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# Factors Influencing Employees' Performance at Workplace. An Integrated Perspective

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**Abstract**

The employee satisfaction and retention are the key factors for the attainment of organization goals and objectives. No one can measure the level of satisfaction an individual get why he/she performs his or her work. But there are factors which directly or indirectly affect the satisfaction and performance level of employees at workplace. Organizations that produce work environment that attract, motivate and retain hard-working individuals will be more successfully positioned to succeed in an unpredictable business environment that demands cost-efficiency and quality. Employee performance is a behavior that can be valued in terms of the scope to which it contributes to organizational effectiveness. Taking into account the importance and sensitivity of the issue of employees' performance to any organization, this paper tries to review the various available literature and research work on employee performance and the factors influencing employees' performance at workplace. The study is also an attempt to review the strategies adopted by different organizations to improve the

performance level of employees which are based on a well districted human resources management.

**Keywords:** performance; employees; factors; job satisfaction; human resources management.

## Introduction

Employees are the life-blood of an organization. Even though most of the organizations are nowadays technology driven in modern business management, employees are still relevant and the most suitable resources of the organization (Anyim, Ikemefuna and Mbah, 2011; Das and Baruah, 2013). The strategic values of employees stem from the fact that apart from other resources employed in the course of production (land, capital, technology etc) which are passive, employees are provided with discretionary decision-making power and thus have competitive advantage over the other resources. Therefore, they are the most essential and dynamic resources of any organization. This supports the assertion of Stem (2000) who posits that employees are vital for organizational excellence and they act as the main factor for achieving expected organizational objectives.

Iskandar, Ahmad and Martua (2014) posits that with the unknown business environment and degree business competition, the organizations are required to reach certain standards by improving their performance to align with such great demands; otherwise, a lot of problems will appear, including the risk to close down the business. This performance relates to the firm or individual level which sees the employees becoming the most determining factor to achieve the organization's objectives. An employee working in an organization has some expectations and needs which are to be fulfilled by the management. Therefore, it is the moral abrogation of the management to satisfy the prospects and needs of its employees, otherwise the performance level of employees will be affected by many factors. The factors which have direct impact on the performance of employees at workplace are: working environment, job stress, motivation, leadership, training, manager's attitude, job content, financial rewards, administrative practices, communication, promotion etc, therefore, for an organization to accomplish its goals, earmark strategies for employees' retention is sin-qua-non for enhanced performance. The purpose of this study is to review the various available literature and

research work on employees' performance and the factors influencing the level of performance among employees at workplace.

## Literature Review

### The Nature of Performance

The issue of performance in organization has been subject of discourse among social scientists from a wide range of disciplines as it is being used synonymously with productivity, efficiency, effectiveness and more recently, competitiveness (Cooke, 2000). Azreen (2011) affirms that performance is a function of capacity (ability, health, intelligence, education, etc), willingness (motivation, job satisfaction, status etc) and opportunity to perform (tools, equipment, working conditions, co-workers and leader behavior, etc). Chinowsky (2008) also argued that performance is a function of ability and motivation. Kamande and Gachunga (2013) recognized that performance is related to the extent to which an employee or organization is able to achieve assigned tasks and how the accomplished tasks contribute to the realization of the organizational goals. Similarly, Lebans and Euske (2006) see performance as a set of financial and non-financial indictors which offer information on the degree of accomplishment of objectives and goals. Dockery (2013) identified five core driving force of performance in an organization: a core driving force of creating happiness; the right people in the right roles; an effective strategic plan and implementation; continuous improvement of leadership and management capabilities, as well as continuous improvement of business practices based on customers' needs.

### Employees' Performance

The term employees' performance is interchangeably used as job performance, employees' productivity, employees' efficiency and employees' effectiveness. Gitman and McDaniel (2005) defined employees' performance as employees' contributions to the organization, arising from the job objectives, schedules, deadlines, product/service requirement. Daft (2008) see employees' performance as employees' inputs. It is also seen as the level to which employees' exhibit proficiency in activities that are formally recognized as part of their jobs and which contribute to the organization's technical core either directly or indirectly. Similarly, Ikyanyon and Ucho (2014)

describe employee performance as the behavior individuals engross themselves in, or produce that are in line with, and contribute to an organization's goal.

Organizational performance is a sign of the capacity of a firm to efficiently realize independent goals (Venkatraman and Ramanujam, 1986). One of the elements that are assessable is the employees' performance through the level of their productivity. Researchers have been introducing various methods to measure organizational performance (Prajogo, 2007; Wong and Wong, 2007). This includes the quality, quantity, knowledge or creativity of individual, towards the accomplished works that are in harmony with the responsibility during a specific period, in other words, the appraisal systems that must have some standard magnitudes that can be relied upon. This is why Madan and Bajwa (2016) sees employee performance as the realization of work effectively and efficiently with proper utilization of resources according to decreed standards and is evaluated by supervisor. It may interest you to know that employee performance is more of actions rather than feeling derive from job and thus encompasses the efficiency and effectiveness that employees exhibit in carrying out task in the workplace. Review of extant literatures has shown that high performance organizations are more likely to survive and compete favorably in this ever changing and competitive business environment (Saari and Judge, 2004). Added to the foregoing is the fact that they are more likely to have higher customer satisfaction and market share. However, in achieving this, the organization needs not only highly motivated, but also satisfied and psychologically balanced employees to increase performance and productivity.

Onasanya (1999) posited that employees' performance could be measured using their ability to organize their work properly, level of knowledge and skills, attitude and behavior to work, the time management ability, decision making process, level of creativity, the ability to communicate properly and appropriately, the ability to handle men (staff and customers), good human relations and leadership role, amongst others. This covers both objective and subjective criteria. Rakos (2014) identified seven ways to measure employees' performance such as: level of punctuality to work (whether or not the employee is a perpetual latecomer to work); the quality of work of the employee (if he/she completes jobs on time and the expected quality/standard); personal habits displayed at work (whether he/she

uses work time to engage in gossips and unauthorized breaks); employees work attitude (if the employee is the type that exhibit insubordination and go against the organization's policies or not); client survey (checks to identify how an employee's contribution leads to the satisfaction or not of customers/clients); random checks (occasional checking of vital records to work of an employee), and personal presentation (the way an employee presents himself or herself both in dressing and manners, if it positively or negatively affects the image of the organization).

**Factors influencing Employees' Performance**

Chowdbury (2011) recognized that the performance of an organization is entirely driven by the performance of its employees. And if the determinant of corporate performance is not the employees, what is? Is it strategic intent or core competencies? Is it manufacturing, technologies or the best equipment? Or a visionary C.E.O? He went on to answer the questions by saying "yes it is all of these things", and that all of these things are created and constantly improved by employees. Madan and Bajwa (2016) stated that employees' performance is not determined by a single factor, but there are lots of factors such as stress, training, motivation, leadership, emotional intelligence and working environment. Hussain, Sardar, Usman and Ali (2012) found that factors such as job satisfaction, training, job embeddedness, flexible work arrangements, career development, organizational values and beliefs, organizational support, job involvement, job content, status, work-life balance, promotion, respect and recognition, relationship with immediate boss, financial rewards have a direct influence on employees' performance at workplace. Saeed *et al* . (2013) found that factors such as manager's attitude, organizational culture, personal problems, job content and financial rewards have a direct influence on employee's performance. Iskandar *et al.* (2014) also found that factors such as job stress, motivation and communication have a direct influence on employees' performance. Asim (2013) identified rewards, promotion, training and employee empowerment as the major factors influencing employees' performance.

In the view of Awan and Tahir (2015) employees' performance could be improve by factors such as good working environment, employees goal orientations, the quality of leader-member exchange, the outcomes of job performance and job satisfaction. Other factors

such as team building, employee participation in decision-making, flexible working hours, opportunity for growth, organizational justice and prestige, trust, social environment, leadership style and job security have an indirect influence on employees' performance. Together, these suggest a set of workplace norms and practices that might be taken as inviting employee engagement and retention. Indeed, there are many of factors which are responsible for employees' performance at workplace. The studies in this area are segmented and either one or few factors have been understudy. This paper incorporates all this segmented work into an integrated conceptual model which would help organizations to take care of numerous factors that influence employees' performance instead of one or two of them. For the purpose of this study, the following factors influencing employees' performance were examined as shown below.

**Training**

Training is said to be a practical education which can be used to advance skills, experience, knowledge and to subdue inefficiencies. Goldstein (1980) affirms that training is a systematic attainment and development of knowledge, skills and attitudes required by employees to adequately perform a task or job, or to improve performance in the job environment. Onasanya (1999) sees training as a form of specialized education aimed at giving the trainee a particular or specialized knowledge, skill and ability which he/she must possess to effectively perform in a given position. Therefore, employees' performance is directly based on the function of the training.

Training helps create good result in employees' performance, that is, if training is good, performance is also good. Aigbepue and Mammud (2012) study revealed that one of the importance factors in employees' performance is investment on employee training and career development. Employees having access to training and development programmes are critical in facilitating growth of an organization particularly with technological improvements and performance. Overtime, organizations have been embarking on training and capacity building for their employees so as to advance employees' productivity or improved job performance and then invariably, overall performance of the organization (Malaolu and Ogbuabor, 2013). Workplace learning and continuous improvement are now considered essential for an organization to remain competitive (Loosermore, Dainty and Lingard,

2009). The place of employee training cannot be overemphasized. Some of its benefits are increased job satisfaction and morale among employees, increased employee motivation, increased efficiencies in processes resulting in financial gain, increased capacity to adopt new technologies and method, and reduce employee turnover (Aigbepue and Mammud, 2012). Similarly, Malaolu and Ogbuabor (2013) identified some of the advantages of employees training: building effective, efficient and well-motivated team, the knowledge and skills of employees are adapted to new technologies and other organizational change. Adeniyi (2002) further stated that training reduces employees' attrition, creates chances for the promotion of employees to replace those who have left the organization and promotes goal congruency, but lack of training increases absenteeism rate, low output, poor quality and results in high unit cost.

In addition to the foregoing, Asim (2013) conducted a study in education sector of Pakistan and found that there is a positive relationship between performance and training. His study revealed that training impact positively on employees' performance. Kayode (2001) found in his study that employee training increase productivity, improve quality of work, and reduces waste, accidents, lateness, absenteeism and turnover. From the foregoing, we recommend that organizations should consider training as one of the key to maintain a competitive advantage in the today's constantly changing business environment.

**Job Stress**

French (1975) stated that job stress is produced when one cannot properly coordinate available resources and job demands with personal abilities. He posits further that job stress is derived from a situation of work environment that present threat to an individual. The potential job stress could arise from three aspects such as environment, organizational and individual (employee) factors. Moreover, job stress has been known universally as a social problem (Mizuno, Yamada, Ishii and Tanaka, 2006) which has a combination of factors that interrupts the workers physically and psychologically (Lu, 1997) and affects their healthcare as a whole (Conway et al., 2008). This is in line with the studies that have been conducted on the effect of job stress in terms of medical matters such as heart disease, gastroenteritis, sleep disorders among others that will decrease the rate of job performance, and the increase rate of absenteeism and job displacement (Poissonnet and

Veron, 2000; Mcvicar, 2003; Muecke, 2005; Mitoma *et al.,* 2008). However, Iskandar *et al.* (2014) affirms that a small amount of distress can bring about an increase in personnel's efficiency, while too much pressure results in negative mental and physical changes. Therefore, the possibility of stress affecting one's performance is great. Madan and Bajwa (2016) analysis bankers who are always under a great deal of stress due to many presumptions of stress such as work overload, role ambiquity, role conflict, responsibility for people, lack of feedback, organizational culture and climate and keeping up with rapid technological change among others. Therefore, employees are exposed to a range of stressors both at work and in their personal lives which ultimately affects work performance and overall organization performance. Armstrong (2009) affirms that "there are four main reasons why organizations should take account of stress and do something about it. First, they have the social responsibility to provide a good quality of working life; second, because excessive stress cause illness; third, because it can result in an inability to cope with the demands of the job which of course, creates more stress, and finally, because excessive stress can reduce employee effectiveness and therefore organizational performance".

**The Work Environment**

An enabling, supportive and inspirational work environment brings about experiences that impact on engagement by influencing how people regard their roles and carry them out. According to Miller, Erickson and Yust (2001), employees get benefited by work environment that provide sense of belonging. Armstrong (2009) affirms "that an enabling environment will create the condition that encourages high performance and effective discretionary behavior. These include work processes, equipment and facilities, and the physical conditions in which people work. Therefore, a supportive environment is one in which proper attention is paid to achieving a satisfactory work-life balance, emotional demands are not excessive, attention is paid to providing healthy and safe working conditions, job security is a major consideration and personal growth needs are taken into consideration".

A strategy for increasing engagement through the work environment will be generally concerned with developing a culture that encourages good attitudes to work, promoting interest and excitement in the jobs people do, and reducing stress. The work environment consists

of the system of work, the design of jobs, working conditions and the ways in which people are treated at work by their managers and co-workers. That is, welfare at work exists when people are happy with their lot-what they do, how they are treated and how they get on with others. The well-being of employees depends on the quality of working life provided by their employers - the feelings of satisfaction and happiness arising from the work itself and the work environment.

**Motivation**

One of the difficult tasks of an organization is that of motivating its employees. For managers and non-managers that means to execute the work assigned to them in a manner that meets or surpasses likely standards of performance they must be motivated. To do this effectively, many methods have been designed and used to encourage employees to put fort their best effort. Below are some of those most commonly used in our organizations: (a) A variety of formulas intended to relate pay to performance; (b) Provisions for security on the job and during the later days of retirement; (c) Praise and reproof; (d) Recognition in the form of special awards or promotion etc. The existence of so many different approaches to motivation suggests the complexity of the problem. Many factors are able to motivate employees; some of the factors are normally part of the organizational situation and independent variables, which can be controlled to some extent by the organization. Other factors have their origin in the employees' home or community, and are beyond the organization's control.

The employee motivation is very important. In fact, it is one of the most important and substantive factors for the achievement of employees, and ultimately the organizational objectives and goals (Berman, Bowman, West and Wart, 2010). Ololube (2006) affirms that intrinsic or extrinsic type of motivation is very necessary in the lives of workers because they form the key reason for working. It represents the complex forces and needs which provide the energy for an individual to perform a particular task (Ekerman, 2006). Motivation is a drive that helps employee to work effectively and be committed to his organization. Motivation can be positive or negative, but is the duty of the management to motivate its employees so that they perform to their fullest potential (Madan and Bajwa, 2016). Motivation increases the job involvement by making the work more meaningful and interesting as

well as the fact that it keeps the employees more productive and improves their subsequent job performance (Kamery, 2004; Ekerman, 2006; Ahmad *et al.,* 2014). In Nigeria, factors such as higher pay, a prestigious title, a name on the office door, the acclaim of colleagues etc have a direct influence on employees' performance and these factors are analyzed in the literature as motivators. A motivator is something that influences an individual's behavior. It makes a difference in what a person will do. Managers must therefore not only be concerned about motivators, but also be innovative in their use.

**Promotion**

Promotion is a change of assignment to a job at a higher level in the organization. The new job always provides an increase in pay and status and demand more responsibility. Promotions enable an organization to utilize the skills and abilities of its human resources more effectively, and also the opportunity to gain a promotion serves as an incentive for good performance. The three principal criteria for determining promotions are merit, seniority and potential. Often the problem is to determine how much consideration to give to each factor. However, many organizations prefer to base promotions on merit as a way of rewarding and encouraging performance. Prince (2005) argued that competent employees are required for maintaining a competitive advantage and employees want career growth opportunities to develop and rise in their career ladder. Such plans include advancement plans, internal promotion and accurate career previews at the time of hiring. Asim (2013) found that there is a close and positive correlation between promotion and employee performance.

Promotion increased productivity, enhanced commitment and impact on the employees' psychological satisfaction. Here, employees feel as though their distinctive talents and abilities will not only be used in the organization, but will be enhanced and strengthened in a way that leads to expanded roles, responsibilities and opportunities. This implies not only that there is somewhere to go, but that the organization gets the most out of its people.

**Reward and Recognition**

Organizational performance depends to a large extent on the degree to which the members of the organization work towards the achievement of organizational objectives and goals. But the interest of

employee in an organization are not always aligned with those of the organization as a whole (Jensen, 1986). This may thus drive employees to behave in ways that hinder firm performance. Therefore, organization must have ways to reward, motivate and keep their employee. In other words, they must have well organized reward systems to pay their employee for the time and efforts put into their works to make sure the organizational objectives are achieved. Agarwal (1998) gave an explanation to the term reward as something that the organization offers to employees in response of the work, as well as performance, and something which is craved by the employees. In the view of Silvert (2005) reward is essential because it has an enduring impression on employees' which, in turn, gives the employees' an impression that they are valued in the organization.

In order to retain talented employees and reduce high rate of employee turnover, Armstrong (2009) suggested that "uncompetitive, inequitable or unfair pay systems should be dealt with, that jobs should be designed to maximize skill variety, task significance, autonomy, to ensure that they provide opportunities for learning and growth; encouragement of social ties with the organization; others include improvement in work-life balance; elimination of unpleasant working conditions like too much stress on employees; ensuring that selection and promotion procedures match the capacities of individual".

**Leadership**

Leadership is defined as a process whereby a manager influences a group of employees to accomplish a common goal (Northouse, 2007). Leadership can also be defined as the ability of an individual to influence others to work beyond ordinary levels to achieve goals. The basic element in these definitions is the ability or process of influencing people such that they strive willingly (work with seal and confidence) towards the achievement of group goals. Consequently, to lead is to guide, conduct and direct. Thus leaders do not stand behind a group to push and to prod; rather they facilitate progress and inspire the group to accomplish organizational goals. There are two types of leadership as explained here. Transformational leadership is concerned with developing a vision that informs and expresses the organization's mission and lays the foundation for the organization's strategies, policies and procedures. The transformational leader's uses strategies and techniques to empower the followers, enhance their self-efficacy

and change their values, norms and attitudes, which are consistent with the leader's vision.

Transformational leadership style seeks to improve the condition of the followers in order to effectively and efficiently achieve the goals of the organization. The transformational leader uses four forms of behavior such as inspirational motivation, individualized consideration, idealized influence and intellectual stimulation to influence others to work beyond ordinary levels to achieve group goals. However, a transactional leader is concerned with the allocation of resources, monitoring and directing followers to achieve a given task. The transactional leader influences followers through the use of rewards, sanctions and formal authority or position to induce followers' compliance behavior (Shukurat, 2012). Thus, the transactional leader presumes that the employee will not do anything except for a transaction in which the payment for service is large enough to motivate the individual to perform. In transactional leadership style, the individual does nothing out of a sense of loyalty and selflessness toward the organization, but only acts as a means of gaining payment.

Chung, Sue and Guan (2009) found that leadership style could affect organizational commitment and work satisfaction positively and organizational commitment and work satisfaction can affect employees' performance positively. Madan and Baywa (2016) forwarded the view that to engage the employees in the organization management should provide the skills to the employees through proper coaching, motivation, effective appraisal and leadership. According to Antony (1967), a good prince (leader) must be a wise observer of events and people, able to use both to his advantage. Not in an underhanded way but, like most successful managers, he should learn to take advantage of an opportunity when it arises. He should be able to sense the trends of the times and to adapt. He should be sagacious enough to distinguish between those nobles who are loyal to him and those who pursue only their own ends. History is full of instances of unsatisfactory performance in the absence of effective leadership and the excellent performances with it. A study by Toor and Ofori (2009) shows that "effective leadership is more like to bring about leader's effectiveness, willingness of employees to put in extra efforts, employees' job satisfaction, and an atmosphere for ethical leadership to flourish; which will ultimately leads to increased employees' job performance".

**Trust**

Is an essential issue in organizations because it has effect on employees' performance, and if broken is likely to has adverse effect. Employee trust in management will likely result to increase in employee compliance with organizational rules and regulations, facilitate the implementation of organizational change and improve employee contribution in terms of performance, intent to remain and civic virtue behavior (Robbinson, 1996). Trust is a sacred and emotional relationship between people; the expectation of faith that individuals have on the leadership (Darcy, 2010). According to Jones and George (1998), there are two types of trust: conditional and unconditional trust. Conditional trust is a situation whereby both parties are willing to transact with each other as long as each behaves appropriately and uses a similar interpretive scheme to defined situation. Whereas, unconditional trust is characterized by the shared values that structure the social situation and become the primary vehicle through which individuals experience trust. Similarly, Robbins, Judge, Millet (2008) identified three types of trust in organizational relationship such as deterrence based, knowledge based and identification based. Deterrence trust is based on fear of retaliation if the trust is violated. Individual act in accordance with what they say because of the consequence. Knowledge trust is based on the behavioral predictability that comes from a history of interaction. The identification based trust is on mutual understanding of each other's intentions and appreciation of the other's wants and desires.

Covey (1998) urged companies to examine the impact of trust on the bottom line in addition to profits, earnings-per-share, and other figures traditionally thought to determine the success of the company. Low levels of trust can result in organizational decay. And as relationships deteriorate, political strife, infighting and general inefficiency result within the organization. Shukurat (2012) affirms that organization with little or no trust have not basis for future success. Managers cannot separate the issue of trust from their business dealings. As Fulmer (2004) noted, ethics, values and trust are important issues to executives attempting to recover from a substantial downturn in the national and global economies. Therefore, trust is the foundation for constructive conflict, goal commitment, personal accountability, and achieving of collective goals.

**Job Security**

Abegglen (1958) cited in Das and Baruah (2013) revealed during the study of Japanese workers that employment features like lifetime employment and job security lead to job satisfaction, high commitment as well as retention of staff in an organization, which ultimately leads to increased in performance and total organizational performance. Study conducted by Davy, Kinicki and Scheck (1991) revealed that job dissatisfaction in the outcome of job insecurity among workers result to poor performance.

**Relationship with the Immediate Boss**

Having a "great and supportive boss is identified as one of the top five reasons of employees' retention and performance" (Bhatnagar, 2007). Brunetto and Farr-Wharton (2002) were of the view that proper supervision of the immediate manager increases the level of job satisfaction in the public sector employees. Similarly, Rashid (2013) affirms that the performance bar of the employees is raised positively if the manager's attitude is unblemished in monitoring them. Therefore, if the attitude of the manager is interactive and promising, then the employees will effectively and efficiently work for the betterment of the organization as a whole. It is necessary that the manager is fair and treats everyone equally without any form of discrimination.

**Communication**

Good communication greatly facilitates coordination in organization. On the other hand, poor communication is said to cause divorces, war, tribalism, business failure, and other problems too numerous to mention. Within any organization there are endless places where poor communication can be costly, if not disastrous. Studies have shown that managers spend the largest portion of their working day in communicating-speaking, writing, listening and reading. It is therefore not surprising that poor communication is often named the culprit when any problem arises (Magginson, 1969; Byars, 1977; Mc Farland, 1978; Fisher, 1980; Iskandar, Ahmad and Martua, 2014). Communication refers to the process of transmitting companies' policies and orders downwards, getting suggestions, opinions and feelings upwards and securing interest, goodwill and cooperation from employees (Magginson, 1967).

