources provided by most of the ISO certified universities in Kenya are sufficient to satisfy the students. However, the study concluded that the universities have not effectively enhanced resource allocation and management strategy based on the fact that some students (respondents) still felt dissatisfied with the resource allocation strategies done by their respective universities thus signifying the absence of adequate resources.

### RECOMMENDATIONS

The study recommended that the management of the ISO certified universities in Kenya should embrace effective resource proper resource management strategies such as allocation of the

resources equally and ensuring that the students' needs as far as the resources are concerned are met. The management of the universities should ensure that the human resources provided such as the lecturers teaching the students are well trained so as to provide the required quality of services.

### RECOMMENDATIONS FOR FURTHER STUDY

The study aimed at establishing the role of quality management systems implementation on the students' satisfaction in ISO 9001:2008 certified universities in Kenya. The study therefore focused on the ISO certified universities only thus there is need for a similar study to be conducted focusing on the universities and other higher learning institutions that are not ISO 9001:2008 certified.

The study was limited to the main campuses of the ISO 9001:2008 certified universities. There is need for a comparative study between the levels of students' satisfaction among the ISO 9001:2008 certified universities and those not certified to ascertain whether certification by ISO 9001:2008 enhances the satisfaction or not.

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# Fuzzy ABC Classification in Inventory Management for a Service Sector Firm

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## ABSTRACT

Companies face with the need for evaluation of inventories in terms of multiple criteria in short time in the varying economic conditions. The ABC Analysis clusters these inventories and produces required reports. However, ABC inventory clustering process has weakness in terms of class distinction. The purpose of this study is obtaining strong optimum results in ABC Analysis by fuzzy clustering of inventories. The case is performed in a firm operating in telecommunications sector.

**Keywords:** ABC Analysis, Fuzzy Clustering C – Means, Classification

## INTRODUCTION

There are thousands of stock items in inventory management system. To control all stock items in same level is meaningless and very difficult. To determine to what extent the various stock items in stock to control, they should be classified according to their criticality or value. That determined classes are ranked according to degree of control. Although ABC Analysis has guidelines for class distinction, companies generally set their own distinction point of each class. Therefore, percentages of class A, B and C vary. So the upper and lower limits used in ABC stock classification method does not specify exactly a value. This causes to bounce of a stock item to the upper class with very little difference from its successor in classification. This means sometimes incorrect results or incorrect evaluations. In other words, there is a functional instability in ABC class membership. Actually there is a fuzziness in such cases. This study involves performing stock classification via C-Means method belonging to Fuzzy Clustering then comparing the results with ABC Analysis. The application set in SVS Telecommunication Company which generally works on satellite communications systems.

## THE ABC ANALYSIS

Each category shows the amount of money that belongs to it and also its importance. In other words, the stock items who have financially worthwhile amount should be controlled firmer than other items. These stocks are critical. The ABC analysis is used in order to determine the stock categories and degrees of these categories. ABC stock analysis collects stock items under the following three groups (Çokoy, 2013):

**Class A:** This class has the highest financial volume, not in the auto purchasing process, consists of close control required items. Items in this class forms 80% of the stock investment but constitute 20% of the total number of parts.

**Class B:** This class has the middle financial volume, being in the auto purchasing process belongs to the authority of the management. Items in this class forms 30-35% of the stock investment but constitute 20% of the total number of parts.

**Class C:** This class has the lowest financial volume, are in the auto purchasing process. Items in this class forms 50-55% of the stock investment but constitute 5% of the total number of parts.

As shown in Table1 (Çokoy, 2013), class A items are tracked tightly, data is saved properly, safety stock level is low and are reviewed continuously in small quantities. On the other hand,

class B items are tracked normally, data is also saved properly, safety stock level is middle and are reviewed occasionally in middle quantities while class C items are tracked simply, data is saved also simply, safety stock level is high and are reviewed periodically (1-2 year) in high quantities.