The essential of communication cannot be overemphasized in the organizations as applied to their ability to influence the bottom-line as found in growing evidence linked with productivity (Iskandar *et al.,* 2014). The attitudes and abilities for communicating can be attained if employees do not already possess them, by following six requirements: (a) have the right attitude; (b) have a reasonable command of the language; (c) have an adequate vocabulary; (d) be open minded; (e) be adaptable and eager to break bad habits; (f) have a thorough knowledge of the background of the problem or situation that leads to the necessity for the communication.

**Participation in Decision-Making**

It is very essential to include team members in the decision-making process, especially when decision will affect an employee's department or work team. This can help to create employee involvement and will also generate new ideas and perspectives that top management might never have thought of (Adegoke, 2013). Noah (2008) in his study revealed that "employee involvement in decision-making helps in creating a sense of belongingness among the employees, which helps in creating a good congenial working environment and contributes towards building a good employer – employee relationship". An empirical analysis identified a positive effect of employee participation (personal interaction, information sharing and responsible behavior) on retention and employees' performance (Khan, Mahmood, Ayoub and Hussain, 2011). Therefore, it would be difficult for an individual to leave a job and find other work, when involvement is provided by the employer. Participation in decision-making increases employees' involvement, which in turn influences employees' performance in a positive way.

**Organization Values and Beliefs**

Organizational values and beliefs is one of the non-monetary developing elements in influencing employees' performance. A study conducted in public accounting firms indicated that individual performance varies with organizational values and person-organization fit is important in defining employee performance (Chatman, 1989). Therefore, organizational values and beliefs are reflection of employees' performance.

**Status**

Many individuals are motivated by their status in the society, rather than by the money (Samuel and Chipunza, 2009). Huanh (2006) argues that respected employee status was found to have a serious influence on employees' performance. Therefore, employees' status enhances the performance of employees at workplace.

**Job Content**

A job is an organizational unit which could be a group of defined tasks or activities to be carried out. Therefore, any job requires creativity, enthusiastic environment and challenging goals to accomplish. If the job content is challenging and innovative, it will encourage higher performance or positive output on the part of employees. A survey of HR managers revealed that job content affect employee retention, commitment and job satisfaction, which ultimately enhances employees' performance at workplace (Vos and Meganck, 2009). It is obvious from the foregoing, that creativity and innovation enhance employees' performance. Factors such as job design, rotation, enlargement and enrichment are very essential when putting into consideration the effects of job content on employees' performance.

**Sexual Harassment**

The concern of sexual harassment is gaining increased recognition whether it is at workplace, home or educational institutions. It could happen to anyone, but women are the most targeted victims. However, "Offensive, embarrassing and humiliating are the words that are related to the unwanted and unwelcome behaviors of sexual natures, usually termed as sexual harassment which is becoming alarmingly common nowadays at workplaces" (Muhammad and Tayyaba, 2012). Most of the time, it badly affects the job performance. The experience of sexual harassment deeply affects an employee's psychological and physical well-being. At an organizational level this may result in decrease work effectiveness, decreased work productivity, high absenteeism, high turnover and low staff morale (Anila, Ambreen and Nasreen, 2010). Similarly, Chartered Institute of Personnel and Development (2005) posits that sexual harassment might result to illness, lack of commitment, increased absenteeism, and even sometimes resignation. Sczesny and Stahlberg's study of call centers (2000) revealed that satisfaction and employee performance are

extremely affected by telephone based sexual harassment. Therefore, it is obvious from the foregoing that sexual harassment have negative impact on employees' performance at workplace.

**Other Factors**

Other factors that may enhances or influences employees' performance at workplace are: organizational justice and prestige, effective administrative practices, personal problems, flexible work arrangement, job embededdness, emotional intelligence, work-life balance, career development and employee empowerment, social environment among others.

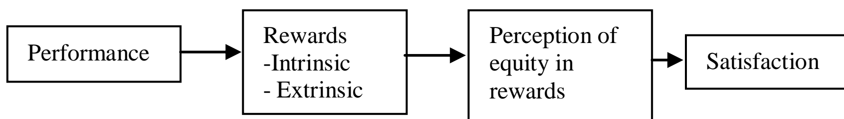
**Employee Satisfaction and Performance**

Psychologists have devoted time and effort to studying the effects of reward and punishment upon human behavior. In general, it seems that situations that reward a person are satisfying and those situations that punish a person are dissatisfying. More so, people have a tendency to prolong or return to satisfying situations and avoid those situations that are not satisfying. This line of reasoning is applied to the interpretation of morale as a factor in turnover and absenteeism. Thus people with high morale (a high degree of perceived satisfaction of needs through the total job situation) can be expected to continue their job with minimum amount of absenteeism, and those who quit or are chronically absent do so because the situation is not satisfying to them. Although this reasoning is plausible in explaining turnover and absenteeism, it does not follow that satisfaction with the job should or does result in a high level of job performance.

All individuals are simultaneously members of several social systems and the attainment of goals within each of these social systems serves to satisfying the needs of the individuals. High performance or high productivity is seldom a goal, but high performance or high productivity may lead to the fulfillment of a goal, thereby creating a feeling of satisfaction. In this case, performance is varying concomitantly with satisfaction (goal attainment), there is no casual relationship. In addition, "It is a commonly held and a seemingly not unreasonable belief that an increase in job satisfaction will result in improved performance. But research has not established any strongly positive connection between satisfaction and performance" (Armstrong, 2009). A review of the extensive literature on this subject by Brayfield

and Crockett (1955) concluded that there was little evidence of any simple or appreciable relationship between job satisfaction and performance. Armstrong (2009) argued that "it is not job satisfaction that produces high performance, but it is high performance that produces job satisfaction, and that a satisfied worker is not necessarily a productive worker and a high producer is not necessarily a satisfied worker. He further posits that people are motivated to achieve certain goals and will be satisfied if they achieve these goals through improved performance. They may be even more satisfied if they are then rewarded by extrinsic recognition or an intrinsic sense of achievement. This suggests that performance improvements can be achieved by giving people the opportunity to perform, ensuring that they have the knowledge and skill required to perform, and rewarding them by financial or non-financial means when they do perform". Expectancy-based theories of motivation generally stipulated that satisfaction follows from the rewards produced by job performance (Vroom, 1964; Naylor, Pritchard and Ilgen, 1980). Lawler and Porter (1967) expectancy theories themselves, argued that performance would lead to job satisfaction through the provision of extrinsic and intrinsic rewards. Therefore, job performance has a significant casual effect on job satisfaction (Stumpf and Hartman, 1984; Darden, Hampton and Howell, 1989; Brown, Cron and Leigh, 1993). A model developed by Lawler and Porter tends to suggest that job performance leads to employee satisfaction. The model is show below.

**Fig. no 1.** Employee Satisfaction and Job Performance Model




**Source:** Lawler and Porter (1967)

The model shows that performance leads to job satisfaction, provided the rewards are perceived to be equitable.

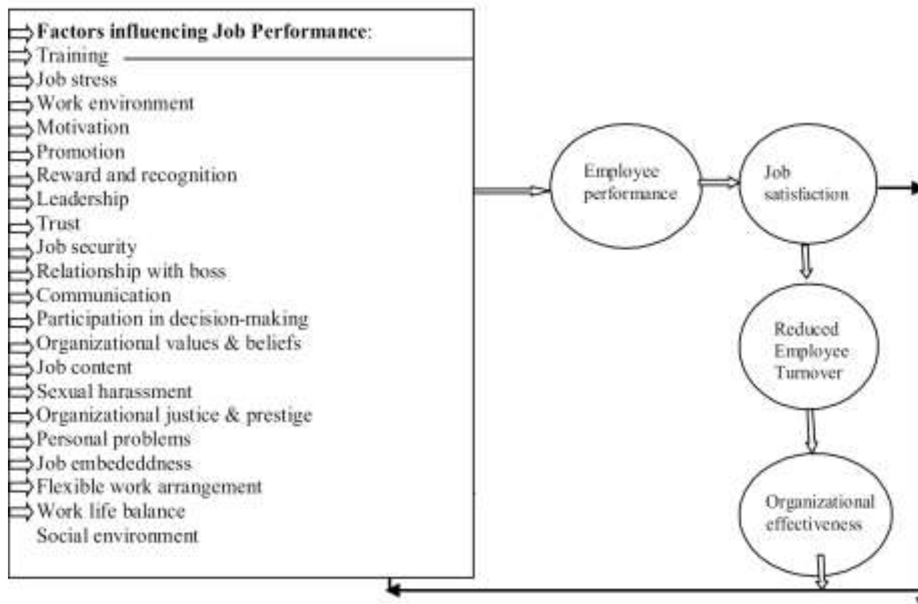
**Employees' Performance, Employees' Satisfaction and Employees' Turnover Model**

According to Reggio (2003), employee turnover refers simply to the movement of employees out of an organization. It is a negative aspect, which might lead to the failure of employee retention strategies in the organization. Employee attrition (sometimes known as labor turnover and wastage) is the rate at which people leave organization. It can be costly and disruptive (Armstrong, 2009). Leaving of job appears to reflect significant workplace issues, rather than opportunities for advancement into more suitable jobs. Turnover of employees disrupts teams, raises costs, reduces productivity, and results in lost knowledge within an organization. So, it is essential for the management to realize the importance of employees' job performance, job satisfaction and employees' retention (Safdar, 2012; Madan and Bajwa, 2016). Therefore, there are many reasons why employee quit from one organization to another. The potential reasons for an employee to quit his/her job can be amongst the following: overall low job satisfaction; poor relationships with colleagues; poor relationships with immediate boos; more security; lack of trust in top management; more pay; better working conditions; bullying or harassment; better prospect; more opportunities to develop skills; lack of reorganization; lack of challenge or growth; personal-pregnancy, illness, etc; unable to cope with job; poor recruitment policies; poor grievance procedures; poor supervisory practices (Ongori, 2007; Armstrong, 2007; Safdar, 2012).

Koys (2001) noted that turnover influenced profitability and customer satisfaction. Our concern is that the required turnover must exist, but the unwanted voluntary turnover should be avoided. The consequences of turnover may be at both, either organizational and personal levels, having both negative and positive consequences. Negative consequences to organization include costs of recruitment, costs of training and development, low productivity, stimulation of further turnover, disruption of team, lost sales, impact of work load, low morale, disruption of social and communication patters. Positive consequences include dislocation of poor performer, improvement, flexibility, adaptableness, conflicts resolutions and a reduction in other withdrawal behavior (Safdar, 2012). Negative consequences to employee include high expectation which might not be materialized, losing seniority and disruption of social life. Positive consequences include higher income, job change, escape from stress environment (Mobley, 1982). Researchers such as Woruba and Tyaagi

(1991); Walker (2001) and Silbert (2005) have found and concluded in their study that age, job satisfaction, tenure, job image, met expectations, organizational commitment, are strongly related to turnover intentions and the actual turnover. Harrington, Bean, Pintello and Mathews (2001) examined the various predictors of turnover intentions and observed that emotional exhaustion, lower levels of intrinsic job satisfaction and dissatisfaction with salary and promotional opportunities were the main predictors. Randhawa (2007) concluded in her study that there is a significant relationship between satisfaction and turnover intentions thereby suggesting that the higher the job satisfaction is, the lower the employee's intentions to quit his job will be. Madan and Bajwa (2016) concluded in their study that factors such as motivation, financial rewards, administrative practices, leadership, training, work environment, capacity building and emotional intelligence enhances job performance and ultimately employee satisfaction, and the accomplishment of organizational goals and objectives.

**Fig. no. 2.** Employee Performance, Job Satisfaction and Turnover Model




**Source:** Author's Construction (2017).

The above model clearly shows that factors influencing employees' performance have a direct relationship with job satisfaction. If these factors exist in the organization, then the tendency to leave the job or switch over to some other jobs gets reduced. Thus, job satisfaction as well as employee turnover are always negatively correlated to one another. The model clearly depicts that if the above mentioned factors influencing employees' performance exist in the organization it will not only help to attract new employees into the organization, but will also lead to the retention of the existing employees in the organization which ultimately results in organizational effectiveness.

**Conclusion**

Organization should understand that employees are their best commodity and that long-term health and success of any business organization depends upon the retention of talented employees. Hence, keeping a well trained, skilled and contended workforce can lead a company to higher heights while the lack of it can impede its growth badly. Besides, it has been observed that employee turnover is becoming a challenge which costs a lot of money, efforts and energy. So, every resignation saved is money earned. Therefore, if the above mentioned factors exist in the organization it will encourage employee satisfaction and reduces turnover intention. Thus, strategies of retention, which are based on developing human resource management systems such as improving communication process and their HR policy and practices should be implement in order to avoid high rate of employee attrition and it negative outcomes.

**Policy Recommendations**

Arising from the foregoing, this paper recommends that management should always provide an environment that protects the health and safety of employees and minimizes stress. Also, protect workers against harmful practices at work, e.g. bullying, harassment and discrimination. Act in the best interest of providing a reasonable balance for employees between their life and their work. Treat people according to the principles of natural justice, i.e. individuals should know the standards they are expected to achieve and the rules to which they are expected to conform, they should be given a clear indication of where they are failing or what rules have been broken and except in the cases

of gross misconduct, they should be given a chance to improve before disciplinary action is taken. Furthermore, recruitment and selection must be done scientifically with the objective of retaining employees and decreasing employee turnover. Bearing in mind that employees are the long-term investments in an organization and as such management should encourage job redesign, task autonomy, task significance and task identity. And finally, management should treat workers according to the principle of procedural justice (Adams 1965), i.e. the way in which people are managed are consistent, transparent, fair, and properly consider the views and needs of workers.

**Bibliography**

Abegglen, J. C. (1958). "*The Japanese factory: Aspects of its social organization"*. Glencoe: Free Press.

Adams, J. S. (1965). "*Injustice in social exchange, in Berkowitz, L. (ed). Advances in experiential Psychology"*. New York: Academic Press.

Adegoke, A. A. (2013). "*Advanced human resource management"*. Lagos: Chartered Institute of Personnel management of Nigeria.

Adeniyi, M. A. (2002). "*An analysis of human resources development programmes in two selected Nigerian university libraries"*. Unpublished MLS Thesis, Department of library and Information Studies, University of Ibadan.

Agarwal, N. C. (1998). "Reward systems: Emerging trends and issues". *Canadian Psychology,* 39 (1): pp. 60-70.

Ahmad, N., Ahmed, R., Mangi, R., Palwishah, R., Susan, A. (2014). "Factors motivating employees in public sector": An empirical investigation. *European Academic Research,* 2(5): pp. 6005-6021.

Aigbepue, S., Mammud, V. (2012). "Training, development and organizational performance". *JORIND*, 10 (3): pp. 170-176.

Anila, N., Ambreen, T., Nasreen, A. (2010). "Sexual harassment at workplace: Are you safe"? *Journal of Ayub Med Coll Abbottabad,* 22 (3): pp. 222-224.

Antony, J. (1967). *Management and Machiavelli.* Holt: Rinechart & Winston Inc.

Anyim, C. F., Ikemfuna, C. O., Mbah, S. E. (2011). "Human resource management challenges in Nigeria under a globalized economy".

*International Journal of Economics and Management Sciences,* 1 (4): pp. 1-11.

Armstrong, M. (2009). “*Armstrong’s handbook of human resource management practice”*. London: Kogan.

Asim, M. (2013). “Impact of motivation on employee performance with effect of training: specific to education sector of Pakistan”. *International Journal of Scientific and Research publications,* 3 (9): pp. 1-9.

Awan, A., Tahir, M. (2015). “Impact of working environment on employee’s productivity: A case study of banks and insurance companies in Pakistan”. *European Journal of Business and Management,* 7 (1): pp. 329-345.

Azreen, I. M. (2011). “*Critical success factors for the construction organization”*. Unpublished Masters Thesis, University of Technology, Malaysia.

Berman, E. M., Bowman, J. S., West, J. P., Wart, M.R.V. (2010). “*Motivation: Possible. Probable or impossible”?* California: SAGE Publications, Inc.

Bhatnagar, J. (2007). “Talent management strategy of employee engagement in Indian ITES employees: key to retention”. *Employee Relations,* 29(6): pp. 640-663.

Brayfied, A. H., Crockett, W. H. (1955). “Employee attitudes and employee performance”. *Psychological Bulletin,* 52: pp. 346-424.

Brown, S. P., Cron, W. L., Leigh, T. W. (1993). “Do feelings of success mediate sales performance work attitude relationship”? *Journal of the Academy of Marketing Science,* 21: pp. 91-99.

Brunetto, Y., Farr-wharton, R. (2002). “Using social identity theory to explain the job satisfaction of public sector employees”. *International Journal of Public Sector Management,* 15 (7): pp. 534-551.

Burns, J. M. (1978). “*Leadership”*. New York: Harper & Row.

Byars, B. (1977). “Employee performance”. *Employment Trends,* 544: pp. 9-13.

Chartered Institute of Personnel and Development (2005). “*Harassment at work: Diversity and equality”*. UK: CIPD Press.

Chatman, J.A. (1989). “Improving interactional organizational research: A model of person-organization fit”. *Academy of Management Review,* 14: pp. 333-349.

Chinowsky, P. (2008). "Critical success factors for the construction industry". *Proceedings of First International Conference on Construction in the 21 st Century,* United Kingdom.

Chowdhury, S. (2011). "*Resourcing strategies; getting the right people"*. Peninsula: Bottom line Express.

Chung-Hsiung, F., Sue-Ting, C., Guan-Li, C. (2009). "Applying structural equation model to study of the relationship model among leadership style, satisfaction, organization commitment and performance in hospital industry". *Academy of Management Journal*, pp. 703-722.

Conway, P. M., Campanini, P., Sartori, S., Dotti, R., Costa, G. (2008). "Main and interactive effects of shift work, age and work stress on health in an Italian sample of healthcare workers". *Applied Ergonomics,* 39 (5): pp. 630-639.

Cooke, B. (2000). "*Employee attitudes and performance"*. New York: McGraw-Hill.

Covery, S. R. (1998). "*Is your company's bottom line taking a hit"*? Retrieved from http://www.prnewswire.com.

Daft, D. (2008). "*Management"*. London: Billing and Sons ltd.

Darcy, K. T. (2010). "Ethical leadership; the past, present and future". *International Journal of Disclosure and Governance,* 7: pp. 188-212.

Darden, W. R., Hampton, R., Howell, R. D. (1989). "Career versus organizational commitment: Antecedents and consequences on retail salespeople's commitment". *Journal of Retailing,* 65: pp. 80-105.

Das, B. L., Baruah, M. (2013). "Employee retention: A review of literature". *IOSR Journal of Business and Management,* 14(2): pp. 8-16.

Davy, J., Kinicki, A., Scheck, C. (1991). "Developing and testing a model of survivor responses to layoffs", *Journal of Vocational Behavior*, 38: pp. 302-317.

Decenzo, D. A., Robbins, S. P. (1996). "*Human resources management"*. New York: John Wiley & Sons, Inc.

Dockery, T. (2013). "*The five determinants of organizational success: Building high performance leaders and organizations"*. Retrieved from www.businesspsychhology.com

Ekerman, G. (2006). "*Job enrichment and staff motivation"*. Cape Town: Maskew Miller Longman Ltd.

Fisher, B. A. (1980). "*Small group decision-making: Communication and the group process"*. New York: McGraw-Hill.

Frenchi, J. R. P. (1975). "*A comparative look at stress and strain in policemen"*. New York; Elsevier.

Fulmer, R. M. (2004). "The challenge of ethical leadership". *Organizational Dynamics,* 33(3): pp. 307-317.

Gitman, L. J., McDaniel, C. (2005). "*The future of business.* Ohio: Thompson Southwestern.

Goldstein, L. (1980). Training in work organization". *Annual Review Psychology,* 31: pp. 229-272.

Gutek, B. A. (1985). "*Sex and the workplace: the impact of sexual behaviour and harassment on women, men and organizations"*. San Francisco: Jossey bass.

Harrington, D., Bean, N., Pintello, D., Mathews, D. (2001). "Job satisfaction and burnout: Predictors of intentions to leave a job in a military setting". *Administration in Social Work,* 25 (3): pp. 1-16.

Huang, I., Lin, H., Chuang, C. (2006). "Constructing factors related to worker retention". *International Journal of Manpower,* 27 (5): pp. 491-508.

Hussain, A., Sardar, S., Usman, M., Ali, A. (2012). "Factors affecting the job performance: A case of Pakistan banking sector". *Elixir International Journal,* 61: pp. 8726-8730.

Ikyanyon, K., Ucho, T. (2014). "*The practice of performance management"*. New York: Holt Henry and Co publishers.

Iskandar, M., Ahmad, Martua, R. H. (2014). "Factors influencing employees' performance: A study on the Islamic banks in Indonesia". *International Journal of Business and Social Science,* 5 (2): pp. 73-80.

Jackson, M. (1981). "*Personnel"*. London: Heinemann Publishers.

Jenson, M. C. (1986). "Agency costs of fee cash flow, corporate finance and takeovers". *American Economic Review,* 76: pp. 323-329.

Jones, G. R., George, J. M. (1998). "The experience and evolution of trust: Implications for cooperation and teamwork". *Academy of Management Review,* 23: pp. 531-546.

Kamade, E. K., Gachunga, H.G. (2013). "Influence of human resource planning or organizational performance: A case study of international organization for migration". *International Journal of Innovative Social Sciences and Humanities Research,* 2 (2): pp.81-92.

Kamery, R. H. (2004). "Motivational techniques for positive reinforcement: A review". *Allied Academies International Conference,* 8 (2): pp. 91-96.

Kayoed, T. (2001). "The role of training in change management". *Journal of the Institute of Personnel Management,* 71: pp. 24-31.

Khan, A. A., Mahmood, B., Ayoub, M., Hussain, S. (2011). "An empirical study of retention issues in hotel industry: A case study of Serena hotel, Faisalabad, Pakistan". *European Journal of Economics, Finance and Administrative Sciences* 1 (20): pp. 7-18.

Koys, D.J. (2001). "The effects of employee satisfaction, organizational citizenship behavior and turnover on organizational effectiveness: A unit-level, Longitudinal study". *Personnel Psychology,* 54: pp.101-114.

Lebans, M., Euske, K. (2006). "*A conceptual and operational delineation of performance: Business performance measurement"*. London: Cambridge University Press.

Loosermore, M., Dainty, A. R., Lingard, H. (2009). "*Human resource management in construction project: Strategic and operational approach"*. London: Spon Press.

Lu, L. (1997). "The process of work stress: A dialogue between theory and research". *Chinese Journal of Mental Heath,* 10: pp. 19-51.

Madan, P., Bajwa, J.K. (2016). "Factors affecting job performance: with special reference to banking sector". *Management*, 6 (4): pp. 114-117.

Magginson, P. (1969). "Single table talk. *Personnel Management",* 5: pp. 46-49.

Malaolu, V. A., Ogbuabor, J. E. (2013). "Training and manpower development, employee productivity and organizational performance in Nigeria: Empirical investigation". *International Journal of Advances in Management and Economies,* 2(5): pp. 163-177.

McFarland, S. (1978). "*Who are your motivated workers"?* New York: Irvington Publishers.

McGuire, M., Houser, J., Jarrar, T., May, W., Wall, M. (2003) "Retention: It's all about Respect". *The Healthcare Manager,* 22(1): pp. 38-44.

McVicar, A. (2003). "Workplace stress in nursing: A literature review". *Journal of Advanced Nursing,* 44(6): pp. 633-642.

Miller, N., Erickson, A., Yust, (2001). "Sense of place in the workplace: The relationship between personal objectives and job satisfaction and motivation". *Journal of Interior Design,* 27 (1): pp. 35-44.

Mitoma, M., Yoshimura, R., Sugita, A., Umene, W., Horitt., Nakano, H. (2008). "Stress at work alters serum brain-drived neurotrophic factor levels and plasma". *Progress in Neuro-Psychopharmacology and Biological Psychiatry,* 32 (3): pp. 679-685.

Mizuno, M., Yamada, Y., Ishii, A., Tanaka, S. (2006). "A human resource management approach to motivation and job stress in paramedics". *International Congress Series,* 1294: pp. 167-170.

Mobley, W. (1982). "*Employee turnover: causes consequences and control"*. Philippines: Addison-Wesley publishers.

Mohammad, T. A., Tayyaba, R. M. (2012). "Factors affecting employee performance". *Human Resource Planning,* 24 (1): pp. 11-17.

Muccke, S. (2005). "Effects of rotating might shifts: Literature review". *Journal of Advanced Nursing,* 50: pp. 433-439.

Naylor, J.C., Pritchard, R.D., Ilgen, D.R. (1980). "*A theory of behavior in organizations"*. New York: Academic Press.

Noah, Y. (2008). "A Study of worker participation in management decision-making within selected establishment in Lagos, Nigeria". *Journal of Social Science,* 17 (1): pp. 31-39.

Northouse, G. (2007). "*Leadership theory and practice".* London: SAGE Publications, Inc.

Ololube, N. P. (2006). "*Teachers job satisfaction and motivation for school effectiveness: An Assessment".* Retrieved from http://www.usca.edu/essays/vo1182006/ololubepdf .

Onasanya, S.A.B. (1999). "*Effective personnel management and industrial relations".* Logos: Centre for Management Development.

Ongori, H. (2007). "A review of the literature on employee turnover". *African Journal of Business Management.* 2 (9): pp.49-54.

Poissonnet, C.M., Veron, M. (2000). "Health effects of work schedules in healthcare Professionals". *Journal of Clinical Nursing,* 9 (1): pp. 13-23.

Prajogo, D.I. (2007). The relationship between competitive strategies and product quality. *Industrial Management and Data System,* 107 (1), pp. 69-83.

Prince, B. J. (2005). "Career- focused employee transfer process". *Career Development International,* 10 (4): pp. 293-309.

Rakos, K. (2014). "*Seven easy ways to measure employee performance*". Retrieved from www.eremedia.com/Fordyce/7-easy-ways-to-measure-employee-performance.

Randhawa, G. (2007). "Relationship between job satisfaction and turnover intentions: An empirical analysis". *Indian Management Studies Journal,* 11 (1): pp. 1-15.

Reggio, E. A. (2003). "*Introduction to industrial/Organizational psychology*". New Jersey: Prentice Hall.

Robinson, S. I. (1996). "Trust and breach of the psychological contract". *Administrative Science Quarterly,* 41: pp. 574-599.

Saari, L., Judge, T. (2004). "Employee attitudes and job satisfaction". *Human Resource Management Journal,* 43 (4): pp. 395-407.

Saced, R., Mussawar, S., Lodhi, R.N., Igbal, A., Nayab, H.H., Yaseen, S. (2013). "Factors affecting the performance of employees at workplace in the banking sector of Pakistan". *Middle-East Journal of Scientific Research,* 17 (9): pp. 1200-1208.

Safdar, M. R. (2012). "Employee turnover and retention strategies: An empirical study of public sector organizations of Pakistan". *Global Journal of Management and Business Research,* 12 (1): pp. 82-89.

Samuel, M. O., Chipunza, C. (2009). "Employee retention and turnover: using motivational variables as a panacea". *African Journal of Business Management,* 3 (8): pp. 410-415.

Sczesny, S., Stahberg, D. (2000). "Sexual harassment over the telephone: Occupational risk at call centers". *Work and Stress,* 14 (2): pp. 121-136.

Shukurat, M. B. (2012). "Impact of ethical leadership on employee job performance". *International Journal of Business and Social Science* 3 (11): pp. 228-236.

Silbert, L. T. (2005). "The effect of tangible rewards on perceived organizational support". *Journal of Management Sciences,* 63 (4): pp. 29-38.

Stein, N. (2000). Winning the war to keep top talent: Yes you can make your workplace invincible, *Fortune,* 14(11), pp. 132-138.

Stumpf, S. A., Hartman, T. (1984). "Individual exploration to organizational commitment or Withdrawal". *Academy of Management Journal,* 27: pp. 308-329.

Toor, S., Ofori, G. (2009). "Ethical leadership: Examining the relationships with full range leadership model employee outcomes

and organizational culture". *Journal of business Ethics,* 90: pp. 533-547.

Venkatraman, N., Ramanujam, V. (1986). "Measurement of business economic performance: An examination of method convergence". *Journal of Management Development,* 13 (1): pp. 109-22.

Vos, A.D., Meganck, A. (2009). "What HR managers do versus what employees value: Exploring both parties view on retention management from a psychological contract Perspective". *Personnel Review,* 38 (1): pp. 45-60.

Vroom, V. H. (1964). "*Work and motivation".* New York: Wiley Publishers.

Walker, J. W. (2001). "Employee retention perspective". *Human Resource Planning,* 24(1): pp. 6-10.

Wells, M., Thelen, L. (2005). "What does your workplace say about you? The influence of personality, status and workplace on personalization". *Environment and Behavior,* 3: pp. 300-321.

Wong, W. P., Wong, K.Y. (2007). "Supply chain performance measurement system using DEA modeling". *Industrial Management and Data System,* 107 (3): pp. 361-381.

Wotruba, R., Tyaagi, P. K. (1991). "Met expectations and turnover in direct selling". *Journal of Marketing,* 55: pp. 24-25.

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# The Contribution of Listed Banks to Economic Development in Nigeria

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**Abstract**
Deposit Money Banks (DMBs) exert a vital role in funding economic projects in developing countries. Generally, DMBs assume an intermediary role between surplus and the deficit units. In the light of this, this research paper appraised DMBs as panacea to economic development in Nigeria using data drawn from the financial statements of eight banks from 2008 to 2015. The study took Gross Domestic Product as the dependent variable and used Employee Wages, Tax paid to government, Interest paid to Creditors, Dividends paid to shareholders and Retained Earnings as independent variables coupled with the use of correlation analysis and panel data regression technique. The paper revealed that the independent variables exert a positive effect on development of the economy, however, both wages paid to banks' employees and retain earnings exert significant positive effects on economic development. Hence, the paper recommends that DMBs should at least maintain the current wage rate and corporate retention policy in order to continue to contribute to economic development in Nigeria.

**Keywords:** Deposit Money Banks; Value Added; Economic Development; Employee Wages; Dividends; Retained Earnings; Government Tax.

## Introduction

Significant among the features of deposit money banks in Nigeria is the increased lending to the government for various purposes ranging from infrastructural development to settling recurrent expenditure, in addition to their services to private sector. Unfortunately, during this same period, the proportion of non-performing loans has increased as most borrowers (governments, organisations and individuals) had failed to pay back loans as and when due (Samson and Tarila, 2014).

The above has proved that the banks in Nigeria are faced with the challenge of lack of integrity and inept credit management. The Nigerian socioeconomic and political environment has also been discovered to contribute to this menace. Factors such as political instability, frequent changes in policies, vagaries within the industry, energy crisis and some other factors have affected the operators in the industry and indeed the growth of the nation as a whole. Meanwhile, it is contestable to opine that bank lending which increases finance can improve growth and lead to economic development.

Deposit Money Banks (DMBs) exert an imperative role in funding economic projects in developing countries. Generally, DMBs assume an intermediary role between surplus and deficit units in the economy. Normally, the major role to be played by DMBs is to spur the efficient extension of credit in a bid to facilitate investment and spur output, growth and development in the economy (Korkmaz, 2015). The provision of finance can impede or stimulate economic growth and development when such provision is repressed or liberalized. This study seeks to provide empirical evidence on how deposit taking banks create value, whilst playing their key role of intermediation and looks into the economic benefits from their activities.

## Conceptual Literature

Deposit money banks (DMBs) perform a very crucial function in the growth and development of an economy. The major role performed by DMBs is to make sure that deficit sectors of the economy receive constant flow of funds while they also ensure that funds are maximally

moved among the economic units. Such movement of funds is known as intermediation which entails movement of funds from surplus units to deficit units (Ufort, 2004).

The activities of DMBs as engine of growth in the economy could better be seen through the performance of their main functions. These functions embraces taking of deposits from the general public, providing account keeping, money transmission services and lending facilities (Crockett, 1970). Furthermore, Crockett (1970) posited in a good financial system, the size of the intermediary relies heavily on the ability of the firm to get more funds although they are in competition with other firms. The ability to compete effectively for funds by the banks depends on the package of the services which includes the interest rate charged, the convenience in accounts management as well as the rendition of financial advice.

Furthermore, banks are vehicles through which monetary policies are implemented and the effects of such policies are diffused in the economy. This is because the assets and liabilities of banks are a crucial part of the total money supply in an economy (Samson and Abass, 2013). Also, Kaminsky and Schmukler (2002) posited that taking into cognisance the best coordination mechanism, there are contradicting views about which mechanism to adopt by banks. Ordinarily, the government (and its relevant agencies) participate in the banking system by restricting or regulating the operations of the banks and as such, improve the proper functioning of the banking sector.

DMBs perform many functions. They gratify and galvanise the financial needs of all the sectors of the economy such as agriculture, industry, trade, communication, etc. and as such perform important functions in a process of meeting economic and social needs. The roles played by banks are becoming more customer inclined and are widening by the day. Broadly, the roles played by banks can be categorised into two, namely the primary and secondary functions. DMBs perform various primary functions which are listed below:

- DMBs receive various types of deposits from the public, especially its customers. These include saving account deposits, recurring account deposits, and fixed deposits. The deposits are payable after a certain time.
- DMBs make loans and advances available in various forms, including an overdraft facility, cash credit, bill discounting, money at

call, etc. They also give demand and term loans to all types of clients against proper security.

- Credit creation is the most significant function of DMBs. While approving a loan to a customer, they do not provide cash to the borrower. Instead, they open a deposit account from which the borrower can withdraw. In other words, while providing credits, they create loans.

Aside from the primary functions, DMBs perform several secondary functions, which can be divided into agency functions and utility functions. The agency functions include the collection and clearance of cheques, dividends and interest warrants and the making of payments of rent, insurance premium, etc., dealings relating to transactions in foreign exchange, purchasing and selling securities, acting as trustee, attorney, correspondent and executor, and accepting tax proceeds and tax returns. The utility functions include providing safety locker facility to customers, providing money transfer facility, issuing travellers' cheque, acting as referees, accepting various bills for payment (phone bills, gas bills, water bills, etc.), providing merchant banking facilities and various cards.

The growths of the banking system as well as the growth of contemporary economies appear attached. The factors determining the growth and development of an economy include the natural resource endowment, supply of skilled labour and, of course, capital. Capital is a critical factor required in the process of economic development. This includes real capital such as machineries (and equipment) and financial capital. Due to the significant portion of financial capital required before there could be any meaningful economic development, there is need for banks. An individual's savings are not usually large enough to obtain all his needed resources for development. The saver may not also possess the ability and the initiative needed for investment to take place.

The banks amass small savings of the individuals and dissuade them from consumption, thereby encouraging investment. Thus, investment in great physical projects is conceivable because qualified investors have right to use the substantial stock of funds that are in temporary residence with the banks. This intermediation function of the banks aids development as it stimulates savings and investments both of which are economically very rewarding. Banks also influence the quantum of acquiring power available for investment and consumption expenditures. The banks do this through their power to expand or contract credit. By their activities, banks also affect the direction of

funds to alternative uses (e.g. the prices of the various financial claims). The banks regulate whether credit will be available for financing investment in agriculture, industry or consumption. How banks perform this role affects the pace and pattern of expansion in different sectors of the economy. Banks are very different from other financial mediators because of the "high degree of liquidity" of their demand deposits, as well as their ability to "create" and "destroy" money. In a modern economy, the greater portion of the money supply is deposit money created by commercial banks. Banks, therefore, exist as dealers of money.

According to Mandal and Goswami (2008), the survival, stability and growth of an entity within a society depend on the wealth it creates through the collective efforts of its stakeholders. The measurement of the wealth created or the value added by an entity is presented in the Statement of Value Added (SVA). Only few countries mandated the preparation and inclusion of the SVA in the annual financial statements, Nigeria and the UK inclusive. The SVA shows gross earnings and the deductible bought-in materials and services before arriving at the value added. Then, the value added is shared amongst the contributory stakeholders. According to Subramaniyam and Nimalathasan (2011), the outcome had been used as basis for negotiating reward for labour in the UK, bringing up the Value Added Incentive Payment Scheme (VAIPS), the profit-sharing schemes, and value-based performance analysis.

The financial statements would contain the Statement of Accounting Policies (SAP), the Statement of Financial Position (SFP), the Statement of Profit or Loss and other Comprehensive Income (SCI), the Statement of Cash Flows (SCF), the Statement of Changes in Equity (SCE), and the Statement of Value Added (SVA). The SAP shows the various underlying policies that formed the basis upon which the accounts were prepared. The SFP shows the assets and liabilities, that is, the state of affairs of the firm, at the reporting date. The SCI presents the financial performance of the firm showing the net earnings attributable to the ordinary shareholders. The SCF shows the movement of cash in and out of the firm. The SCE shows movements in the share capital of the firm during the reporting period. The SVA shows the wealth created by the firm and how the wealth is distributed among the stakeholders. Aruwa (2009) had recommended that SVA should be used

to construct value added ratios useful as diagnostic and predictive tools and for making performance comparison.

Performance signifies power to survive, resist stress and grow. According to Bhandari (nd), existence is possible without making profits but survival is impossible without adding value. Thus, he proved that the SVA provides a picture of the firm's operating results accruing to each class of resource and how such value is shared amongst the various stakeholders, during an accounting period. It is therefore regarded as an integral part of socioeconomic responsibility accounting and reporting (Subramaniyam and Nimalathasan, 2011). It is a measure of performance that will give earlier signal of down sliding performance in contribution by any of the stakeholders and thus the future ability of the bank to survive, resist stress and grow. But this measure of performance is relegated to the background in financial statements presentation and analysis by operators and regulators of the banking industry. The SVA is even at the tail end of the financial reports of banks, whereas it is the place to check to know whether a firm is performing well or otherwise. It is thus the aim of this study to investigate value-added (or wealth created) by banks and their distribution to contributors as determinants of their input into the development of the Nigerian economy.

**Theoretical Literature**

There are several theories in economics and finance literature that offers theoretical explanation on the link between deposit money banks and economic development. The Financial intermediation theory, as propounded by McKinnon (1973) and Shaw (1973), considered financial markets as performing a very important function in economic development, accrediting the variations in economic growth across countries to the quantity and quality of services provided by financial institutions. This is not in correspondence with the position of Robinson (1952), who argued that financial markets are essentially handmaidens to the domestic industry, and respond passively to other factors that produced cross-country differences in growth. "There is a general tendency for the supply of finance to move with the demand for it. It seems to be the case that where enterprise leads, finance follows. The same impulses within an economy, which set enterprises on foot, make owners of wealth venturesome, and when a strong impulse to invest is

fettered by lack of finance, devices are invented to release it… and habits and institutions are developed" (Robinson, 1952).

The Robinson school of thought therefore assumes that economic growth determines the expansion of the financial sector. He attributed the positive relationship between financial development and economic growth to the positive consequence of financial development on efficient use of capital. In addition, the process of growth has feedback effects on financial markets by generating inducements for further financial expansion. The position of McKinnon (1973) is premised on the complimentary proposition, which is in disparity with the neo-classical monetary growth theory. He posited that there exists complementarity between money and physical capital, which is revealed in money demand. According to McKinnon (1973), complementarity links the demand for money directly and positively with the process of physical capital accumulation because "the conditions of money supply have a first order impact on decisions to save and invest". In addition, positive and high interest rates are necessary to inspire agents to accrue money balances, and complementarily with capital accretion will exist as long as real interest rate does not surpass the real rate of return on investment.

Shaw (1973) puts forward a debt intermediation hypothesis, whereby the increased financial intermediation between savers and investors which is an offshoot of financial liberalization and development increase the incentive to save and invest. As a result, investment is stimulated coupled with an increased supply of credit which raises the average efficiency of investment. McKinnon (1973) and Shaw (1973) argued that policies leading to repression of financial markets reduce the incentives to save. They described the key elements of financial repression as high reserve requirements on deposit; legal ceilings on bank lending and deposit rates; directed credit; control of foreign currency capital transactions; and restriction on entry into banking activities.

The McKinnon-Shaw framework influenced the structure of reforms within the financial sector in many developing countries. Although the framework explains some of the quantitative changes in savings and investments at the aggregate levels, it fails to consider the micro-level interactions in the financial markets and among financial institutions. These interactions are known to affect the supply of savings and the demand for credit by economic agents and they consequently

affect economic growth. Three economic growth models developed from these postulations.

The first is the neo-classical model and the major theories here include the Solow model and the Harold Domar Model which holds that various steady state rates of growth are all autonomous of the rate of savings, even though the levels of the variables are affected by savings. Thus, any increase in growth rates consequential from increased saving is only provisional, as under the framework, only through technological progress can continuous economic growth be achieved. Furthermore, Solow argued that exogenous technological improvement and capital accumulation drive economic growth.

The second is the endogenous model of growth, which proposed that financial development can improve growth in three ways which includes increasing the efficiency of financial intermediation, increasing the social marginal productivity of capital and influencing the private savings rate. This pets well-functioning financial markets at the essential heart of endogenous technical progress because a well-functioning financial system improves the efficiency of the human capital, as well as the physical capital. Moreover, productive financial service improves and expands the scope of innovative activity. These have been confirmed by various studies. Levine (1991) stressed the informational role of financial intermediation in an endogenous growth model and argues that its role is crucially related to productivity growth of capital. Furthermore, Bencivenga and Smith (1991) argued that through its lessening of liquidity risks, efficient financial intermediation arouses savers to hold their wealth increasingly in productive assets, contributing to productive investment and growth. Levine (1991) followed the same line of thought, but stressed the importance of stock markets in stimulating the financing of investment in less liquid investment projects, as well as the diversification of portfolio risk. In addition, he explicitly modelled a two-way relationship between financial markets and economic growth. Saint-Paul (1992) also emphasized the development of a well-functioning stock market in stimulating economic growth, especially as it affects the sharing of risks of entrepreneurs. The endogenous growth model provides an understanding of the importance of financial development in economic growth: a point often obscured in the neoclassical growth models.

The third is the financial repression hypothesis which was popularised by McKinnon (1973) and Shaw (1973). It assumes that

financial development contribute most significantly to economic growth if the authorities will not meddle in the operations of the financial institutions. As a result, the theory attributes poor performance by banks and other financial institutions to interest rate regulation, ceilings on deposits and loan rates and official guidelines pertaining to lending operations. Such meddling results in a low and often negative real rate of return on financial assets and subsequently, in poor savings mobilization as well as declining investment projects (Agu, 1988). The advocates of this hypothesis therefore proposed positive real interest rate as well as financial liberalization. Furthermore, the free market forces were considered as effective mechanisms to ensure an ideal financial structure for development and eradicate the division of markets which is tantamount to financial duality and all the attendant distortions of the proper operation of the market mechanism. Also, the financial repression hypothesis further emphasized that government legislation and policies may alter the actions of the market contrivances in determining the "prices" of financial resources. As the major effects of such repression are limited savings because of interest ceilings, the hypothesis can be ultimately reduced to official interest rate policies. However, Galbis (1981) posited that financial repression may also stem from portfolio regulation, as well as oligopolistic financial markets. The financial repression hypothesis also recognised the level of interest rates on the savings instruments accessible by the public vis-à-vis the rate of inflation such that if real rates of interest have been positive over a period, it may be deduced that there has been no financial repression, but financial deepening.

**Empirical Literature**

Okafor, Ezeaku and Ugwuegbe (2016) employed the Vector Autoregressive model and Granger causality to evaluate the causal relationship between DMB credit and economic growth in Nigeria for the period 1981 to 2014. The study used Real Gross Domestic Product as explained variable, private sector credit (PSC) and broad money supply (M2) as independent variables. The study showed a unidirectional causality running from PSC and M2 to economic growth. This result confirms the significance of financial development to economic growth. The study recommends that credit should be channelled, at concessionary costs, to the private sector of the Nigerian economy since their activities is proven to stimulate economic growth.

Also, Okereke and Kurotamunobaraomi (2016) investigated the effect of corruption in DMBs on economic growth in Nigeria. The study employed Ordinary Least Square regression techniques to analyse the effect. The study discovered that corruption (CORA) has no significant impact on economic growth in Nigeria, and recommends that the stakeholders should take practical steps to strengthen the anti-corruption agencies and encourage private sector participants in order to enforce compliance with ethical standards in the DMBs.

Moreover, Akakabota (2015) studied the effect of financial sector reforms on Economic Growth in Nigeria between 1986 and 2012. The study uses interest rate, DMBs credit claims and total deposit of deposit money bank as an explanatory variables to explicate economic growth in Nigeria coupled with the use of panel data techniques to estimate the effect. The study showed that there is a positive relationship between DMB credit claims and economic growth. Based on the findings, the study recommended that management of banks in Nigeria should enhance their capacity in credit analysis and loan administration. Similarly, Fapetu and Obalade (2015) investigated the sectoral allocation of DMBs loans and advances on economic growth in Nigeria during intensive regulation, deregulation and guided deregulation regimes using the ordinary least square regression method for each of the three regimes. The study show that only the credit allocated to government, individuals and corporations have significant positive contributions on economic growth during intensive regulation. The study conclude that bank credits generally do not contribute significantly to economic growth during deregulation, the introduction of guided deregulation appears to be successful as commercial bank's loans and advances to production and other subsector are both positive and significant in determining growth. Based on the findings, the study suggested that Nigerian DMBs should be more favourably disposed to extending more credits to production and other subsectors namely agriculture, manufacturing, mining and quarrying, real estate and construction, government, individuals and corporations at reasonable interest rate. Finally, monetary authorities are to ensure the continuance of guided deregulation as opposed to intensive regulation or total deregulation.