**Table1. ABC classification system properties**

Cluster	Financial percentage	Quantity percentage	Control degree	Record type	Safety stock level	Ordering method
A	70-80 %	10-20 %	Tight	Proper	Low	Continuous in small quantities
B	15-20 %	30-40 %	Normal	Proper	Middle	occasionally in middle quantities
C	5-10 %	40-50 %	Simple	Simple	High	periodically in high quantities

**ABC Application**

SVS service firm desires to analyze its 45 stock items by ABC method. Codes of that stocks, their average annual usage and average annual prices is determined. According to ABC operating procedure, annual sum is calculated by multiplication of usage and price for each item. Then each sum is turned to percentages. Percentages are ranked from highest to lowest. Afterward classes are decided in terms of cumulative (for items’ cumulative also).

As in Figure1, recommended class distinction points (Table1) not only fractional, but also not together in the same row. So the distinction depends on decision maker’s subjectivity. Some attach importance to financial cumulative while others care quantity. Financial for class A and quantity for class C for instance. In addition, some could increase or decrease class number.

For this application, determined class items are; E3,E8,E5,E4,E1,E0,P0,T0,A6 for class A (distinction points: 79,22% - 20%), A1, P2, B7, P7, U0, E9, A4, E6, B2, A8, P5, B0, P3, A3 for class B (distinction points: 15% - 15%), A7, A5, A9, P6, P3, B5, E7, B4, E2, B8, E10, B3, E12, A2, A0, E11, P1, B6, P8, B1, AR, U1 for class C (distinction points: 2% - 50%).

Stock ID	Annual Amount of Use %	Cumulative %	Cumulative Item %
E3	16,69%	16,69%	2,22%
E8	13,10%	29,79%	4,44%
E5	11,86%	41,65%	6,67%
E4	11,79%	53,44%	8,89%
E1	5,73%	59,17%	11,11%
E0	5,35%	64,52%	13,33%
P0	5,08%	69,60%	15,56%
T0	5,05%	74,65%	17,78%
A6	4,57%	79,22%	20,00%
A1	4,57%	83,79%	22,22%
P2	4,44%	88,23%	24,44%
B7	4,24%	92,47%	26,67%
P7	1,07%	93,54%	28,89%
U0	1,07%	94,61%	31,11%
E9	1,06%	95,67%	33,33%
A4	1,02%	96,69%	35,56%
E6	1,01%	97,70%	37,78%
B2	0,39%	98,09%	40,00%
A8	0,35%	98,44%	42,22%
P5	0,17%	98,61%	44,44%
B0	0,12%	98,73%	46,67%
P3	0,11%	98,84%	48,89%
A3	0,10%	98,94%	51,11%
A7	0,09%	99,03%	53,33%
A9	0,09%	99,12%	55,56%
A5	0,08%	99,20%	57,78%
P6	0,08%	99,28%	60,00%
P3	0,07%	99,35%	62,22%
B5	0,06%	99,41%	64,44%
E7	0,06%	99,47%	66,67%
B4	0,05%	99,52%	68,89%
E2	0,05%	99,57%	71,11%
B8	0,05%	99,62%	73,33%
E10	0,05%	99,67%	75,56%
B3	0,04%	99,71%	77,78%
E12	0,04%	99,75%	80,00%
A2	0,04%	99,79%	82,22%
A0	0,04%	99,83%	84,44%
E11	0,03%	99,86%	86,67%
P1	0,03%	99,89%	88,89%
B6	0,03%	99,92%	91,11%
P8	0,03%	99,95%	93,33%
B1	0,02%	99,97%	95,56%
AR	0,02%	99,99%	97,78%
U1	0,01%	100,00%	100,00%

70% - 15% A

80% - 20% A

25% - 20% ?

15% - 15% ?

30% - 25% B

18% - 20% B

2% - 50% ?