In 2012, Okwo, Mbajiaku and Ugwunta investigated the effect of bank credit to the private sector on economic growth in Nigeria from 1981 to 2010. The study used Gross Domestic Product (GDP) as the

exogenous variable and bank credit to private sector, inflation and interest rates as control variables coupled with the use of Augmented Dickey Fuller statistic and Ordinary Least Square to ascertain the impact. The study reveals that bank credit to private sectors has a statistical strong positive relationship with GDP and bank credit to the private sector has statistically significant effect on economic growth. The study recommended that the CBN should reduce its minimum rediscount rate to a reasonable level that will enable banks fix low interest rates on their loanable funds while adopting direct credit control to favour preferred sectors like agriculture and manufacturing.

Saba (2016) investigated the causal effect of banks major activities on economic growth of Pakistan from 1961 to 2013 using Johansen Co-integration test and Granger Causality on time series data. The study reveals that two major activities of banking sector (that is, savings and lending) do not have any short, nor long run causal effect on economic growth. Hence, the study recommends that the Government and central bank should make policies that will improve the activities of banks in Pakistan. Likewise, Alkhuzaim (2014) used Johansen Co-integration method of analysis and granger causality technique to investigate the relationships between financial development and economic growth in Qatar. The study revealed that there is positive long run relationship between financial development indicators and GDP growth rate in Qatar. Also, there is unidirectional causal relationship running from domestic credit provided by the banking sector to GDP growth in the long run. The study concluded that there is no causal relationship between bank credits to private sector and GDP growth rate in both the long and short runs. In the same vein, Priyanka and Jyota (2014) examined the role of commercial banks in economic development of India. The study is based on descriptive analysis and empirical research that used secondary data to analyse various research studies that are related to the same field. Based on the findings, the study concluded that banks should consider investing in agricultural facilities like irrigation, processing and storage.

Also, Aurangzeb (2012) investigated the contributions of the banking sector to the economic growth of Pakistan. The data employed in his study span through 1981 and 2010 on ten banks. Augmented Dickey Fuller and Philip Perron unit root test, Ordinary least square and Granger-Causality test were used. Unit root test confirmed the stationarity of all variables at first difference. Regression results

indicated that deposits, investments, advances, profitability and interest earnings have significant positive impact on the economic growth of Pakistan. The Granger-Causality test confirmed the bidirectional causal relationship of deposits, advances and profitability with economic growth. In addition, it was observed that unidirectional causal relationship of investments and interest earnings with economic growth runs from investments and interest earnings to economic growth. It was recommended that the policy makers should make policies to boost the banking sector in Pakistan, because banking sector is significantly contributing to the economic growth of the country.

None of these empirical works, good as they are, made use of the value-added by the banks to measure their contribution to the economy of the countries they studied. This is the very gap that this study intends to fill. Value addition is an accepted concept at all levels, and this is the reason governments collect value added tax in most countries. The purpose of this study therefore is to use the relationship between the value-added by the sample listed DMBs and the GDP to measure the contribution of the banks to the economic development of Nigeria.

**Research Methods**

The study adopted an economic approach in the analysis of DMBs as a contributor to economic development considering eight banks selected at random from the fifteen listed banks in Nigeria, namely: Wema Bank, Guaranty Trust Bank, Access Bank, United Bank for Africa, Diamond Bank, Stanbic-IBTC Bank, Zenith Bank and Ecobank. An econometric approach of the classical Panel data Ordinary Least Square technique will be adopted to test for the relationship between the variables. The study made use of cross sectional data spanning from 2008 to 2015. The study adopted secondary data relating to the firms from their annual reports and CBN Statistical Bulletin, and the data was analysed using the E-Views 9 statistical package.

The objective of the study is to investigate DMBs contribution to economic development in Nigeria. Hence, the model formulated for the study is stated as:

Economic Dev. = f (Employee Wages + Lenders' Interests + Shareholder's Dividends + Government Tax + Assets' Depreciation + Retained Earnings)

$$GDP = \alpha + \beta_1 WAG + \beta_2 INT + \beta_3 DIV + \beta_4 TAX + \beta_5 DEP + \beta_6 RTE + \varepsilon$$

Where:

WAG = Wages paid to employees
INT = Interests paid to lenders (Long Term Creditors)
DIV = Dividends paid to shareholders
TAX = Tax paid to government
DEP = Depreciation on Non-current Assets
RTE = Retained earnings (Reserves)
$\alpha$ = constant
$\beta$ = the degree of variability or slope of each independent variable
$\varepsilon$ = error term.

The required analysis covered eight years for eight out of the fifteen listed banks. Evidence was based on panel data.

In this study, we use Gross Domestic Product (GDP) as the dependent variable. It is the proxy for economic development, to measure the contributions of DMBs in the development of the Nigerian economy. The independent variables adopted for the study are Employee Wages, Lenders' Interests, Shareholder's Dividends, Government Tax, Assets' Depreciation and Retained Earnings. They are a measure of what the DMBs contribute to the economy through the various stakeholders.

**Analysis and Discussion of Results**

The data for the eight banks and eight years were collated and tested for correlation, to know which of the independent variables may not explain the dependent variable. The results are shown in table 1 no. below.

Table no. 1 shows that five (WAG, TAX, INT, DIV and RTE) out of the six independent variables show significant correlation with the dependent variable (GDP). The one variable that fails the test (DEP) fell below 5%. Therefore, depreciation of Non-current Assets (DEP) is not relevant in this analysis. Thus, it was excluded from the regression equations. This can be explained from its a priori behaviour: depreciation is a fixed expense that must be charged irrespective of the level of activity in any organisation.

| Table no. 1. CORRELATION ANALYSIS | | | | | | | |
|---|---|---|---|---|---|---|---|
| | *WAG* | *TAX* | *INT* | *DIV* | *DEP* | *RTE* | *GDP* |
| WAG | 1 | | | | | | |
| TAX | 0.39 | 1 | | | | | |
| INT | 0.13 | 0.03 | 1 | | | | |
| DIV | 0.65 | 0.51 | 0.10 | 1 | | | |
| DEP | 0.20 | 0.02 | 0.05 | 0.13 | 1 | | |
| RTE | 0.32 | 0.71 | 0.11 | 0.29 | -0.04 | 1 | |
| GDP | 0.38 | 0.23 | 0.29 | 0.15 | -0.02 | 0.42 | 1 |

**Source**: Computation by author (2018) using MS Excel 2013

Thus, the regression equations became:
Economic Dev. = Employee Wages + Government Tax + Interest to Creditors + Shareholder's Dividends + Retained Earnings
$GDP = f(WAG + TAX + INT + DIV + RTE + \mu)$
$GDP = \alpha + \beta_1 WAG + \beta_2 TAX + \beta_3 INT + \beta_4 DIV + \beta_5 RTE + \mu$
Regression analysis was conducted using E-Views 9.

**Table no. 2.** Regression Result

**Dependent Variable: GDP**

| Variables | Coefficient | Std. Error | T-Stat. | Prob. |
|---|---|---|---|---|
| **WAG?** | 0.862585 | 0.264627 | 3.259631 | 0.0021 |
| **TAX?** | 0.190503 | 0.604260 | 0.315266 | 0.7540 |
| **INT?** | 1.087163 | 1.099180 | 0.989067 | 0.3278 |
| **DIV?** | 0.077309 | 0.305008 | 0.253464 | 0.8010 |
| **RTE?** | 0.379197 | 0.151885 | 2.496609 | 0.0162 |
| **C** | 38799.61 | 5295.189 | 7.327332 | 0.0000 |
| Fixed Effects (Cross) | | | | |
| WEMA | 21011.79 | | | |
| ZENITH | -27218.12 | | | |
| ACCESS | -1824.325 | | | |

| | | | | |
|---|---|---|---|---|
| DIAMOND | 6628.954 | | | |
| STANBIC | 19687.29 | | | |
| GTB | -12956.63 | | | |
| UBA | -12230.17 | | | |
| ECO | -1105.874 | | | |
| R-squared | 0.521785 | | | |
| Adjusted R-squared | 0.397033 | | | |
| F-statistic | 4.182584 | | | |
| Prob (F-statistic) | 0.000199 | | | |
| Durbin-Watson stat | 0.621396 | | | |

**Source:** Output of data analysis by author (2018) using E-Views 9

The relationship between the dependent variable and the independent variables can be expressed mathematically as:

$$GDP = 38799.61 + 0.862585_{WAG} + 0.190503_{TAX} + 1.087163_{INT} + 0.077309_{DIV} + 0.379197_{RTE} + \mu$$

From the table above, the regression result reveals that the independent variables exert a positive effect on the development of the economy. However, both wages paid to employees and retain earnings were found to exert significant effects on economic development. This is possible as the wages paid consistently to the employees will be channelled to other sectors of the economy as they purchase the necessities of life in line with the circular flow of income. Also, retained earnings will improve the investment portfolio of the banks affecting their capability to add further value, and eventually affecting other sector of the economy in the long-run. Interestingly, the model was found to be significant because of the values of the R-Squared, Probability of the F-Statistics and the Durbin Watson Statistics which showed that the findings of the study can be relied upon for policy recommendations.

**Conclusion**

This paper has shown to some extent, the role played by the DMBs in economic development. According to the Central Bank of Nigeria, DMBs remained the most significant depository institution in the financial system as it they are responsible for 95.2 per cent of the total financial savings in 2014. In May 2016 the total assets and liquid assets of DMBs in Nigeria had risen to N28.4 trillion and N6.8 trillion respectively. And the DMBs had extended N18.17 trillion credits to the domestic economy (CBN, 2014, 2016). All these appear commendable. Yet, the Nigerian political and socioeconomic environments have not helped matters. Political unrest, frequent changes in policy, industrial unrest, energy crisis, etc., have affected the operators and indeed the growth of the Nigerian economy. We cannot help but wonder whether the banks' credits irrespective of wherever channelled, would give financial impetus that stimulates economic growth. The challenges of instability and corruption seem to create leakages that dramatically reduced the economic impacts of the credits.

This study had appraised DMBs as a contributor to economic development in Nigeria between 2008 and 2015 using eight banks as a case study. The study took GDP as the dependent variable and used Employee Wages, Government Tax, Interests paid to Creditors, Dividends paid to shareholders and Retained Earnings as independent variables coupled with the use of panel data regression technique. The study revealed that the independent variables exert a positive effect on the development of the economy, however, both wages paid to banks' employees and retained earnings exert significant positive effects on economic development. Hence, it is recommended that the current pace of wage rate and retention policy should be maintained. It may, however be argued that the managers take care of themselves at the expense of the shareholders. It could even be inferred that the significant retention observed was a deliberate policy to ensure that the banks keep growing in a bid to keep feeding the managers. This argument would suggest agency issues, which may become the subject of further research.

**Bibliography**

Akakabota, E. E. (2015). "Financial sector reforms and economic growth in Nigeria." *International Journal of Economics, Commerce and Management, 3*(9): pp. 150-171.

Alkhuzaim, W. (2014). "Degree of financial development and economic growth in Qatar: Cointegration and causality analysis." *International Journal of Economic Finance, 6*(6): pp. 57-69.

Aurangzeb, C. (2012). "Contributions of banking sector in economic growth: A case of Pakistan." *Economics and Finance Review*, *2*(6): pp.45-54.

Bencivenga, V. R., Smith, B. D. (1991). "Financial intermediation and endogenous growth." *Review of Economic Studies,* 5(8): pp. 195-209.

Cappiello, L., Kadareja, A., Sørensen, C. K., Protopapa, M. (2010). "Do bank loans and credit standards have an effect on output? A panel approach for the euro area." Euro system Working paper No 1150, *European Central Bank*, January.

Central Bank of Nigeria (2014). *Annual Economic Report,* www.cbn.gov.ng

Central Bank of Nigeria (2016). *Monthly Economic Report (May),* www.cbn.gov.ng

Cevik, S., Rahmati, M. (2013). "Searching for the finance-growth nexus in Libya." *IMF working paper WP/13/92*, Middle East and Central Asia Department.

Crockett, A. (1970), "*Money, Theory, Policy and Institutions.*" Sear borough Great Britain: Finda and Sons Ltd.

Fadare, S. O. (2010). "Recent banking sector reforms and economic growth in Nigeria." *Middle Eastern Finance and Economics*, *8*(8): pp.146-160.

Fapetu, O., Obalade, A. A. (2015). "Sectoral allocation of banks' credit and economic growth in Nigeria." *International Journal of Academic Research in Business and Social Sciences, 5*(6): pp. 161-169.

Galbis, V. (1981). "Interest rate management: The Latin American experience." *Saving and Development, 1*, London.

Kaminsky, G., Schmukler, S. (2002). "*Short-run pain, long-run gain: the effects of financial liberalization."* The World Bank, Oct 16.

Korkmaz, S. (2015). "Impact of bank credits on economic growth and inflation." *Journal of Applied Finance & Banking, 5*(1): pp. 57-69.

Levine, R. (1991). "Stock markets, growth and tax policy." *The Journal of Finance, 46*(4): pp. 1445-1465.

Mandal, N., Goswami, S. (2008). "Value added statement (VAS) – A critical analysis." *Great Lakes Herald*, *2*(3): pp. 98-120.

McKinnon, R. (1973). "*Money and capital in economic development.*" Washington DC: Brookings Institute.

Okafor, I. G., Ezeaku H. C., Ugwuegbe, U. S. (2016). "Relationship between deposit money bank credit and economic growth in Nigeria under a VAR G-causality environment." *Journal of Economics and Finance,* 7(2): pp. 41-46.

Okereke, E. J., Kurotamunobaraomi, T. (2016). "Corruption in deposit money banks and economic growth in Nigeria (1999-2013) – [Revised]." *IIARD International Journal of Political and Administrative Studies, 2*(1): pp. 12-25.

Okwo, I. M., Mbajiaku, B., Ugwunta, D. O. (2012). "The effect of deposit money banks credit on Nigerian economic growth." *International Journal of Current Research, 4*(12): pp. 555-559.

Priyanka, S., Jyota, S. (2014). "Role of Commercial Bank in the economic development of India." *International Journal of Engineering and Management Research, 4(*1): pp. 27-31.

Robinson, J. (1952). "The generalization of the General Theory and other essays." In: Nnana, O. J., Englama, A., Odoko, F. O. (Ed.). (2004). *Financial Markets in Nigeria*, Abuja: Central Bank of Nigeria.

Saba, M. (2016). "Causality between bank's major activities and economic growth: Evidences from Pakistan." *Mushtaq Financial Innovation, 2*(7): pp. 1-11.

Saint-Paul, G. (1992). "Technological choice, financial market and economic development." *European Economic Review, 36*(4): pp. 763-782.

Samson, O., Abass, A. (2013). "Does depositing money in bank impact economic growth? Evidence from Nigeria." *African Journal of Business Management,* 7(3): pp. 196-205.

Samson, O., Tarila, B. (2014). "Deposit money banks and economic development in Nigeria." *Financial Assets and investing, 1*(1): pp. 41-50.

Shaw, E. (1973). "*Financial deepening in economic development.*" London: Oxford University press.

Subramaniyam, A., Nimalathasan, B. (2011). "Value added reporting: A case study of Abans listed manufacturing company limited in Sri Lanka." *The USV Annals of Economics and Public Administration*, *10*(1): pp.142-147.

Ufort, L. (2004). "*The Nigerian financial system and the role of Central Bank of Nigeria.*" Lagos: CBN Training Centre.

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# Performance Measure of Indian General Insurance Companies Using DEA and Super Efficiency Model

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**Abstract**

This paper investigates the efficiency of the general insurance companies operating in India during the period 2011 to 2017. Data Envelope Analysis has been applied to estimate the efficiency of these insurance companies using publicly available financial data of different parameters related to their financial health. The value-added approach has been used which is the most appropriate method for studying insurance efficiency (Cummins et al., 1999). The value-added approach is closely related to the traditional measure of financial performance. The efficiency of each company in comparison with other companies of the insurance sector is estimated. The Super Efficiency Model has been applied to measure the most efficient company over a certain time horizon among all the companies. Efficiency score derived using the DEA contributes significant information towards identifying the scope for improvement.

**Keywords:** DEA; Insurance Efficiency; Technical Efficiency; Super Efficiency Model; Value-Added Approach.

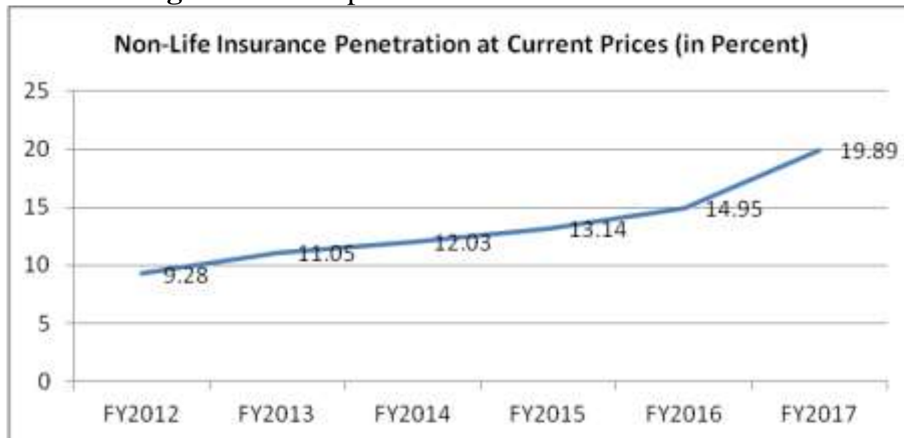
## Introduction

Prior to liberalization, there were only four public sector companies in the general insurance sector. In 1994 the Government accepted the recommendations of RN Malhotra committee and opened up the sector for private sector. As at March 2017, there are 63 licensed insurers, with equal numbers of life and non-life, domestic reinsurers and foreign reinsurance company branches. While private insurers are more in number, public insurers account for about 55% in non-life, and about 60% in reinsurance, including business placed outside India. In recent years, most of the new entrants have been to the non-life sector, stand-alone health and reinsurance (since 2016), including the foreign reinsurer branches (IMF Report, 2018).

In December 2014, Government approved the ordinance increasing FDI limit in insurance sector from 26% to 49%. This was likely to attract investment of US$ 7-8 billion. In 2015, Government introduced Pradhan Mantri Suraksha Bima Yojna and Pradhan Mantri Jeevan Jyoti Bima Yojana. The Government also introduced Atal Pension Yojana and Health insurance in 2015. National Health Protection Scheme will be launched under Ayushman Bharat, as per Union Budget 2018-2019. Insurance companies raised more than US$ 6 billion from public issues in 2017(www.ibef.org).

Insurance has been strongly associated in India with savings and investments and less with protection (life or non-life). Most domestic property remains uninsured. For example, it is estimated that 40% of drivers have no motor insurance. Currently, crop and health insurance hardly exists. Moreover, most public non-life insurers rely on individual agents for product sales and level of digital penetration is also low.

**Fig. no. 1**. Low penetration of Non-Life insurance




**Source**: India Brand Equity Foundation (available: www.ibef.org)

However, recent regulatory changes and new delivery channels have required insurers to raise standards of customer treatment and improve persistency. There is particular focus on making available simple products that can be sold at low cost through the online channel. Government initiatives in cooperation with insurers have also contributed significantly to increased penetration. As per IRDA, in order to increase market penetration in health insurance people are needed to be educated about the benefits of health insurance along with providing incentives and free check-ups.

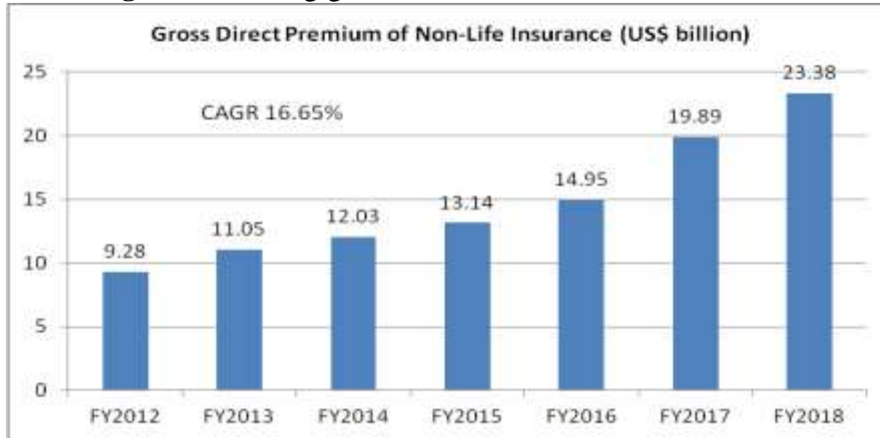
**Statement of Problem**

Insurance companies as financial institutions have two fold contribution for the growth and efficient functioning of the economy. Insurance companies not only facilitate risky businesses through transferring risk from insured to insurer, but also act as financial intermediaries to mitigate the transaction costs by bringing savers and borrowers together. The need for insurance as a risk transfer mechanism is even more imperative in the developing countries like India which are characterized as having low income levels, and lacking access to social security systems, healthcare, education, sanitation and employment opportunities.

As documented above, the non-life insurance segment has registered a consistent growth in terms of business size and premium over the decades. Gross Direct Premiums of non-life insurer in India

reached Rs.1.51 Trillion (US$ 23.38 billion) in the 2017-2018 period. In the period 2011-2012 to 2017-2018, non-life insurance premium increased at a Cumulative Annual Growth Rate (CAGR) of 16.65%.

**Fig. no. 2**. Strong growth in Non-Life insurance CAGR




**Source**: India Brand Equity Foundation (available: www.ibef.org)

Many companies have roped into this industry which has germinated intense competition in the sector. Due to the high risky nature of this industry, need to analyze the performance of the non-life insurer is immensely critical. Thus, efficiency measurement is viewed as a coherent aspect of the business performance analysis in both the life insurance and non-life insurance sector.

In analyzing performance of a company, apart from window analysis it is important to measure their performance relative to other companies in that sector. So, measurement of insurers' efficiency in comparison to its peer companies is very relevant. In the non-parametric regime data envelopment analysis (DEA) gained momentum due to a number of factors like efficiency and simplicity. This encouraged its usage over several domains.

The primary objective of the study is to measure the efficiency score of the top ten non-life insurance companies operating in India. The study will also compare the efficiency score of the public and private sector non-life insurance companies.

**Literature Review**

A number of empirical studies have focused on efficiency of insurance companies and have examined many issues related to this problem. For instance, some studies have investigated the impact of risk management on the efficiency of insurers (Cummins et al., 2006; Cummins and Nini, 2002) whereas, some others have analyzed the impact of organizational form and corporate governance issues on the efficiency of insurers (Erhemjamts and Leverty, 2007). The general level of efficiency in both developed and developing countries has been examined by many researchers, but the results are mixed in both types of insurance markets. For instance; Kessner and Polborn (1999) applied Data Envelopment Analysis (DEA) to measure the efficiency of 110 life insurers of Germany over the period 1990 to 1993 and found that most of the insurers in the insurance market of Germany were inefficient. Another study by Weiss (1991) applied Stochastic Frontier Approach (SFA) to compute the efficiency of 100 US property and liability insurance companies over the period 1980 to 1984. The estimated results indicated cost inefficiency of around 12 to 33% amongst the US insurers. Moreover, Cummins (1999) applied DEA to compute the efficiency of 750 life insurers of U.S. for the period 1988 to 1995 and found lower efficiency scores amongst the insurance firms as compared to other financial institutions. Cummins et al. (1996) investigated the general level of technical efficiency over time in the 94 life and non-life insurers of Italy over the period 1985-1993. This study used the DEA technique to compute the efficiency scores and found that the efficiency amongst the insurers remain around 70% to 78% over the study period.

Another study by Hussels and Ward (2006) investigated the efficiency level of 78 German and U.K. life insurers over the period 1991-2002. The study used DEA and DFA to compute the efficiency scores and found that the insurers of German insurance market were more efficient as compared to U.K. insurance market.

Empirical researchers have also investigated the general level of efficiency in the insurance markets of developing economies. For instance, Tone and Sahoo (2005) investigated the general level of efficiency over time in the Indian life insurers using DEA over the period 1982-2001. The estimated results indicated that the allocative inefficiencies amongst the life insurers of India increased after 1994, whereas the cost efficiency also increased after 2000. In another study Qiu and Chen (2006) measured the efficiency of 32 life insurers of

China over the period 2000 to 2003 and reported a decline in the efficiency of insurance companies. Moreover, another study by Mansoor and Radam (2000) examined the general level of technical efficiency and productivity for 12 Malaysian life insurers using DEA approach over the period 1987-1997. Afza and Ali Asghar (2008) followed the value added approach to determine the output variables and input variables. They estimated the technical efficiency, allocative efficiency and cost efficiency of the insurance companies to determine the real contributors of efficiency in the insurance industry of Pakistan.

## Methodology

This study applies the Data Envelopment Analysis (DEA) approach for the computation of efficiency scores in the insurance companies of India. DEA is a “data-oriented” approach for evaluating the performance of a set of peer entities called Decision Making Units (DMUs). By means of DEA relative efficiency of each DMU’s can be calculated in order to make a comparison. As a result, this method also provides reference units for inefficient ones. As a general rule of thumb, in competitive markets, DMUs are output-oriented, since we assume that inputs are under the control of the DMU, which aims to maximize its output subject to market demand (something that is outside the control of the DMU).

Charnes, Cooper and Rhodes (1978) first introduced the term DEA to describe a mathematical programming approach to the construction of production frontiers and efficiency measurements corresponding to the constructed frontiers. The latter authors proposed a model that had an input orientation and assumed constant returns-to-scale (CRS). This model is known in the literature as the CCR model. Later studies have considered alternative sets of assumptions. Banker, Charnes and Cooper (1984) were the first to introduce the assumption of variable returns-to-scale (VRS). This model is known in the literature as the BCC model.

The VRS model takes into account the variation of efficiency with respect to the scale of operation, and hence measures pure technical efficiency. The output-oriented measure of technical efficiency of any firm under VRS requires the solution of the following LP problem due to Banker, Charnes and Cooper, 1978:

Max θ

Subject to $\sum_{j=1}^{n} w_j x_i^j \leq x_i^t; i = 1,2,3 \ldots m$

$$\sum_{j=1}^{n} w_j y_r^j \geq \theta y_r^t;\ r = 1,2,3 \ldots s$$

$$\sum_{j=1}^{n} w_j = 1;$$

$$w_j \geq 0 (j = 1,2,3,\ldots,n);$$

*where:*

wj = the weight of the jth DMU,

$x^j_i$ = value of the ith input variables for jth DMU,

$y_r^{\ j}$ = value of the rth output variables for jth DMU and

$x_i^t$ = the value of ith input variable for t th DMU.

m = number of inputs

s = number of outputs

n = number of DMU

θ = the efficiency of t th DMU.

Selection of inputs and outputs and number of DMUs is one of the core difficulties in developing a model and in preparation of the data. The choice of inputs and outputs is guided by choices made in previous studies as well as the availability of data. Insurer inputs can be classified into three principal groups: labor, business services & materials and capital. Insurance is a labor intensive industry, with agents' commission accounting for a major proportion of such labor costs. Operating expenses and other personnel costs related to insurance business are summarized under the head business services and materials. The rationale for the use of equity capital is that insurers must maintain equity capital to back the promise to pay claims even if losses are higher than expected and to satisfy regulatory requirements. Hence, equity to total asset ratio has been incorporated as the third input.

The present study has adopted premiums as output variable because it represents the risk pooling and risk bearing function of insurance companies. The income from investment is the second output as insurance companies can be considered as financial institutions seeking to maximize income from investments.

### Data

The present study concentrates on non life insurance companies in India. The top ten non-life insurance companies operating in India have been identified based on their market share. The information has been collected from the insurance sector reports for the financial year 2017-2018. The study measures performance of all the companies over the last seven years ending 31.3.2011 to 31.3.2017. All relevant data have been collected from the annual reports of the respective insurance companies as publicized by them in their websites.

The top ten general insurance companies included in the study are as follows:

New India Assurance Company Limited
United India Insurance Company Limited
National Insurance Company Limited
Oriental Insurance Company Limited
ICICI Lombard General Insurance Company Limited
Bajaj Allianze General Insurance Company Limited
HDFC ERGO General Insurance Company Limited
GIC of India
Reliance General Insurance Company Limited
Tata AIG General Insurance Company Limited

The Data Envelopment Analysis (DEA) approach for the computation of efficiency scores in the general insurance companies of India has been applied as DEA is a linear programming technique for building an efficient frontier. The linear programmes have been solved using the LINGO statistical software and the results derived have been analyzed accordingly.

### Results and Discussion

The efficiency score of a DMU states the efficiency of the DMU in utilizing the inputs to generate the outputs in comparison with other DMUs. Since we are using an output oriented model, the major aim is to increase outputs as much as possible, keeping the inputs either constant or decreasing it, if possible. The companies with an efficiency score of 1 indicate that the outputs cannot be further increased in their case and if it is increased, it will only be possible by increasing the inputs. The companies with an efficiency score of more than 1 indicate that even if all current inputs were used efficiently, output is less than potential output.

**Table no. 1**. Efficiency Score

| YEAR | New India | United India | National | Oriental | ICICI | Bajaj | HDFC | GIC of India | Reliance | Tata |
|---|---|---|---|---|---|---|---|---|---|---|
| 2017 | 1 | 1 | 1 | 1.43641 | 1 | 1 | 6.01949 | 1 | 1 | 4.80921 |
| 2016 | 1 | 1 | 1 | 1.42326 | 5.20408 | 1 | 5.99717 | 1 | 1 | 2.77671 |
| 2015 | 1 | 1 | 1 | 1 | 1 | 1 | 5.49716 | 1 | 1 | 3.25287 |
| 2014 | 1 | 1 | 1 | 1 | 1 | 1.07582 | 5.71013 | 1 | 1 | 3.11712 |
| 2013 | 1 | 1 | 1 | 1 | 1 | 1 | 5.85927 | 1 | 1 | 2.43397 |
| 2012 | 1 | 1 | 1 | 1 | 1 | 1 | 11.4243 | 1 | 1 | 2.57085 |
| 2011 | 1 | 1 | 1 | 1.18137 | 1 | 1.70081 | 13.4139 | 1 | 1 | 1 |

**Source:** Computed by the Authors using LINGO software

The output oriented technical efficiency of the different non-life insurance companies is depicted in Table no. 1. An efficiency score of more than 1 indicates that there is still scope for improvement and keeping the inputs constant; the outputs can be further increased thus the efficiency of the firm can be increased.

The analysis of a 7 year time-horizon that we considered shows that New India Insurance, United India Insurance, National Insurance, GIC of India and Reliance Insurance have proved to be efficient over all the years as compared to the other companies included in the study. ICICI Lombard has been efficient in all years under the study except one year that is 2015-2016. The performance of Bajaj Allianz has also been praiseworthy except for 2010-2011 and 2013-2014. All of them have been able to make the optimal utilization of the input consistently throughout the period. They have set examples for others to replicate. They have been able to generate substantial premium and ensure investment in marketable securities of the idle funds not used for claim settlements. They have also achieved an optimal output without change in the commission to premium ratio or investment in fixed assets or operating expenses.

HDFC ERGO and Tata AIG have not been able to match their competitors in any of the years included in the study. They have not been able to maximize the outputs to their fullest. These companies need to replicate the strategies adopted by the other efficient companies so as to increase their efficiency. Fortunately, both the companies have been trying to improve efficiency through different measures. Post merger with L&T General Insurance, HDFC ERGO has become the third largest private non-life company with a market share of 4.3%. To

fund expansion post acquisition, HDFC ERGO has raised Rs.350 crores through Non-Convertible Debentures in January 2017. In July 2016, Tata AIG General Insurance Company Limited has entered into corporate agency (non-life insurance) agreement with Bank of Baroda. The bank has one of the largest distribution networks in India which will be used by Tata AIG to build customized general insurance solutions for Bank of Baroda customers.

Interestingly, all the 5 public sector general insurance companies included in the study have been efficient in all the years of study. No wonder that the government proposes to merge National Insurance, United India Insurance and Oriental India Insurance into one company. Currently, these three major players contribute around 30% to the market of non-life-insurance. The synergies will bring in further efficiency in operations, claims management and technology platforms. The merger will reduce competition among the public sector general insurers and will shift their focus to reaching maximum number of uninsured people and assets. But subsequently, this will also create a monopolistic situation and private insurers must be cautious of it. Among the private players only Reliance General Insurance and to some extent ICICI Lombard and Bajaj Allianz have been able to match the performance of the public sector general insurers.

The years 2015-2016 seemed to be the worst of the lot wherein 4 general insurance companies have failed to attain an efficiency score of 1. The 2011-2012, 2012-2013 and 2014-2015 periods were the best years out of the 7 included in the study wherein a total of 8 companies out of the 10 companies attend an efficiency score of 1 respectively.

**Table no. 2**. Super Efficiency Score

| Year | New India | United India | National | Oriental | ICICI | Bajaj | HDFC | GIC of India | Reliance | Tata |
|---|---|---|---|---|---|---|---|---|---|---|
| 2017 | 0.45732 | 0.88980 | 1.92864 | 1.66725 | 0.62771 | 2.13210 | 6.73498 | **4.33E-02** | 2.55829 | 6.22627 |
| 2016 | 0.48162 | 0.86980 | 0.92453 | 1.57294 | 5.20408 | 1.80911 | 6.56587 | **4.45E-03** | 1.52005 | 3.84336 |
| 2015 | 0.53783 | 1.03798 | 0.86646 | 1.51714 | 1.22917 | 1.70704 | 6.15334 | **5.23E-02** | 2.23976 | 4.35967 |
| 2014 | 0.45367 | 1.01798 | 0.84767 | 1.34265 | 1.39881 | 1.91204 | 6.61414 | **5.69E-02** | 1.78368 | 4.76511 |
| 2013 | 0.37068 | 0.85840 | 1.06457 | 1.27503 | 2.41897 | 1.90738 | 6.99405 | **3.29E-02** | 2.47369 | 4.72193 |
| 2012 | 0.60956 | 0.95255 | 1.12028 | 1.12023 | 4.02632 | 1.91274 | 11.5131 | **3.46E-02** | 4.10132 | 5.45874 |
| 2011 | 0.61149 | 0.80263 | 0.80241 | 1.18455 | 4.19422 | 1.76674 | 13.4139 | **0.252976** | 1.34727 | 7.44497 |

**Source**: Computed by the Authors using LINGO software

Out of the multiple companies, which have been proved to be efficient each year, we had tried to identify the most efficient one by the super-efficiency analysis. These super efficiency scores among all efficient companies have been represented in Table no. 2. The analysis highlights GIC to be the most efficient for all 7 years included in the study. The public sector giant, General Insurance Corporation of India (GIC) has retained its leadership position in the general insurance market.

**Limitation**

In this study we have restricted the number of insurance companies to top ten. The period of study is also restricted to the last seven years. The study also includes only three inputs and two outputs. The study has concentrated on Indian general insurance companies only.

**Further Research**

In this study, DEA will be applied to Indian insurance companies only. Further research could be done on the insurance companies of different countries. Keeping in mind the constraints of DEA choice of input and output variables, further research and analysis have to be carried out to assess the impact of variables on efficiency. Year wise comparative analysis of each company considering each year as a separate DMU can be carried out in future.

## Bibliography

Afza, T., Ali Asghar, M. J. (2008). "Efficiency of the Insurance Industry in Pakistan: An Application of Non-Parametric Approach", Interdisciplinary Journal of Contemporary Research in Business, 2(8).

Borges, M. R., Nektarios, M., Barros, C. P. (2008). "Analysing the efficiency of the Greek Life Insurance Industry", European Research Studies, XI(3).

Cummins, J. D., Tennyson, S., Weiss, M. A. (1999). "Consolidation and efficiency in US Life Insurance Industry", Journal of Banking and Finance, 23, pp. 325-357.

Cummins, J. D., Weiss, M. A. (2000). "Analyzing company performance in the insurance industry using Frontier

Efficiency Methods", in Dionne, G. (ed.), Handbook of Insurance. Boston, Kluwer, Ch. 24.

Cummins, J. D., Weiss, M.A., Xie, X., Zi, H. (2010). "Economies of scope in financial services: A DEA efficiency analysis of the US insurance industry", Journal of Banking and Finance, 34(7), pp.1525-1539.

IMF Report (2018). "INDIA: Technical Note on Insurance Sector Regulation and Supervision".

Sabet, R. J., Fadavi, A. (2013). "Performance measurement of insurance firms using a two-stage DEA method", Management Science Letters 3, pp. 303-308.

Yang, Z. (2006). "A two-stage DEA model to evaluate the overall performance of Canadian life and health insurance companies", Mathematical and Computer Modeling, 43(7-8), pp. 910-919.

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# Effect of Employees' Educational Attainment on Corporate Entrepreneurship Performance in Selected Companies in Kwara State, Nigeria

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**Abstract**

This study examined the effect employees' educational attainment has on corporate entrepreneurship performance in selected companies domiciled in Ilorin the capital of Kwara State in Nigeria. Ten companies located in Kwara State were purposefully selected from which 300 respondents were randomly selected. The respondents differed in their functional positions to capture various employees' viewpoints across a variety of management and employee grades, as well as across different teams and departments. The study examines corporate entrepreneurship performance from the dimension of organizational innovativeness and organizational risk propensity. Regression analysis was used to examine the effect of

independent variable on the dependent variables. From the results generated in line with the specific objectives, the study found that employees' educational attainment significantly contribute to organizational innovativeness and organizational risk-taking, as significant dimensions of corporate entrepreneurship performance. However, employee's educational qualification contribute significantly more to organizational risk taking, with $R^2 = 0.549$, which is greater than organizational innovativeness ($R^2$=0.321).
**Keywords:** educational attainment; corporate entrepreneurship; performance; risk-taking; innovativeness; performance.

## Introduction

The business environment is changing every day, offering new opportunities and presenting new challenges to business managers. Remaining competitive and achieving viable business success in such environments requires organizational practices and operations that could facilitate organizational adaptability to the changing environment. Thus, the dynamism and complexity of business competition, brought by globalization and sharp improvement in technology are making organizations to rely on individual employee's knowledge and capabilities to contribute to organizational effectiveness in adapting to business environment and maximize corporate success (Hornsby, Kuratko, Shepherd and Bott, 2009).

The competitiveness and success of an organization is therefore determined by how effectively it exploit emerging niches, how it pays detailed attention to improving customer value through a competent and reliable team of employees and how effective the employees are in creating and sustaining a team of employees, which consistently delivers value to customers at low cost. This requires sound corporate entrepreneurial performance that will ensure viable business success in the face of evolving business environment and global competition. Thus, organizations need to establish and enhance business competing edge through continuous innovation, whether it is related to the creation of new products, services, production or organizational processes,

business models. This requires adaptability, flexibility, speed, aggressiveness and innovativeness, all pointing to the concept of corporate entrepreneurship (Mokaya, 2012).

A sound corporate entrepreneurial activity have been shown to foster competition, innovation, pro-activeness, economic wellbeing of the organization and that of the stakeholders (Saiz-Álvarez, Coduras and Cuervo-Arango, 2014; Olakitan and Charles, 2012). Corporate entrepreneurship is crucial for having a healthy and rich organizational structure, characterized by high well-being levels (Saiz-Álvarez, et al., 2014). Corporate entrepreneurship facilitates firm's innovation, development of new businesses and allows firm's transformation to meet the rising challenges of dynamic and highly globalized environments (Mustafa, Richards and Ramos, 2013). Corporate entrepreneurship (CE) would help to speed up the growth of the organization and enhance its competitive advantages in the face of global competition. This has led to increased interest in a growing body of research attempting to identify factors that promote entrepreneurship performance in a corporate world (Mokaya, 2012).

A study released by the Kaufmann Foundation for Entrepreneurship (KFE) found correlation between education attainment level and the propensity to start a new business or create a new product or service within an organization. It could be inferred that a fundamental but less studied factor that influences corporate entrepreneurship performance is employee's education. Educational attainment has also been connected to the decision of becoming entrepreneurs or self-employed (Delmar and Davidsson, 2000), and to the success of independent entrepreneurs, as it increases their capability to identify and exploit opportunities due to better prior knowledge, and better capacities to acquire external resources and to accumulate new knowledge and skills (Unger, Rauch, Frese and Rosenbusch, 2011). In this regard, perceived educational attainment is assumed to exert significant influence on corporate entrepreneurial performance in term of business and institutional development support (Saeed et al., 2015). It could be assumed that better educated people are more likely to be proactive and take risks to advance corporate entrepreneurship performance. This is obvious because education is commonly believed to be an important factor for the success of entrepreneurial activity (Kolstad and Wiig, 2011).

Against this background, this study aims to determine the effect of employees' educational attainment on corporate entrepreneurship performance. Our study contributes to the existing literature in that the data collected allows us to test the employee's education attainment and corporate entrepreneurship performance relationship in the African context, providing an opportunity to create actionable knowledge that may benefit practitioners and academics alike. This is imperative because despite many studies that have been undertaken in corporate entrepreneurship, there has been very little research directly examining the effect that employees' educational attainment has on corporate entrepreneurship performance.

**Table no. 1.** Specific objectives, research questions and hypotheses of the study

| S/N | Study specific objectives | Research questions | Hypotheses |
|---|---|---|---|
| i. | *To determine effect of employee's educational qualification on organizational innovativeness* | *What is the effect of employee's educational qualification on organizational innovativeness?* | *Employee's educational qualification has no effect on organizational innovativeness* |
| ii. | To *find out effect of employee's educational qualification on organizational risk-taking* | *What is the effect of employee's educational qualification on organizational risk-taking?* | *Employee's educational qualification has no effect on organizational risk-taking* |

**Literature Review**

**Corporate Entrepreneurship Performance**

There is no generally acceptable definition of corporate entrepreneurship (CE) in literature, and there is a sizeable amount of ambiguity about the corporate entrepreneurship construct (Rutherford, 2004), which results in different operationalization of its concept. However, academics and business practitioners have acknowledged corporate entrepreneurship as an important element of the firms' outcomes for large, medium and small enterprises (Antoncic, 2007) in

dynamic and global economy (Zehir, Muceldili and Zehir, 2012). Dess, et al. (2003) asserted that the study of corporate entrepreneurship is increasingly central in managerial studies.

Zehir et al., (2012) argued that corporate entrepreneurship provides organizational survival and growth in large companies, and helps in the development of small companies. Sharma and Chrisman (1999) defined CE as the process wherein an individual or a group of individuals, in association with an existing organization, create a new organization or instigate renewal or innovation within that organization. Corporate entrepreneurship is starting new ventures or products or services within a firm. Ireland, Hitt and Vaidyanath (2002) argued that employees and managers at all organizational levels have critical strategic roles to fulfill in pursuit of corporate entrepreneurship. Corporate entrepreneurship refers to a process that goes on inside an existing firm, regardless of its size, and leads new business ventures, other innovative activities and orientations such as development of new products, services, technologies, administrative techniques, strategies, and competitive postures (Antoncic, 2001). Zahra (2000) in his own contribution defines corporate entrepreneurship as the sum of a company's venturing and innovation activities, which can help the firm acquire new capabilities, improve its performance, enter new business and develop new revenue streams in both domestic and foreign markets. It is the sum of a company's venturing and innovation activities, which can help the firm, acquire new capabilities, improve its performance, enter new business and develop new revenue streams in both domestic and foreign markets (Zahra, 2000). Hence, the primary focus of corporate entrepreneurship is performance, which can be characterized by the company size (turnover, added value and volume), profitability of the company, the value of the company (shareholder value), competitive position, product quality and customer service (Zahra and Garvis, 2000). Thronberry (2002) defined corporate entrepreneurship as an attempt to merge both skills and mindset of successful entrepreneurs and inculcate these characteristics into the activities of large companies. Saeed, Yousafzai and Jongaden (2015) affirmed that there exist significant relationship between entrepreneurial orientation and performance across globe.

Adapting Kaufmann and Dant (1998) definition of entrepreneurship, corporate entrepreneurship can be viewed as the process of extracting profits from new, unique and valuable

combinations of resources within an existing organization, in an uncertain and evolving business environment. CE is the purposeful activity to initiate, maintain and develop a profit-oriented business within an existing organization. It may be presumed that organizations that engage in corporate entrepreneurship would outperform those that do not. On this note, Antonic and Hisrich (2000; 2001) argued that corporate entrepreneurship may prove to be an important asset for the growth and profitability of existing companies. Antonic and Hisrich (2001), Bojika and Fuentes (2011), Hamed et al. (2014) affirmed that organizations that engage in entrepreneurial activities tend to be more profitable than organizations that do not.

Sharma and Chrisman (1999) argued that CE is increasingly regarded as an overall construct capturing all entrepreneurial activities in incumbent organizations. Saly (2001) used and emphasize five different dimensions such as innovativeness, risk propensity, pro-activeness, corporate venturing and self-renewal as construct of CE. Zehir and Eren (2007) brought out four dimensions, which are new business venturing, innovativeness, self renewal and pro-activeness. According to Zhang (2008), CE encompasses three major components: innovation, venturing and strategic renewal. In this study, we measured CE using three components, namely innovativeness, risk propensity and pro-activeness. These were considered to be consistent with our study context, and could be qualitatively measured as seen in literatures (Miller, 1983; Zehir et al., 2012), and in measuring organizational performance (Javalgi, 2011).