1% - 40% C

Class	Financial percentage	Quantity percentage
A	70-80 %	10-20 %
B	15-20 %	30-40 %
C	5-10 %	40-50 %

Figure1. ABC Application for SVS items

**FUZZY CLUSTERING C-MEANS METHOD**

Fuzzy C-Means algorithm is the basis for all clustering technique based on the objective function. The algorithm is developed by Bezdek (1974). When the algorithm is finalized, the points in p-dimensional space takes the form a spherical shape which are clusters. These clusters are assumed to be approximately at the same size. The cluster centers represent each

cluster and are called prototypes. As a measure of distance, it uses the Euclidean distance between the center of the clusters and the data (Equation 1).

$$d_{ik} = d(x_i, v_k) = \sqrt{\sum_{t=1}^p (x_{ji} - v_{jk})^2} \quad (1)$$

To apply this technique, the number of clusters and individual degrees of membership to the cluster must be known in advance. Since it is difficult to know in advance of such parameters, these values can be found by trial and error or by some developed techniques (Erilli, 2014).

Equation (2) shows the objective function of the clustering method. This function is a weighted least squares function. The parameter n, is the number of observations, c indicates the number of clusters (Sintas et al, 1999).

$$J(u, v) = \sum_{j=1}^n \sum_{k=1}^c u_{jk}^m \|x_{ji} - v_{jk}\|^2 \quad (2)$$

If the function to be minimized for each value of c, in other words, 1st order derivative of ni equalized to 0, the prototype of the algorithm is as Equation (3):

$$v_{jk} = \frac{\sum_{j=1}^n u_{jk}^m \cdot x_{ik}}{\sum_{j=1}^n u_{jk}^m} \quad (3)$$

The steps of Fuzzy C-means Algorithm are:

**Step1:** Determination of initial values. The number of cluster c, fuzziness index m, finishing criteria and membership degree matrix U or V cluster prototypes are randomly generated.

**Step2:** If U cluster prototypes are assumed that they are generated randomly, the membership degree matrix is calculated using these values.

**Step3:** U cluster prototypes are updated according to Step2.

**Step4:** If  $|U^{(t)} - U^{(t-1)}| \leq \epsilon$ , then the iteration is stopped, otherwise it returns to Step 2.

After C-means algorithm is applied, the membership degree is used to decide which individual belongs to which cluster. Each individual is involved to a cluster if its membership is the largest. However, each individual may also enter with a certain degree of membership to other cluster. C-Means Algorithm result is highly dependent on the initial randomly generated values. Therefore, various algorithms have been developed and is still being developed to eliminate problems caused by randomness. C-means updates the cluster centers and membership degrees of each data point by iteration method and moves the cluster centers to the appropriate place in data set. Since the first place of the cluster centers as initially created using the assigned value of the random matrix, C-Means approach will not guarantee optimal results (Sintas et. al. 1999). Performance depends on the starting center spot. For a stronger approach, there are two ways described below.

I. Using an algorithm to identify all centers.

II. Running the C-means repeatedly with different starting centers (Resumption Strategy).

### **Fuzzy Cluster Validity Index**

Cluster Analysis aims to place similar objects to the same group. Many clustering algorithm requires to know the number of clusters in advance. In studies based on actual data; the lack of prior knowledge of the number of clusters of researchers, leads to know whether the number of fuzzy clusters more or less than the number of actual clusters. The process of defining optimal number of clusters is called Cluster Validity.

Thus, the accuracy of the clustering process can be determined after the number of clusters (Erilli, 2009). When given results are in two-dimensional space, cluster number can be decided by interpreting cluster results visually. But the more the number of dimensions increases, the more the visuality become difficult and validity index are needed (Erilli 2014). Consequently, for the value of clustering and for the most suitable clustering planning, two criteria can be mentioned.

**Density:** Measures the closeness of the cluster members. Variance can be the best example for the density.

**Seperation:** Shows that how much two sets are seperated from each other. It measures the distance between two clusters (Erilli, 2014).

In the literature, many fuzzy clustering analysis validity index is used (Bezdek, 1974 ve 1981; Rezaee v.d., 1998; Kwon, 1998; Xie ve Beni, 1991). Depending on the number of variables or data structure, suitable clustering validity analysis is used. In this study, the artificial neural network cluster validity index is used.