Innovativeness refers to enterprise's ability to create new value, products, services or technological process and support new ideas, novelty and experimentation (Lumpkin and Dess, 1996). It is a predisposition to engage in creativity and experimentation through the introduction of new products (Rauch et al., 2009; Odumeru, 2013). This construct laid emphasis on creation and introduction of new products and services. However, De-Jong, Parker, Wennekers and Wu (2011) argued that the innovativeness dimension is broader than new products or services. It may also include process-related innovations to bring new or improved production or marketing methods, or to apply new kinds of resources. It may include any opportunity deviating from the status quo that would also advance the organization. This study conceptualizes innovation as the creation, adoption and implementation of novel and useful ideas, including methods, products or processes from within an

organization. This is in line with the view of Kanter (1988), who postulated that innovation is a process that begins with problem recognition and the generation of novel or adopted ideas. Finally, these activities result in a prototype or model of the innovation that can be further assessed and adopted by the organization (De-Jong, Parker, Wennekers and Wu, 2011).

Risk-propensity is considered a fundamental element of entrepreneurship (Antoncic and Hisrich, 2003), and it refers to entrepreneurial activities that support taking reasonable risk and effectiveness in management of the selected risks. In the CE literature, risk-taking involves taking bold actions by venturing into the unknown, taking large loan for a venture, and/or committing significant resources to ventures in unknown environments (Rauch et al., 2009). Corporate entrepreneurial activities such as innovation, venturing and strategic decisions involve considerable risk, because it involves investment of time and resources even before the distribution of their returns is known. Ling, Simsek, Lubatkin and Veiga (2008) show that risk-taking by top management team members increases the odds of corporate entrepreneurship activities.

**Employees' Educational Attainment**

It has long been recognized that the employee is a vital and critical part of the firms' wealth creation (Cabrita and Bontis, 2008); and that the human work force is the most intellectual asset in an organization (Hajiha and Hasanloo, 2011). According to Ahangar (2011), employees who constitute the firms' human capital is more efficient than other two types of capital (structural and physical) in terms of value creation and efficiency. This implies that human capital is the most valuable component of corporate entrepreneurship and the firms with greater human capital efficiency will have better corporate entrepreneurship performance.

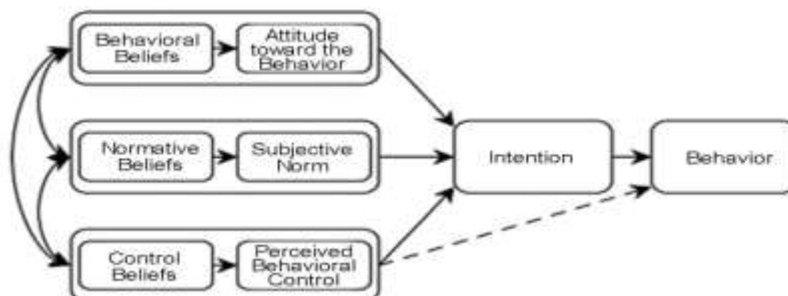
An organization can feel more confident by utilizing education as an indicator during the selection process, a measure that predicts many aspects of overall performance. However, there is scarce study in African context that shows that investing in highly educated employees increase corporate entrepreneurial performance in addition to core task performance. This is the gap this current study seeks to fill.

**Theoretical Approach**

Two theoretical approaches have received more attention in CE literatures: Theory of Planned Behaviour (TPB) and Shapero's model of the entrepreneurial event (Karali, 2013; Bilić, Prka and Vidović, 2011). This study adopts TPB in explaining employees' attainment and corporate entrepreneurship behavior. This is because the theory is one of the most popular and influential theoretical frameworks adopted for analyzing human behavior (Muofhe and du Toit, 2011). It is also part of the larger family of intentional models that have been used to explain the emergence of entrepreneurial behavior (Muofhe and du Toit, 2011). The TPB is based on the idea that human beings are rather rational in their choices and individual's intentions may lead or may not lead to certain behavior (Bilić, Prka and Vidović, 2011). According to (Ajzen, 2005), there are three conceptual determinants of intentions according to the theory. The first determinant is the attitude towards behavior, which reflects the level to which a person has a favorable or unfavorable evaluation of a specific behavior. The second determinant is the subjective norm, which simply means the perceived social pressure to perform or not the behavior. The third determinant is the perceived behavioral control which refers to the perceived ease or difficulty of performing the behavior and it is assumed to reflect past experiences as well as expected obstacles (Ajzen, 1991, 2005).

As shown in figure no.1, TPB can be used to study and predict different kinds of human intentions to behave in a certain way including educational choices like enrolling in natural science subjects, furthering one's education etc. (Nishimura and Tristán, 2011).

**Fig. no. 1.** Theory of Planned Behavior (Ajzen, 2005)



**Methodology**

The purpose of this study is to examine the impact that employees' educational attainment has on corporate entrepreneurship performance. The study is exploratory in nature which made use of survey design to investigate whether the independent variable - employees' educational attainment have significant influence on the dependent variable – corporate entrepreneurship performance. The survey research method was considered appropriate for the study because it is suitable in measuring respondents' opinions and attitudes towards employees' educational attainment and corporate entrepreneurship performance. The population for the study comprises of all the employees of registered companies domiciled in Ilorin, the capital of Kwara State in Nigeria. Purposeful sampling method was employed to select the companies that participated in the study. However, the choice of the companies is determined by willingness of senior management to participate in the study. This implies that participated companies were purposively selected while simple random sampling technique was employed in choosing the staff into the sample size, from the selected companies. This enables each staff of having equal chance of being selected. A total of 300 managers and employees from ten Nigerian Companies located in Ilorin, the capital of Kwara State in Nigeria participated in the survey. This implies that respondents from particular company differed in their hierarchical and functional positions. This approach was used so as to capture employee viewpoints across a variety of management and employee grades, as well as across different teams and departments. This offered a broad insight and scope necessary to generate findings from across many levels of the organizations as it exists within this sample set. Primary data were sourced for the study through questionnaire. The questionnaire was administered using random sampling to employees across various professional levels within the selected companies. The questionnaire was structured to focus on questions related to employees' educational attainment and corporate entrepreneurship performance. Likert rating scale of five points which range from strongly agreed (5 points) to strongly disagree (1) was constructed to enable the respondents give their opinions to items in the questionnaire. The data generated were analyzed using descriptive statistics and regression analysis, with the aid of SPSS Statistics (version 20.0.)

The variables adopted for the study are statistically expressed as:

***Model for hypothesis one***

OrgInn= *f* [EmEd]

OrgInn= $ß_0$+ $ß_1$EmEd+Ɛ

***Model for hypothesis two***

OrgRisTak= *f* [EmEd]

OrgRisTak= $ß_0$+ $ß_1$EmEd+Ɛ

**Where:**

OrnInn = *organizational innovativeness* (Dependent Variable)
OrgRisTak = *organizational risk-taking* (Dependent Variable)
EmEd = *Employee educational qualification* (independent Variable)
$ß_0$ = Intercept of the model.
$ß_1$ = Estimate of the parameter of the independent variable in the model of the slope.

Ɛ= Error term.

***H₁:*** *Employee's educational qualification has no effect on organizational innovativeness*

**Table no. 2.1. Model Summary**

| Model | R | R Square | Adjusted R Square | Std. Error |
|---|---|---|---|---|
| 1 | .566[a] | .321 | .318 | 1.061 |

a. Predictors: (Constant), Employee educational qualification

**Source:** SPSS Printout, 2018

Table 2.1 posits the model summary which depicts that employee's educational qualification has significant relationship with organizational innovativeness. The correlation coefficient (R) value of 0.566 (56.6%) indicates a significant and strong relationship between employee's educational qualification and organizational innovativeness. This means that the cumulative effect of the independent variable (employee's educational qualification) is able to explain the dependent variable (organizational innovativeness) up to 0.566 (56.6%). The R-square value also called the co-efficient of determination indicates the combine effect of the independent variables on the dependent variable. Thus, the R-square value of 0.321 (32.1%) revealed that the employee's educational qualification (the independent variable) has a combine

effect of 0.321 (32.1%) on organizational innovativeness (the dependent variable) in the selected companies. The adjusted $R^2$ explains the actual effect of the independent variables on the dependent variable. The adjusted $R^2$ value of 0.318 (31.8%) depicts that employee's educational qualification (independent variable) actually contribute to variation in the level of organizational innovativeness of the selected companies. This is good enough in determining the goodness of fit for the model. The regression model proved to be very good for making predictions.

**Table no. 2.2** **ANOVAa**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 146.828 | 1 | 146.828 | 130.353 | .000[b] |
| | Residual | 310.884 | 276 | 1.126 | | |
| | Total | 457.712 | 277 | | | |

a. Dependent Variable: organizational innovativeness
b. Predictors: (Constant), Employee educational qualification
***Source:*** SPSS Printout, 2018

Table no. 2.2 signifies that the calculated P-value was 0.000, which is less than the tabulated P-value of 0.05 at 95% level of confidence. The calculated F-statistic value of 130.353 is also less than the tabulated F-value of 3.89**.** This indicated that employee's educational qualification has significant effect on organizational innovativeness and that the model is statistically significant.

**Table no. 2.3.** **Coefficients[a]**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | T | Sig. |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 2.226 | .154 | | 14.455 | .000 |
| | Employee educational qualification | .486 | .043 | .566 | 11.417 | .000 |

a. Dependent Variable: organizational innovativeness
**Source:** SPSS Printout, 2018

The estimated equation of the model was expressed as OrgInn= $ß_0$+ $ß_1$EmEd+Ɛ

Table no. 2.3 indicates that all things being equal, organizational innovativeness would be equal to 2.226 when all other variables are held constant. However, it would increase by 0.486 when there is a unit increase in employee's educational qualification while other variables remain constant. As shown in the table, the beta coefficient in respect to employee's educational qualification is 0.486 with t-value of 11.417 at 5% level of significant. This signifies that employee's educational qualification is a positive predictor of organizational innovativeness. The summary of the regression analysis results indicate that the calculated p-values is less than the critical/tabulated p-values of 0.05, therefore it could be established that employee's educational qualification has significant effect on organizational innovativeness. This point out that formal educational training could enhance employees' innovative and creative ability to deviate from the status quo in order to create, adopt and or implement novel and useful ideas that could facilitate improved corporate entrepreneurship performance of the organization. It could be inferred that employees with higher educational training will outperform those with lower educational training in contributing to corporate entrepreneurship performance, in term of innovativeness. Thus, organization would be more readily committed to give resources for ideas development to employees with sound educational training, with good ideas than to those with average education training.

***$H_2$: Employee's educational qualification has no effect on organizational risk-taking***

**Table no. 2.4. Model Summary**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | .741[a] | .549 | .547 | .894 |

a. Predictors: (Constant), Employee educational qualification

**Source:** SPSS Printout, 2018

Table no. 2.4 revealed the model summary which depicts that employee's educational qualification has significant relationship with organizational risk-taking. The correlation coefficient (R) value of 0.741

(74.1%) indicates a significant and strong relationship between employee's educational qualification and organizational risk-taking. This means that the cumulative effect of the employee's educational qualification (independent variable) is able to explain variability in organizational risk-taking (dependent variable) up to 0.741 (74.1%). The R-square value of 0.549 (54.9%) indicates that employee's educational qualification (independent variable) has a combine effect of 0.549 (54.9%) on the variability of organizational risk-taking (dependent variable) in the selected companies. The adjusted $R^2$ explains the actual effect of the independent variable on the dependent variable. The adjusted $R^2$ value of 0.547 (54.7%) revealed that employee's educational qualification (independent variable) actually contribute to variation in the level of organizational risk-taking (independent variable). This is good enough in determining the goodness of fit for the model (regression equation). The regression model proved to be very useful for making predictions since the value of $R^2$ is close to 1.

**Table no. 2.5** **ANOVA**[a]

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 267.906 | 1 | 267.906 | 335.556 | .000[b] |
| | Residual | 220.357 | 276 | .798 | | |
| | Total | 488.263 | 277 | | | |

a. Dependent Variable: Organizational risk-taking
b. Predictors: (Constant), Employee educational qualification
**Source:** SPSS Printout, 2018

Table no. 2.5 indicates that the calculated P-value is 0.000 (positive), this is less than the tabulated P-value of 0.05 at 95% level of confidence. The calculated F-statistic value of 335.556 is less than the tabulated of 3.89. This shows that the studied model is well fitted. It therefore indicates that employee's educational qualification has effect on organizational risk-taking.

**Table no. 2.6** **Coefficients[a]**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | T | Sig. |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 1.445 | .130 | | 11.146 | .000 |
| | Employee educational qualification | .656 | .036 | .741 | 18.318 | .000 |

a. Dependent Variable: Organizational risk-taking

**Source:** SPSS Printout, 2018

The estimated equation of the model is expressed as $OrgRisTak = ß_0 + ß_1 EmEd + \varepsilon$

As shown in table 2.6, organizational risk-taking would be equal to 1.445 when all other variable are held to zero. However, it would increase by 0.656 when there is a unit increase in organizational risk-taking while other variables remain constant. The beta coefficient in respect to employee's educational qualification is 0.656 with t-test value of 18.318 at 5% level of significant. This signifies that employee's educational qualification is a positive predictor of organizational risk-taking. The summary of the regression analysis results indicate that the calculated p-values is less than the critical/tabulated p-values of 0.05, therefore it could be established that employee's educational qualification has significant effect on organizational risk-taking.

It should be noted that the results of the analysis posit that out of the three dimension of corporate entrepreneurship considered in the study, employee's educational qualification contribute significantly more to organizational risk taking, with $R^2$ value of 0.549, which is greater than organizational innovativeness ($R^2$=0.321). This becomes important because corporate entrepreneurial activities such as innovation, venturing into new market and strategic decisions involve considerable risk.

**Findings and Discussions**

The data collected from the field were analyzed to test whether or not employee's educational qualification has significant effect on corporate entrepreneurship performance using the statistical tool of regression analysis with the aid of SPSS (22.0). The responses to the

questionnaires administered (shown in appendix 1) posits that out of the 300 copies of the questionnaire administered, 278 copies constituting 92.67% were returned and considered fit for the study. This implies that a larger proportion of the respondents positively responded to the questionnaire, making it fit for the study. The test of formulated hypotheses as indicated by the regression results were presented in table 2.1-2.6.

**Conclusions**

The purpose of this study is to examine whether or not employees' educational qualification has significant effect on corporate entrepreneurship performance. The study examines corporate entrepreneurship performance from the dimension of organizational innovativeness and organizational risk propensity. From the results generated in line with the first specific objective, the study concludes that employee's educational qualification has significant effect on organizational innovativeness which is one of the dimensions of corporate entrepreneurship performance. This implies that organization that have and maintained employees with higher degrees would have better ability to create new value, new products or services, invent novel ideas, technological process and support new operation methods, than those organizations in which majority of the employees have lower level of education.

The second objective established that employee's educational qualification has significant effect on organizational risk-taking. This depicts that higher educational attainment will enable organization engage in entrepreneurial activities that support taking reasonable risk and to become more effective in management of the selected risks. Finally, the study affirmed that educated employees and those with higher degrees will have greater intelligence in contributing to corporate entrepreneurship performance in term of organizational innovation, pro-activeness and risk-taking.

**Bibliography**

Ahangar, R. G. (2011). The relationship between intellectual capital and financial performance: An empirical investigation in an Iranian company. *African Journal of Business Management*, 5(1), pp. 88-95.

Ajzen, I. (2005). Attitudes, Personality and Behaviour. New York: Open University Press.

Ajzen, J. (1991). The Theory of Planned Behaviour. *Organisational Behaviour and Human Decision Processes,* 50, pp. 179-211.

Antoncic, B., Hisrich, R. D. (2000). Intrapreneurship modeling in transition economies: A comparison of Slovenia and the United States. *Journal of Developmental Entrepreneurship*, 5(1), pp. 21-40.

Antoncic, B., Hisrich, R. D. (2001). Intrapreneurship: Construct refinement and cross-cultural validation. *Journal of Business Venturing*, 16(5), pp. 495-527.

Antoncic, B., Hisrich, R. D. (2003). Clarifying the intrapreneurship concept. *Journal of small business and enterprise development*, 10(1), pp. 7-24.

Antoncic, B. (2001). Organizational processes in intrapreneurship: a conceptual integration. *Journal of Enterprising Culture*, 9(2), pp. 221-235.

Antoncic, B. (2007). Intrapreneurship: a comparative structural equation modelling study. *Industrial Management and Data Systems*, 107(3), pp. 309–325

Bilić, I. Prka, A., Vidović, G. (2011). How does education influence entrepreneurship orientation? Case study of Croatia. *Management*, 16(1), pp. 115-128

Cabrita, M., Bontis, N. (2008). Intellectual capital and business performance in the Portuguese banking industry. *International Journal of Technology Management*, 43(1-3), pp. 212-237

De-Jong, J.P.J., Parkerii, S.K., Wennekersiii, S., Wuiv, C. (2011). *Corporate entrepreneurship at the individual level: measurement and determinants.* Working paper (21) SCALES, Scientific Analysis of Entrepreneurship and SMEs

Delmar, F., Davidsson, P. (2000). Where do they come from? Prevalence and characteristics of nascent entrepreneurs. *Entrepreneurship and Regional Development*, 12, pp. 1-23.

Dess, G., Ireland, R., Zahra, S., Floyd, S., Janney, J., Lane, P. (2003). Emerging issues in corporate entrepreneurship. *Journal of management*, 29(3), pp. 351-378.

Hajiha, Z., Hasanloo, S. (2011). An empirical study of the relationships among human capital value and profitability and market value: comparison of knowledge-based industries and non-knowledge-based industries. *Asian Journal of Business and Management Sciences*, 1(3), pp. 105-114.

Hornsby, J. S., Kuratko, D. F. Shepherd, D. A., Bott, J. P. (2009). Managers' corporate entrepreneurial actions: Examining perception and position. *Journal of Business Venturing*, 24(3), pp. 236-247.

Ireland, R. D., Hitt, M. A., Vaidyanath, D. (2002). Alliance management as a source of competitive advantage. *Journal of Management*, 28(3), pp. 413-446.

Javalgi R. G., Todd P. R. (2011). Entrepreneurial orientation, management commitment and human capital: The internationalization of SMEs in India. *Journal of Business Research*, 64(9), pp. 1004-1010,

Kanter, R. (1988). When a thousand flowers bloom: Structural, collective, and social conditions for innovation in organizations, In: B. M. Staw and L. L. Cummings (Eds.). *Research in organizational behavior*, 10, pp. 169-211. Greenwich, CT: JAI Press.

Karali, S. (2013). *The impact of entrepreneurship education programs on entrepreneurial intentions: An application of the theory of planned behavior*. Unpublished Master Thesis. Erasmus University of Rotterdam.

Knight, G. A. (1997). Cross-cultural reliability and validity of a scale to measure firm entrepreneurial orientation. *Journal of Business Venturing*, 12(3), pp. 213-225.

Ling, Y., Simsek, Z., Lubatkin, M. H., Veiga, J. F. (2008). Transformational leadership's role in promoting corporate entrepreneurship: Examining the CEO-TMT interface. *Academy of Management Journal*, 51(3), pp. 557-576.

Lumpkin, G. T., Dess, G. G. (1996). Clarifying the entrepreneurial orientation construct and linking the performance. *Academy of Management Review*, 21(1), pp.135 – 172.

Miller, D. (1983). The correlates of entrepreneurship in three types of firms. *Management Science*, 29, pp. 770-791.

Mokaya, S. O. (2012). Corporate Entrepreneurship and Organizational Performance Theoretical Perspectives, Approaches and Outcomes. *International Journal of Arts and Commerce,* 1(4), pp. 132-143

Muofhe, N. J., Du-Toit, W. F. (2011). Entrepreneurial education's and Entrepreneurial role models' influence on career choice. *SA Journal of Human Resource Management*

Mustafa, M., Richards, J. J., Ramos, H. M. (2013). High performance human resource practices and corporate entrepreneurship: The mediating effect of middle managers knowledge collecting and donating behavior. *Asian Academy of Management Journal*, 18(2), pp. 17–36.

Nishimura, J. S., Tristán, O. M. (2011). Using the theory of planned behavior to predict nascent entrepreneurship. *Academia, Revista Latinoamericana de Administración*, 46, pp. 55–71.

Odumeru, J. A. (2013). Innovation and organizational performance. *Kuwait Chapter of Arabian Journal of Business and Management Review*, 2(12), pp.18–22.

Olakitan, O., Charles, T. (2012). The role of entrepreneurial orientations on the perceived performance of small and medium-scale enterprises (SMEs) in Nigeria. *International Business and Management*, 5(2), pp. 148–154.

Rauch, A. Wiklund, J., Lumpkin, G. T., Frese, M. (2009). Entrepreneurial Orientation and Business Performance: An Assessment of Past Research and Suggestions for the Future. *Entrepreneurship theory and Practice*, 33(3), pp.761-787

Rutherford, M. W. (2004). Corporate entrepreneurship: An empirical look at the innovativeness dimension and its antecedents. *Journal of Organizational Change*, 20, pp. 429–446.

Saeed, S., Yousafzai, S. Y., Yani-de-Soriano, M., Moreno, M. (2015). The role of perceived university support in the formation of students' entrepreneurial intention. *Journal of Small Business Management*, 53(4), pp. 1127–1145.

Saiz-Álvarez, J. M., Coduras, A., Cuervo-Arango, C. (2014). An entrepreneurial well-being model based on GEM data for Spain. *International Journal of Artificial Intelligence and Interactive Multimedia*, 2(5), pp. 38–47.

Saly, A.W. (2001). Corporate entrepreneurship: Antecedents and consequences of entrepreneurship in large firms Amsterdam. *Management,* 39, pp. 615-641

Sharma, P., Chrisman, J. J. (1999). Toward a reconciliation of the definitional issues in the field of corporate entrepreneurship. *Entrepreneurship Theory and Practice*, 23(3), pp. 11-27.

Thornberry, N. E. (2003). Corporate entrepreneurship: teaching managers to be entrepreneurs. *Journal of Management Development*, 22(4), pp. 329-344.

Unger, J. M., Rauch, A. Frese, M., Rosenbusch, N. (2011). Human capital and entrepreneurial success: A meta-analytical review. *Journal of Business Venturing*, 26(3), pp. 341-358.

Zahra, S. A., Garvis, D. M. (2000). International Corporate Entrepreneurship and Firm Performance: The Moderating Efect of International Environmental Hostility. *Journal of Business Venturing*, 15, pp. 469-492.

Zahra, S. A. (1995). Corporate entrepreneurship and financial performance: the case of management leveraged buyouts. *Journal of Business Venturing*, 10, pp. 225–247.

Zahra, S. A., Covin, J. G., (1995). Contextual influences on the corporate entrepreneurship performance relationship: A longitudinal analysis. *Journal of Business Venturing*, 10(1), pp. 43-58

Zehir, C., Eren, S. (2007). Field research on impacts of some organizational factors on corporate entrepreneurship and business performance in the Turkish automotive industry. *Journal of American Academy of Business*, 10(2), pp. 170-186

Zehir, C., Muceldili, B., Zehir, S. (2012). Impact of Corporate Entrepreneurship on Organizational Citizenship Behavior and Organizational Commitment: Evidence from Turkey SMEs. *Procedia - Social and Behavioral Sciences*, 58, pp. 924 – 933

Zhang, Z., Wan, D., Jia, M. (2008). Do high performance human resource practices help corporate entrepreneurship? The mediating role of organizational citizenship behavior. *Journal of High Technology Management Research*, 19, pp. 128-138

**Appendix no. 1.** Analysis of Responses to Questionnaire

| **Description** | **Frequency** | **Percentage** |
|---|---|---|
| Administered | 300 | 100 |
| Returned | 278 | 92.67 |
| Not Returned | 22 | 7.33 |

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# Determinants of Profitability in Nigerian Listed Deposit Money Banks

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**Abstract**
The study examines the determinants of profitability of ten deposit money banks in Nigeria over the period 2007-2016. Five potential bank-specific factors (non-performing loan, capital adequacy, size, deposit growth and age) and three macroeconomic factors (real interest rate, growth in GDP and inflation rate) were considered. Using Random Effects Generalized Least Squares estimation technique, the findings suggest that banks' profitability is only affected by bank-specific factors while macroeconomic variables seem to have no influence. Consistent with theoretical expectation, results show a negative and statistically significant relationship between non-performing loan ratio and bank profitability as well as a direct relationship between profitability and capital adequacy ratio. The three macroeconomic variables have insignificant relationship with bank profitability. It is recommended that bank management consider non-performing loan and capital adequacy as relevant factors when issues relating

to prescription of policy on profitability of banks are discussed and formulated.
**Keywords**: Bank-specific; Determinants; Macroeconomic; Nigeria; Profitability.

## Introduction

Financial institutions, particularly commercial banks (known as deposit money banks in Nigeria) play important role in economic development of any country. Banks mobilize funds from the "surplus" unit of the society and extend credit facility to the "deficit" segment. By this singular intermediary function, the economy is put in the right pedestal for economic development and growth. Banks are also important participant in the money market. Their actions indirectly regulate the level of inflation and employment opportunities. If funds are not provided to needy users, especially organizations, production may be affected and this can lead to reduction in staff strength.

The significance of banks to the economy calls for studies on their performance. The analysis of factors that determine profitability of banks has been on the front burner of intellectual and professional discourse for over three decades. Particular attention was observed during the Nigerian reform of the banking sector in 2003 and global financial crisis of 2007 to 2009.

Banks' profitability is perceived by financial management researchers to be influenced by both, internal and external factors. By scrutinizing the individual bank's financial statements, the internal factors that are specific to each bank are derived (Wahdan and Leithy, 2017). However, those factors that are exogenously determined and beyond the control of management, but reflect on the macroeconomic activities that indirectly affect the profitability of banks are considered to be external factors (Tobias and Themba, 2011).

Several studies on determinants of profitability in the banking sector can be found in the literature, especially from the developed countries (Ayanda, Christopher and Mudashiru, 2013). In order to reduce the knowledge gap, this study targets profitability determinants of deposit money banks in Nigeria, an emerging country. Non-performing loan, capital adequacy, size, age and deposit growth are the bank-specific factors considered. For the macroeconomic variables, inflation, interest rate and growth in GDP were considered. These factors, except bank age, were extensively discussed in several studies

in other climes, but are these factors relevant to Nigerian business environment? The current study tries to provide answer to this important question.

**Methodology and Purpose of the Study**

Ex post facto research design method was adopted through the use of secondary source (historical audited annual reports and accounts of the selected banks).

The bank-specific information was extracted from the banks' annual audited financial accounts while the macroeconomic information was obtained from the various reports released by the apex regulatory institution, the Central Bank of Nigeria (CBN).

At 31st December, 2018 Nigeria had fourteen (14) deposit money banks that were listed on the floor of the Nigerian Stock Exchange. Using stratified sampling technique, ten banks with complete dataset necessary for this study were selected as sample. The sampled banks comprised four old-generation banks (Wema Bank Plc, First Bank of Nigeria Plc, Union Bank of Nigeria Plc and United Bank for Africa Plc) and six new-generation banks (Access Bank Plc, Diamond Bank Plc, Guaranty Trust Bank Plc, First City Monument Bank Plc, Zenith Bank Plc and Fidelity Bank Plc).

The purpose of this study is to empirically determine the factors that influence profitability of Nigerian deposit money banks

For the dependent variable, the study adopted the two commonest financial measures, Return on assets (ROA) and Return on equity (ROE). ROA reflects bank's management ability to generate return on a unit of the asset of the organization. In the same vein the ROE suggests the after tax profit generated from a unit of the equity capital employed by the organization. Both measures can be used to effectively appraise the performance of managers in terms of earnings and profitability generated from capital employed. Some prior studies such as Qin and Pastory (2012), Zawadi (2014) and Yao *et al.* (2018) employed either or both measures as profitability proxies.

Regarding independent variables, the present study decided to use 5 bank-specific (non-performing loan, capital adequacy, bank size, bank age and deposit growth) and 3 macroeconomic variables (interest rate, gross domestic growth rate and inflation rate) as potential factors that may influence the profits of Nigerian banks. These are briefly discussed hereunder.

**Non-performing loan:** Banks are expected to generate income from loans and advances extended to customers, but when these loans and advances are not repaid on time the likelihood of them becoming doubtful and bad is very high. If this happens, the solvency and long-run survival of the bank may be affected. In complying with financial reporting and institutional framework, profitability will also be affected negatively. The ratio of non-performing loans to total deposit is used as indicator for non-performing loan in this study. Empirically, Kargi (2011), Kolapo, Ayeni and Oke (2012), Tan, Christos and John (2016) and Kani (2017) reported an inverse association between non-performing loan and profitability in prior studies conducted. A negative relationship between the two variables is expected from the study. The following hypothesis is formulated:

$H_1$: Bank's non-performing loan ratio has a negative and *significant relationship with profitability.*

**Capital adequacy:** Capital adequacy ratio is adopted to proxy for capital adequacy. It measures the degree by which a bank can withstand risk associated with its nature of business. Theoretically, banks with excellent capital adequacy have improved profitability because such banks will be strong to absorb unforeseen bank run and huge loan default by customers. Although, the results of prior empirical studies produced mixed results (for instance, Soyemi, Ogunleye and Ashogbon, 2014, Nouaili, *et al.*, 2015, Chowdhury, 2015, Annor and Obeng, 2017 and Lotto, 2018 found direct association between capital adequacy ratio and profitability; some other studies such as Kurawa and Garba, 2014, Idowu and Awoyemi, 2014, Buchory, 2015, Mendoza and Rivera, 2017 produced negative relationship). The study expects a direct relationship between capital adequacy ratio and profitability. The following hypothesis is tested:

$H_2$: Bank's capital adequacy ratio has a positive and significant relationship with profitability.

**Bank size:** Following the argument of Bevan and Danbolt (2002) of "too big to fail" banks with lager total assets can derive benefit from economies of scale thereby impacting positively on their profitability. The logarithm of total assets is a measurement of size. Saeed (2014), Lipunga, 2014, Djalilov and Piesse (2016) reported a direct relationship between bank size and profitability and this is what the present study is expected. The following hypothesis is developed:

$H_3$: Bank size has a positive and significant relationship with profitability.

**Bank age:** Age is rarely discussed in empirical literature and it is presumed to have influence on profitability as a result of reputation, trust and goodwill from customers and the general public the bank would have garnered over the years. Based on this, an old-generation bank (being older) is expected to be more profitable than a new-generation bank. The study expects a direct association between bank age and profitability. The following hypothesis is tested:

$H_4$: Bank age has a positive and significant relationship with profitability.

**Deposit growth:** Interest income from loans and advances granted to customers is a major source of income to banks. But these loans do come from deposits received from customers. Theoretically, higher deposit should produce higher loans and advances and this should translate to higher bank interest income. Higher interest income is expected to translate to higher profitability. Buchory (2015) and Alshatti (2015) produced positive association between deposit and profitability in earlier studies. A positive association between deposit growth and profitability is expected. The following hypothesis is developed:

$H_5$: Growth in deposit of banks has a positive and significant relationship with profitability.

**Interest rate:** Annual real interest rate as determined by the CBN is seen to have impact on individual interest rates of deposit money banks. Hence, when real interest rates are rising, the individual banks also increase interest rates on customers' loans and advances in order to compensate for the inherent risk. This inevitably leads to increase in banks' income and profitability. Most prior empirical studies (such as Gharaibeh, 2015 and Islam and Nishiyama, 2016) suggested a direct association between interest rate and profitability. A positive relationship between the two variables is also expected from this study.

$H_6$: Interest rate has a positive and significant relationship with profitability.

**Gross domestic product growth rate:** Growth within a system is determined by the GDP. Banks' activities such as borrowing, lending and provision of professional services are meant to influence economic activities and growth. Some prior empirical studies (Boitan, 2015, Deng, 2016 and Yao, *et al.*, 2018) found a direct association between

GDP growth and profitability and it is what this study expects. The following hypothesis is formulated:

$H_7$: Growth in GDP has a positive and significant relationship with profitability.

**Inflation:** Is regarded as persistent increase in the price index of consumer (CPI). Prior studies produced mixed results. While some studies documented a positive relationship (Noman, *et al.*, 2015, Islam and Nishiyama, 2016, Yuksel, *et al.*, 2018) others found negative relationship (Saeed, 2014 and Yao *et al.*, 2018). Following from this discussion, the study does not expect a certain relationship. The following hypotheses are postulated:

$H_{8a}$: Inflation rate has a positive and significant relationship with profitability.

$H_{8b}$: Inflation rate has a negative and significant relationship with profitability.

**Theoretical Framework**

The literature is awash which several theories of profitability and its determinants. However, only those ones that underpin this study will be discussed. First we consider the theories of profitability. These are Frictional theory of profitability and Finance theory (Capital asset pricing model). Later, the Modigliani and Miller (1958) proposition, Signalling hypothesis and Market-power hypothesis will be used to explain the link between profitability and some of its determinants'.

The Frictional theory suggests that there exists a normal rate of profit which is considered to be a reward or return for investing funds in an organization rather than consume or hoard these funds. Based on the tenet of this theory, investors will look for banks that can pay them huge dividend at the end of the financial year. Potential investors will peruse through annual financial reports of banks before they stake their money for investment (buying of equity shares or purchase of corporate bonds). The theory further argues that in a static economy where no unanticipated changes in demand or cost conditions occur, in the long run, firms can only make normal rate of profit on their capital. However, if there are occasional disturbances in the economy, firms can make either economic or negative profit depending on whether the distortion in the system is favorable or unfavorable.

The Finance theory of CAPM was developed by four economists, Sharpe, W. F., Litner, J. N., Treynor, J. and Mossin, J. independently between 1964 and 1966 in an attempt to simplify the

assumptions of Portfolio Theory as they relate to investment in corporate securities. In its simplest form, the model predicts that a firm's risk class, not the structure of the market within which it operates, determines profit rates (Slade, 2003).

By applying the assumption of perfect capital market, Modigliani and Miller (1958) affirm that market and book rates of returns of corporate entities in the same business risk class are identical. Thus, an increase in equity by substituting additional equity for debt reduces the risk of both securities and therefore lowers the market rate of return as long as investors are risk averse (Hoffmann, 2011). This hypothesis suggests a negative relationship between capital ratio and profitability. Nigeria operates in a business environment which can be considered as imperfect capital market; hence, the proposition of Modigliani and Miller may not be plausible.

The signaling hypothesis operates under situation of imperfect capital market situation. Here managers have private information on future cash flows of the organization, which shareholders and the public do not have. In order to attract more capital to the business, managers might be willing to signal part of the private information in their possession through capital decisions (Myers and Majluf, 1984). This will result in signaling equilibrium, with the expectation that banks that are highly capitalized will have better performance. This situation best suits the Nigerian business environment, where information about a company is usually held in secrecy. A positive relationship between capital ratio and profitability is envisaged by this hypothesis.

Market-power hypothesis argues that few corporations can either implicitly or explicitly gang up or collude to create monopolistic situation. This action can translate to more expensive loans and lower interest rates for investors and bank customers. The effect is having monopolistic profit (Bourke, 1989; Molyneux and Thornton, 1992). It is however to be noted that collusion will be difficult to do if number of banks are large (Goddard, Molyneux and Wilson, 2004). This hypothesis predicts a positive relationship between bank concentration and profitability.

## Literature Review

Empirical literature widely documented studies on factors that influence banks' profitability. Some of these findings suggested that bank-specific or internal factors are not the only factors that determine

banks' profit but also external factors or macroeconomic variables. Some of the related studies are discussed in turn.

Obamuyi (2013) assessed the factors that affect the performance of 20 Nigerian banks for 2006-2012. The study adopted fixed effects regression model as estimation technique. Findings suggested a direct relationship between profitability and three variables (capital, interest rate and GDP) and negative relationship with two variables (bank size and expenses management).

Zawadi (2014) assessed the effects of factors that influence performance of 23 Tanzanian banks by applying data derived from the banks' annual reports over the period 2009-2013. Results revealed that banks' profitability is influenced by management decision (internal factors) as macroeconomic factors have insignificant relationship with profitability.

Nouaili, Abaoub and Ochi (2015) studied the internal and external determinants of 17 universal banks in Tunisia over 16 year-period (1997-2012). Using Random effects model, with generalized least squares as estimation techniques, results provided a direct relationship between profitability and capital, privatization, quotation and growth rate of GDP. Size, inflation and risk index have negative association with profitability.

In the study on profitability determinant conducted using an unbalanced panel dataset and regression as estimation technique, Menicucci and Paolucci (2016) revealed an inverse relationship between asset quality and profitability. A direct association was observed between profitability and capital ratio, size and deposit ratio.

Tam and Tang (2017) investigated the determinants of 9 commercial banks for the period 2007-2013 in Vietnam. By applying the Random effects model as estimation technique, results revealed a direct and statistically significant association between performance proxies (ROA, ROE and NIM) and capital, interest rate; and growth in GDP. It further revealed an indirect and significant association between profitability and size, management expenses. Credit risk however has a negative and significant relationship with ROE and ROA, while inflation is positively related with NIM and ROE.

Nuhiu, Hoti and Bektashi (2017) studied profitability determinants of banks in Kosovo between 2010 and 2015. With the use of regression analytical technique, findings revealed that profitability of Kosovo banks is only driven by factors that are specific to each bank. Macroeconomic

factors (GDP and inflation) produced insignificant relationship with profitability.

Kohischeen, Murcia and Contreras (2018) analyzed the factors that determine profitability of 534 banks in 19 emerging economies for a period of 15 years. Results showed that profitability of the selected banks was affected by so many factors. Specifically, higher long-term interest rates tend to affect profitability positively while reverse situation is for higher short-term rates. Growth in credit facility was also seen to be important for bank profitability than growth in GDP.

Yuksel, Mukhtarov, Mammadov and Ozsari (2018) assessed the determinants of bank profitability in 13 former Soviet countries for the period of 1996-2016. Results from the regression revealed that profitability was influenced by loan advanced, non-interest income and GDP.

Yao, Haris and Tariq (2018) analyzed the influence of identified variables on 28 Pakistani banks for 2007-2016. GMM system estimator analytical tool revealed that credit quality, operational efficiency, banking sector development, inflation and industry concentration affect bank profitability negatively.

The model used in the study is in form of panel methodology and is as stated in equations 1 and 2.

$$ROA_{it} = \beta_0 + \beta_1 NPL_{it} + \beta_2 CAR_{it} + \beta_3 BSZ_{it} + \beta_4 AGE_{it} + \beta_5 GRWD_{it} + B_6 INT_{it} + \beta_7 GGDP_{it} + \beta_8 INF_{it} + e_{it.} \ldots\ldots \quad (1)$$

$$ROE_{it} = \beta_0 + \beta_1 NPL_{it} + \beta_2 CAR_{it} + \beta_3 BSZ_{it} + \beta_4 AGE_{it} + \beta_5 GRWD_{it} + B_6 INT_{it} + \beta_7 GGDP_{it} + \beta_8 INF_{it} + e_{it} \quad (2)$$

Where;

ROA = return on asset
ROE = return on equity
NPL = non-performing loan
CAR = capital adequacy ratio
BSZ = bank size
AGE = age of bank
GRWD = growth in deposit
INT = interest rate
GGDP = growth in GDP
INF = inflation rate
$\beta_1 \ldots\ldots \beta_8$ = regression coefficients
eit = the error term

The study variables and their measurements are presented in table no. 1.

**Table no. 1.** Measurement of Variables

| Variable | Abbreviation | Measurement |
|---|---|---|
| Return on asset | ROA | $\frac{\text{Profit after tax}}{\text{Current + Non-current assets}}$ |
| Return on equity | ROE | $\frac{\text{Profit after tax}}{\text{Number of equity shares in issue}}$ |
| Non-performing loan | NPLDR | $\frac{\text{Non-performing loan}}{\text{Total deposit}}$ |
| Capital adequacy ratio | CAR | $\frac{\text{Shareholders' fund}}{\text{Total assets}}$ |
| Bank size | BSZ | Log of total assets |
| Age | AGE | Log of number of years of the bank |
| Growth in deposit | GRWD | $\frac{Deposit_t - deposit_{t-1}}{Deposit_{t-1}}$ |
| Interest rate | INT | Log of annual interest rate |
| Growth in GDP | GGDP | $\frac{GDP_t - GDP_{t-1}}{GDP_{t-1}}$ |
| Inflation rate | INF | $\frac{CPI_t - CPI_{t-1}}{CPI_{t-1}}$ |

**Source:** Various Empirical Studies (2018)

**Results**

Table no. 2 presents the study's descriptive statistics. As seen in Table no. 2, the mean return on asset (ROA) is 0.010 indicating that on the average the banks make profit of 1% on every unit of total asset employed by these organizations.

**Table no. 2.** Descriptive Statistics

| Variable | Mean | Min | Max | Std. Dev | Skewness | Kurtosis |
|---|---|---|---|---|---|---|
| ROA | 0.010 | -0.296 | 0.106 | 0.048 | -4.511 | 24.514 |
| ROE | 0.815 | -20.827 | 7.881 | 2.685 | -5.326 | 43.362 |
| NPL | 0.051 | 0.006 | 0.371 | 0.070 | 2.921 | 8.679 |
| CAR | 0.135 | -0.308 | 0.284 | 0.085 | -2.495 | 10.431 |
| BSZ | 12.051 | 11.113 | 12.920 | 0.371 | -0.384 | -0.165 |

| | | | | | | |
|---|---|---|---|---|---|---|
| AGE | 1.553 | 1.255 | 2.090 | 0.243 | 0.873 | -0.317 |
| GRWD | 0.244 | -0.325 | 1.674 | 0.329 | 1.820 | 4.273 |
| INT | 1.225 | 1.190 | 1.264 | 0.019 | 0.177 | 0.230 |
| GGDP | 0.055 | -0.016 | 0.095 | 0.030 | -1.026 | 0.662 |
| INF | 0.141 | -0.341 | 1.148 | 0.447 | 1.143 | 0.325 |

**Source**: Authors' calculation using E-views software, version 9.0

The average return on equity (ROE) is 0.815 and it varies from minimum value of -20.827 to maximum value of 7.881. The average non-performing loan is 0.051, indicating that about 5.1% of the banks' total deposits which was granted to customers as loans and advances became bad during the period of study. It ranges between 0.6% and 37.1%. Average capital adequacy ratio (CAR) has an average value of 13.5% (which is greater than the statutory requirement value of 10%) and it varies from -0.308 to 0.284. The bank size has an average value of 12.051 (that is, over N1,124 billion or US $3.69 billion). The average age of the bank is about 36 years (that is log inverse 1.553) and this varies from minimum of 18 years (log inverse 1.255) to maximum of 123 years (log inverse 2.090). Growth in deposits (GRWD) has an average of 24.4% with minimum of -32.5% and a maximum of 167.4%. On average, the effective interest is 16.8% (log inverse 1.225) with the least standard deviation among the variables of 0.019. The mean index of growth in GDP (GGDP) is 0.055 and ranges between -0.016 and 0.095. The mean persistent change in the consumer price index (INF) is 14.1%. The variable with the highest variation from the mean is ROE with standard deviation of 2.685. Table no. 3 depicts the result of multicollinearity test conducted on the study's explanatory variables using Variance Inflation Factor (VIF) approach.

**Table no. 3.** Result of Multicollinearity Test

| Variable | VIF | 1/VIF |
|---|---|---|
| NPL | 2.603 | 0.384 |
| CAR | 1.868 | 0.535 |
| BSZ | 1.540 | 0.649 |
| AGE | 1.199 | 0.834 |
| GRWD | 1.301 | 0.769 |
| INT | 1.455 | 0.687 |
| GGDP | 1.466 | 0.682 |
| INF | 1.426 | 0.701 |
| Average | 1.607 | 0.622 |

**Source:** Authors' calculation using E-views software, version 9.0

Gujarati (2003) suggested a cut-off value of 10.0 for VIF. This means that any explanatory variable having VIF of more than 10.0 shows high multicollinearity with other explanatory variables. As revealed in Table no. 3, the VIF results vary from 1.199 (age variable) to 2.603 (non-performing loan variable), with average value of 1.607, clearly suggests no multicollinearity in the variables used. Regression results using both the Fixed effects least squares and Random effects GLS estimation techniques are presented in Table no. 4. The Hausman (1978) specification test was employed to help select the better analytical tool that will provide unbiased inference between the Fixed and Random effects. Following the submissions of Gujarati (2003), Gujarati and Porter (2005) and Wooldridge (2009), the prob value of the specification's Chi-square is used as discriminant point. If it is significant at 5% (p = 0.05), Fixed effects model is better, otherwise Random effects should be adopted. Hausman test result summary is reported in Table no. 4. The prob values of the Chi-square for the two Models are not significant at 5% (p = 0.227 and 0.632 for models 1 and 2, respectively). Thus, the Hausman specification test prefers Random effects to the Fixed effects technique in making inferences in this study.