### **Artificial Neural Network Based Validity Index**

Validity index method is quite difficult technique that can be realized by the traditional programming methods. With enhanced powerful computers and programs, neural networks is regarded as a new branch of science. By this method, firstly, the lowest and the highest number that can be set according to the data is decided. The optimal number of clusters that will be decided should be in that range. Validity index method is proposed by Erilli (2011). The method uses artificial neural networks (ANN) to find most suitable clustering number. ANNs are computing systems that are developed to derive and discover new data by learning process of human brain information inference way automatically without any aid (Öztemel, 2006).

### **APPLICATION OF FUZZY CLUSTERING TO STOCK MANAGEMENT**

The application is performed on NCSS 10 software package by multiplying the average annual amount and the average annual price of stock data, so the annual amount of usage is obtained. Firstly, the cluster number should be determined at fuzzy clustering analysis. ANN cluster validity index values are used. To determine the number of clusters, fuzzy clustering analysis is applied separately to the data from 2 to 10 and the clusters of regions are determined. The process at the software is run by entering 2 to minimum clusters section, entering 10 to maximum clusters section and entering 10 to reported cluster section. And the results can be viewed at summary section. Results are normalized by choosing the Dunn coefficient  $F_c$  (U) big and choosing the Kaufman coefficient  $D_c$  (U) small. Obtained optimum cluster numbers and values are as in Table2.

**Table2. C-Means Results for SVS items**

CLUSTER	PRODUCT ID	TOTAL STOCK NUMBER	CLUSTER	PRODUCT ID	TOTAL STOCK NUMBER	
A	E3	11	C	E6	29	
	E8			B2		
	E5			A8		
	E4			P5		
	E1			B0		
	E0			P3		
	P0			A3		
	T0			A7		
	A6			A9		
	A1			A5		
	P2			P6		
B	B7	5		P3		29
	P7			B5		
	U0			E7		
	E9			B4		
	A4			E2		
	B8					
	E10					
	B3					
	E12					
	A2					
	A0					
	E11					
	P1					
	B6					
	P8					
	B1					
	AR					

**Comparison of Fuzzy Clustering C-Means Method and ABC Analysis Application Results**

Table3 shows the stock numbers and percentage limits that distinct the clusters. According to that results, A class consists of 9 stocks with 79,22% of entire items (annual usage amount) at ABC analysis while A class consists of 11 stocks with 88,23% at C-means. Item number and distinctive percentage of B class on the other hand is 6 and 15,39% at ABC while 5 and 12,90% at C-means. And the last class C has 30 stock items with 5,39% percentage at ABC while 29 stock items with 3,31% percentage at C-means.

**Table 3. ABC and C-Means Comparison**

CLUSTER	ABC		C-MEANS	
	Stock Number	% Amount Usage Rate	Stock Number	% Amount Usage Rate
A	9	%79,22	11	%88,23
B	6	%15,39	5	%12,90
C	30	%5,39	29	%3,31

**CONCLUSIONS**

Uncertainty at cluster memberships in ABC analysis lead to seeking alternative options that enables membership clarification. Since the distinction depends on decision maker’s subjectivity in classic ABC analysis, C-means method could be an option which loads this subjective decision to an autonomous algorithm that artificial neural network based. So, C-Means based software proposes more sensitive results which eliminates unsteadiness. Although results indicates that there is little difference both in stock number and annual usage,



even one item's cluster is important when the amount is worthy or when the quantity is critical. According to C-means results, two items are added to A cluster, one item from cluster B and cluster C are decreased. ABC results seems to keep %80-20 rule while C-means is concluded at %88 in amount usage.

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### ATTACHMENT 1: NCSS 10 SOFTWARE FUZZY CLUSTERING C-MEANS OUTPUT

Fuzzy Clustering Report					
Dataset		Untitled			
Variables		tutar			
Distance Type		Euclidean			
Scale Type		Standard Deviation			
<b>Cluster Medoids Section</b>					
<b>Variable</b>	<b>Cluster1</b>	<b>Cluster2</b>	<b>Cluster3</b>		
tutar	239019	49983,15	2391,63		
Row	7	15	32		
<b>Membership Summary Section for Clusters = 3</b>					
Row	Cluster	Membership	Sum of Squared Memberships	Bar of Squared Memberships	Silhouette Amount
7	1	0,8655	0,7585	■■■■■■■■■■■■■■■■■■■■	0,1762
				■■■■	
8	1	0,8648	0,7573	■■■■■■■■■■■■■■■■■■■■	0,1683
				■■■■	
6	1	0,8494	0,7332	■■■■■■■■■■■■■■■■■■■■	0,2279
				■■■■■■	
9	1	0,8077	0,6715	■■■■■■■■■■■■■■■■■■■■	0,0076
10	1	0,8073	0,6710	■■■■■■■■■■■■■■■■■■■■	0,0069
5	1	0,8047	0,6672	■■■■■■■■■■■■■■■■■■■■	0,2761
				■■■■■■	
11	1	0,7718	0,6227	■■■■■■■■■■■■■■■■■■■■	-0,0549
12	1	0,7056	0,5430	■■■■■■■■■■■■■■■■■■■■	-0,1540
4	1	0,5216	0,3879	■■■■■■■■■■	0,4792
				■■■■■■■■■■	
3	1	0,5204	0,3871	■■■■■■■■■■	0,4790
				■■■■■■■■■■	
2	1	0,4974	0,3750	■■■■■■■■■■	0,4578
				■■■■■■■■■■	
1	1	0,4505	0,3549	■■■■■■■■■■	0,3736
				■■■■■■■■■■	
15	2	0,9174	0,8463	■■■■■■■■■■■■■■■■■■■■ 0,9752	
				■■■■■■■■■■■■■■■■■■■■	
14	2	0,9172	0,8460	■■■■■■■■■■■■■■■■■■■■ 0,9745	
				■■■■■■■■■■■■■■■■■■■■	
13	2	0,9168	0,8453	■■■■■■■■■■■■■■■■■■■■ 0,9739	
				■■■■■■■■■■■■■■■■■■■■	
16	2	0,9029	0,8218	■■■■■■■■■■■■■■■■■■■■ 0,9626	
				■■■■■■■■■■■■■■■■■■■■	
17	2	0,8997	0,8165	■■■■■■■■■■■■■■■■■■■■ 0,9588	
				■■■■■■■■■■■■■■■■■■■■	
32	3	0,9881	0,9764	■■■■■■■■■■■■■■■■■■■■	
		0,9499		■■■■■■■■■■■■■■■■■■■■	
33	3	0,9880	0,9763	■■■■■■■■■■■■■■■■■■■■	
		0,9499		■■■■■■■■■■■■■■■■■■■■	
31	3	0,9879	0,9761	■■■■■■■■■■■■■■■■■■■■	
		0,9498		■■■■■■■■■■■■■■■■■■■■	
34	3	0,9876	0,9754	■■■■■■■■■■■■■■■■■■■■	
		0,9495		■■■■■■■■■■■■■■■■■■■■	
30	3	0,9875	0,9753	■■■■■■■■■■■■■■■■■■■■	

	0,9494			
35	3	0,9868	0,9738	
	0,9488			
29	3	0,9865	0,9733	
	0,9485			
36	3	0,9865	0,9733	
	0,9486			
37	3	0,9857	0,9718	
	0,9479			
38	3	0,9840	0,9684	
	0,9465			
39	3	0,9834	0,9673	
	0,9460			
28	3	0,9827	0,9660	
	0,9453			
40	3	0,9808	0,9622	
	0,9438			
27	3	0,9808	0,9622	
	0,9436			
41	3	0,9790	0,9587	
	0,9423			
26	3	0,9782	0,9572	
	0,9413			
42	3	0,9777	0,9562	
	0,9411			
25	3	0,9754	0,9519	
	0,9389			
43	3	0,9743	0,9498	
	0,9383			
24	3	0,9736	0,9484	
	0,9373			
44	3	0,9695	0,9406	
	0,9341			
45	3	0,9657	0,9334	
	0,9308			
23	3	0,9635	0,9293	
	0,9282			
22	3	0,9533	0,9104	
	0,9188			