**Table no. 4.** Regression Results

| | **Fixed** | **effects** | **Random** | **effects** |
|---|---|---|---|---|
| | Model 1 (ROA) | Model 2 (ROE) | Model 1 (ROA) | Model 2 (ROE) |
| Constant | -1.227 | 0.754 | -1.292 | 0.762 |
| | {0.223} | {0.453} | {0.200} | {0.448} |
| NPL | -2.758*** | -3.182*** | -2.904*** | -3.218*** |
| | {0.007} | {0.002} | {0.005} | {0.002} |
| CAR | 3.403*** | 0.879 | 3.561*** | 0.889 |
| | {0.001} | {0.382} | {0.001} | {0.376} |
| BSZ | -0.032 | -1.618 | -0.004 | -1.636 |
| | {0.974} | {0.110} | {0.997} | {0.106} |
| AGE | 0.575 | 1.545 | 0.579 | 1.562 |
| | {0.567} | {0.126} | {0.564} | {0.122} |
| GRWD | 0.844 | -0.644 | 0.900 | -0.652 |
| | {0.401} | {0.521} | {0.371} | {0.516} |
| INT | 1.179 | -0.477 | 1.230 | -0.482 |
| | {0.242} | {0.635} | {0.222} | {0.631} |
| GGDP | 0.238 | 0.797 | 0.244 | 0.806 |
| | {0812} | {0.428} | {0.808} | {0.423} |
| INF | -0.519 | 0.869 | -0.535 | 0.879 |
| | {0.605} | {0.388} | {0.594} | {0.382} |

| | | | | |
|---|---|---|---|---|
| $R^2$ | .476 | .385 | .477 | .385 |
| Adj. $R^2$ | .368 | .258 | .368 | .258 |
| Durbin-Watson | 2.833 | 3.144 | 2.830 | 3.144 |
| F-stat | 4.387*** | 3.022*** | 4.397*** | 3.022*** |
| (Prob value) | {0.000} | {0.000} | {0.000} | {0.000} |
| Hausman Chi-sq | 6.922 | 3.441 | | |
| (Prob value) | | | | |
| Observations | 0.227 | 0.632 | | |
| | 100 | 100 | 100 | 100 |

**Source:** Authors' calculation using E-views software, version 9.0
***Note:*** *Significant at 1% (***), 5% (**) and 10% (*) level of significance*

### Discussion

With regard to Model 1, as reported in Table no. 4, the $R^2$ is 0.477 indicating that about 47.7% variation in the dependent variable (ROA) can be jointly explained by the explanatory variables while the remaining 52.3% is due to some other factors not covered in the model. The Durbin-Watson value of 2.830 shows no presence of serial autocorrelation in the model since result is within acceptable threshold. The F-stat result of 4.397 (p = 0.000), significant at 1% level, shows that the model as a whole is fit. Almost similar results were shown in Model 2: $R^2$ is 0.477, Durbin-Watson value, 3.144, F-statistics value, 3.022 (significant at 1%). All these confirmed absence of serial autocorrelation and the model is a good fit.

Starting with bank-specific factors, the relationship between non-performing loan to deposit ratio (NPL) and both ROA and ROE is indirect and significant at 1% for the 2 Models. This result is supported by some prior empirical works (Kolapo *et al.*, 2012; Nisar, 2015; Ariyadasa, Siddique and Saroja, 2016; Opoku, Angmor and Boadi, 2016; Hanna, 2016; Tan *et al.*, 2016 and Kani, 2017) and provides empirical evidence that non-performing loan is an important factor that influence Nigerian banks' profitability. Hypothesis 1 is hereby validated.

The capital adequacy ratio (CAR) has a direct and statistically significant relationship with ROA at 1% level. It confirmed theoretical explanation that a bank with solid capital adequacy tends to be profitable because it will be strong and capable of averting unforeseen bank run (excessive cash withdrawal) and huge loan default from customers. Empirically, the outcome of the study is consistent with

some prior studies such as Khatun and Siddiqui (2016), Ozili (2016), Annor and Obeng (2017) and Lotto (2018). Based on this finding, Hypothesis 2 is hereby confirmed and capital adequacy is an important factor that influences bank profitability in Nigeria. However, in Model 2, CAR has a positive but insignificant relationship with ROE.

Size (BSZ) has an indirect but insignificant influence on bank's profit as shown from the results of the two models. This result is consistent with some prior studies (Samad, 2015; Anarfi, Abakah and Boateng, 2016 and Kolapo *et al.*, 2016) and does not provide empirical evidence to support size as a predictor of profitability of banks in Nigeria. Hypothesis 3 is hereby rejected.

Age of banks (AGE) has a positive but insignificant association with profitability. This clearly indicates that age does not matter in banking business as customers are indifferent to the generation the bank belongs to. What matter most is the prompt service the bank can render to customers. This is in line with studies of Kajola (2015) and Kajola, Agbanike and Adelowotan (2016). Hypothesis 4 is hereby rejected.

Growth in deposits (GRWD) produced mixed results with the two profitability indicators. It showed a direct relationship with ROA and inverse relationship with ROE. However, insignificant relationship was reported in both cases. This finding, although supported by some prior studies (Anarfi *et al.,* 2016) suggests that deposit growth is not a factor that influences bank profitability in Nigeria. Hypothesis 5 is hereby rejected.

The results for the macroeconomic factors of interest rate (INT), growth in GDP rate (GGDP) and growth in composite index (inflation rate, INF) are also presented in Table no. 5. It can be seen that all the three macroeconomic variables have insignificant association with the two profitability indicators. Thus, INT, GDP and GGDP are not important profitability determinant factors in Nigeria. This outcome is supported by some prior studies (Kiganda, 2014; Samad, 2015; Javaid, 2016; Ahmad, Koh and Shaharuddin, 2016; Nuhiu *et al.*, 2017). Hypotheses 6, 7, 8a and 8b are rejected.

## Conclusion

The study empirically examined the profitability determinants of ten listed banks in Nigeria. The study employed both bank-specific and macroeconomic variables in panel data over ten years (2007-2016).

Results of GLS Random effects regression revealed that two out of five bank-specific variables, non-performing loan and capital adequacy, are the factors that drive the profitability of Nigerian banks. Specifically and consistent with theoretical expectations, there was an indirect and statistically significant relationship between non-performing loan and bank profitability. Further, the result revealed a positive and statistically significant relationship between capital adequacy and profitability. The study could not however provide support of any of the three macroeconomic variables (interest, growth in GDP and inflation rates) as important factors that drive profitability of banks in Nigeria.

Following from the outcome of the study, corporate managers of Nigerian banks are advised to take utmost interest in non-performing loan and capital adequacy factors when policy prescriptions concerning banks' profitability are looked into. Further, macroeconomic factors, such as interest, growth in GDP and inflation rates, show no impact on banks profitability; hence management should worry less about these factors.

For future line of study, increasing the sample size and the study time frame will likely produce a more robust result and policy prescriptions.

## Bibliography

Ahmad, R., Koh, E. H. Y., Shaharuddin, S. S. (2016). "Determinants of Bank Profitability: A Comparative Study of East Asia and Latin America". *International Journal of Banking, Accounting and Finance*, Vol. 7, pp. 34-51.

Alshatti, A. S. (2015). "The Effect of Liquidity Management on Profitability of Jordanian Commercial Banks". *International Journal of Business and Management*, Vol. 10, pp. 62-71.

Anarfi, D., Abakah, E. J., Boateng, E. (2016). "Determinants of Bank Profitability in Ghana: New Evidence". *Asian Journal of Finance and Accounting*, Vol. 8, pp. 194-204.

Annor, E. S., Obeng, F. S. (2017). "Impact of Credit Risk Management on the Profitability of Selected Commercial Banks Listed on the Ghana Stock Exchange". *Journal of Economics, Management and Trade*, Vol. 20(2), pp. 1-10.

Ariyadasa, C. E., Siddique, M. A. B., Saroja, S. (2016). "On the Profitability of Commercial Banks: The Sri Lankan Case": *Applied Economics,* pp. 1-11.

Ayanda, A. M., Christopher, E. I., Mudashiru, M. A. (2013). "Determinants of Banks' Profitability in Developing Economy: Evidence from Nigerian Banking Industry". *Interdisciplinary Journal of Contemporary Research in Business*, Vol. 4, pp. 155-181.

Beven, A., Danbolt, J. (2002). "Capital Structure and its Determinants in the use of a Decompositional Analysis". *Applied Financial Economics*, Vol. 12, pp. 159-170.

Boitan, I. A. (2015). "Determinants of Sustainable Banks' Profitability: Evidence from EU Countries". *Financial Studies*, Vol. 19, pp. 21-39.

Bourke, P. (1989). "Concentration and other Determinants of Bank Profitability in Europe, North America and Australia. *Journal of Banking & Finance*, Vol. 13, pp. 65-79.

Buchory, H. A. (2015). "Determinants of Banking Profitability in Indonesian Regional Development Bank. Paper presented at the First international conference on Actual Economy: Local Solutions for Global Challenges (ACE-2015), Pataya, Thailand, July pp. 2-3.

Chowdhury, R. H. (2015). "Equity Capital and Bank Profitability: Evidence from the United Arab Emirates". *Afro-Asian Journal of Finance and Accounting*, Vol. 5, pp. 1-20.

Deng, A. (2016). "Determinants and Differences of Domestic and Foreign Commercial Bank Profitability". Unpublished Master Thesis, University of New Hampshire, Durham, USA.

Djalilov, K., Piesse, J. (2016). "Determinants of Bank Profitability in Transition Countries: What Matters Most?" *Research in International Business and Finance*, Vol. 38, pp. 69-82.

Gharaibeh, A. M. O. (2015). "Empirical Evidence of the Determinants of Commercial Banks' Profitability in Bahrain". *Journal of Emerging Trends in Economics and Management Sciences*. Vol. 6(5), pp. 299-314.

Goddard, J., Molyneux, P., Wilson, J. (2004). "The Profitability of European Banks: A Cross-sectional and Dynamic Panel Analysis". *The Manchester School*, Vol. 72, pp. 363-381.

Gujarati, D. N. (2003). "*Basic Econometrics*", New York: McGraw-Hill/Irwin.

Gujarati, D. N., Porter, D. C. (2009). "*Basic Econometrics*", New York: McGraw-Hill/Irwin.

Hanna, G. (2016). "Factors Affecting Bank Profitability During War Conflicts: Evidence from Syria". Master Thesis, JIBS, Business Administration, Jonkoping University, Jonkoping, Sweden.

Hausman, J. A. (1978). "Specification Tests in Econometrics". *Econometrica*, Vol. 46(6), pp. 1215-1271.

Hoffmann, P. S. (2011). Determinants of the Profitability of the US Banking Industry. *International Journal of Business and Social Science.* Vol. 2(22), pp. 255-269.

Idowu, A., Awoyemi, S. O. (2014). "The Impact of Credit Risk Management on the Commercial Banks Performance in Nigeria". *International Journal of Management and Sustainability*, Vol. 3(5), pp. 295-306.

Islam, M., Nishiyama, S. (2016). "The Determinants of Bank Profitability: Dynamic Panel Evidence from South Asian Countries". *Journal of Applied Finance and Banking*, Vol. 6, pp. 77-97.

Javaid, M. E. (2016). "Bank-Specific and Macroeconomic Determinants of Bank Profitability". *Journal of Management*, Vol. 10, pp. 38-54.

Kajola, S. O. (2015). "Determinants of Capital Structure of Nigerian Quoted Companies". Unpublished Ph.D Thesis, Ladoke Akintola University of Technology, Ogbomoso, Nigeria.

Kajola, S. O., Agbanike, T. F., Adelowotan, M. O. (2016). "Relationship between Firm Size and Financial Performance: Evidence from Nigerian Listed Firms". *Fountain University Journal of Management and Social Sciences*, Vol. 5(1), pp. 38-52.

Kani, S. (2017). "Credit Risk and Banks Performance: Evidence from WAEMU Countries". *IOSR Journal of Economics and Finance*, Vol. 8(1), pp. 5-11.

Kargi, H. S. (2011). "Credit risk and the Performance of Nigerian Banks". Unpublished Article, Department of Accounting, Faculty of Administration, Ahmadu Bello University, Zaria, Nigeria.

Khatun, M., Siddiqui, S. (2016). "Size, Equity Backing and Bank Profitability: A Case Study Using Panel Data from Bangladesh". *Journal of Applied Finance and Banking*, Vol. 6, pp. 1-14.

Kiganda, E. O. (2014). "Effect of Macroeconomic Factors on Commercial Banks Profitability in Kenya: Case of Equity Bank Limited". *Journal of Economics and Sustainable Development*, Vol. 5, pp. 46-56.

Kohischeen, E., Murcia, A., Contreras, J. (2018). "Determinants of Bank Profitability in Emerging Markets". Bank for International Settlements (BIS) Working Papers No. 686, (Available on-line via www.bis.org: accessed on July 20, 2018).

Kolapo, T. F., Ayeni, R. K., Oke, M. O. (2012). "Credit Risk and Commercial Banks' Performance in Nigeria: A Panel Model Approach". *Australian Journal of Business and Management Research*, Vol. 2(2), pp. 31-38.

Kurawa, J. M., Garba, S. (2014). "An Evaluation of the Effect of Credit Risk Management on the Profitability of Nigerian Banks". *Journal of Modern Accounting and Auditing*, Vol. 10(1), pp. 104-115.

Lipunga, A. M. (2014). "Determinants of Profitability of Listed Commercial Banks in Developing Countries: Evidence from Malawi". *Research Journal of Finance and Accounting*, Vol. 5, pp. 41-49.

Lotto, J. (2018). "The Empirical Analysis of the Impact of Bank Capital Regulations on Operating Efficiency". *International Journal of Financial Studies*, Vol. 6(34), pp. 1-11.

Mendoza, R., Rivera, J. P. R. (2017). "The Effect of Credit Risk and Capital Adequacy on the Profitability of Rural Banks in the Philippines". *Scientific Annals of Economics and Business*, Vol. 64(1), pp. 83-96.

Menicucci, E., Paolucci, G. (2016). "The Determinants of Bank Profitability: Empirical Evidence from European Banking Sector". *Journal of Financial Reporting and Accounting*, Vol. 5, pp. 41-49.

Modigliani, F., Miller, M. (1958). "The Cost of Capital, Corporation Finance and the Theory of Investment". *The American Economic Review*, Vol. 68, pp. 261-297.

Molyneux, P., Thornton, J. (1992). "Determinants of European Bank Profitability: A Note". *Journal of Banking & Finance*, Vol. 16, pp. 1173-1178.

Myers, S., Majluf, N. (1984). "Corporate Financing and Investment Decisions when Firms have Information that Investors do not have. *Journal of Financial Economics*, Vol. 13, pp. 187-221.

Nigerian Stock Exchange (2007-2016). "*Fact Book"*, Lagos.

Nisar, S. (2015). "Determinants of Bank's Profitability in Pakistan: A Least Panel Data Evidence". Ph.D Thesis, Shenzhen Graduate School, Shenzhen, China.

Nouaili, M., Abaoub, E., Ochi, A. (2015). "The Determinants of Banking Performance in Front of Financial Changes: Case of Trade Banks in Tunisia". *International Journal of Economics and Financial Issues*, Vol. 5(2), pp. 410-417.

Nuhiu, A., Hoti, A., Bektashi, M. (2017). "Determinants of Commercial Banks Profitability through Analysis of Financial Performance Indicators: Evidence from Kosovo". *Business Theory and Practice*, Vol. 18, pp. 160-170.

Obamuyi, T. M. (2013). "Determinants of Banks' profitability in a developing economy: Evidence from Nigeria". *Organisations and Markets in Emerging Economies*, Vol. 4(2), pp. 97-111.

Opoku, R. T., Angmor, P. I., Boadi, L. A. (2016). "Credit Risk and Bank Profitability: Evidence from Ghana Stock Exchange". *Journal for Studies in Management and Planning*, 2, pp. 89-96.

Ozili, P. K. (2016). "Bank Profitability and Capital Regulation: Evidence from Listed and Non-listed Banks in Africa". *Journal of African Business*, pp. 1-26.

Qin, L., Pastory, D. (2012). "Commercial Banks Profitability Position: The Case of Tanzania". *International Journal of Business and Management*, Vol. 7(13), pp. 136-144.

Saeed, M. S. (2014). "Bank-related, industry-related and macroeconomic factors affecting bank profitability: A case of the United Kingdom". *Research Journal of Finance and Accounting*, Vol. 5, pp. 42-50.

Samad, A. (2015). "Determinants of Bank Profitability: Empirical Evidence from Bangladesh Commercial Banks". *International Journal of Financial Research*, Vol. 6(3), pp. 173-179.

Slade, M. E. (2003). Models of Firm Profitability. Preliminary Draft, Department of Economics, University of Warwick, Coventry, UK.

Soyemi, K. A., Ogunleye, J. O., Ashogbon, F. O. (2014). "Risk Management Practices and Financial Performance: Evidence from the Nigerian Deposit Money Banks". *The Business and Management Review*, Vol. 4(4), pp. 345-354.

Tam, L. T., Trang, P. (2017). "Determinants of Bank Profitability: The Case of Commercial Banks Listed on the Vietnam's Stock Exchange". *Journal of Business Sciences*, Vol. 1(2), pp. 1-12.

Tan, A. Y., Christos, F., John, R. A. (2016). "The Profitability of Chinese Banks: Impacts of Risk, Competition and Efficiency". *Review of Accounting and Finance*. (CrossRef).

Tobias, O., Themba, M. S. (2011). "Effects of Banking Sectorial Factors on the Profitability of Commercial Banks in Kenya". *Economics and Finance Review*, Vol. 1(5), pp. 1-30.

Wahdan, M., Leithy, W. (2017). "Factors Affecting the Profitability of Commercial Banks in Egypt over the Last 5 Years (2011-2015)". *International Business Management*, 11(2), pp. 342-349.

Wooldridge, J. M. (2009). "*Introductory Econometrics: A Modern Approach*," 4th Edition, Cambridge: USA Cengage Learning.

Yao, H., Haris, M., Tariq, G. (2018). "Profitability Determinants of Financial Institutions: Evidence from Banks in Pakistan". *International Journal of Financial Studies*, pp. 1-28.

Yuksel, S., Mukhtarov, S., Mammadov, E., Osari, M. (2018). "Determinants of Profitability in the Banking Sector: An Analysis of Post-Soviet Countries". *Economies*, Vol. 6 (41), pp. 1-15.

Zawadi, A. (2014). "Determinants of Banks' Profitability in a Developing Economy: Empirical Evidence from Tanzania". *European Journal of Business and Management*, Vol. 6(31), pp. 363-375.

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# The strategic Role of Information Communication Technology on Business Development: Nigerian Perspective

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**Abstract**

There has been series of debate in recent times as to whether the adoption of Information Communication Technology (ICT) improves or worsens the development of a country. Based on these contentions, this study therefore assessed the strategic role of information communication technology (ICT) on the development of businesses in Nigeria. Stratified sampling technique was used to select a sample of three hundred and fifty three (353) respondents from a working population of three thousand (3,000) employees. Primary data was collected through the use of structured questionnaire. The data obtained were analysed using descriptive and inferential statistics. Findings from the study revealed that there is a significant effect of ICT on

business development ($R^2 = 0.183$, Adjusted $R^2 = 0.149$, P=0.000). The results also indicated a moderate positive relationship between E-commerce ($r = 0.462$, $P<0.01$), and Social media ($r = 0.382$, $P<0.01$) on business development. The study concluded that the adoption of ICT by business owners can lead to expansion of the geographical scope of potential markets, as well as reduction in transaction cost, thereby improving productivity. It was recommended that organizational management should considered ICT as tool to increase the level of profitability, gaining entrance to speedy flow of information and shape inter-organizational coordination.

**Keywords**: ICT; Business Development; Social Media; E-commerce; Productivity.

## Introduction

Across the globe, information communication technology (ICT) is increasingly becoming acknowledged by both private and public sectors, meanwhile; modern society now depends heavily on communication, processing and storage of information in order to remain in market (Adewoye and Abioro, 2017). The use of ICT as a catalyst to address the issue of business development in today's competitive market is still much in process. This is because, investigation revealed that appreciable number of employees in the United States work from home for a substantial period of the year, while others work on the move (mobile) (Drunker, 1995). This signifies the series of prospects provided by ICT, which serve as an essential instrument to achieve different goals in organizations and civic institutions. Nevertheless, more recognition is given to ICT based on the fact that it serves as a tool for development and a drive for both fiscal and monetary policy enablement of any nation, especially the developing country. Not only that, ICT open up new opportunities, increase organizational capabilities, assist establishments to cut overheads and it support inter-organizational harmonization (Onugu, 2005). This revolution shows that technological advancement and adoption of information technology (IT) will remain to exist. It is logical therefore to say that, the revolution in ICT has transformed not

simply the lives of an individual, but also the manner through which people transact business.

ICT is said to be a universal word symbolizing the technologies used for storage, editing, gathering and passing on information in several firms (Brown, 2000; Tapscott and Caston, 1993). Today, there are various ways through which organization perform and transact their businesses, such as e-commerce, e-marketing, social media network, e-finance, e-banking, e-learning etc. It is pertinent therefore to say that, information technology is one of the relevant component assisting businesses to penetrate fresh markets and generate inventive products and services. Another major invention for businesses in the area of ICT is that organizations are no longer counting on tracks of paperwork to do everyday communications. Administrators now recognize that ICT can actually be used as an instrument to quick up procedures, eradicate or moderate form-filling, increase the value of productivity and service delivery and improve information distribution among others. However, as key establishments rethink their dealings in terms of the internet, precisely its accessibility, wide spread and ever changing abilities, they are also using electronic-business to get deliveries from other corporations, conduct joint study and pool resources on sales promotions.

Sequel to the assertions above, the role of ICT on business development is still based on diverse management tactics and the method of application. Hence, the following pertinent questions were put forward in order to put the study in proper perspective. What challenges are businesses facing in adopting ICT? In what ways is ICT augmenting development in the Nigerian enterprises? What are the businesses effort in raising their output and productivity through the process of ICT? The above questions structure the argument and pre-requisites for enquiry into ICT adoption, whether it improves or worsens business development in Nigeria and this is the fundamental framework that has informed the basis for this study.

**Research Hypotheses**

The following hypotheses were stated in a null form:

**i. $H_0$:** there is no significant relationship between ICT and business development.

**ii. $H_0$:** there is no significant effect of ICT on business development.

## Literature review

The adoption of digital technology in operating business increases productivity, hence, any enterprise that fails to adopt the approach may likely find it difficult to compete favorably in the labor market (Minton, 2003). Meanwhile, being linked to the internet, enterprises have the prospect to study quicker, develop websites that stimulate their products, and observed consumer behavior. It is often said that a well-structured business practices are transformed from physical authenticity to digital realism based (Barisha-Namani, 2010). Information communication technology (ICT) plays a significant role in assisting business enterprise to have upper hand above competitors in areas of openness to international markets. A study by Egan, Clancy and O'Toole (2003) ascertained that the adoption of ICT in several societies has aided in decreasing cost of transactions, control of distance constraints and have access through geographic borders thus helping to increase direction between structural boundaries.

It is also worthy of note to state that the internet represent a technological innovation, whose effects varied from interaction to communication, but, its prospect and usage has not been completely explored (Hoffman, Novak and Peterson, 1997). A recent study conducted by Miniwatts Marketing group in 2014 shows users of internet in the world by regions. These are: Asia (45.7%), Europe (19.2%), Latin American (10.5%), North America (10.2%), Africa (9.8%), Middle East (3.7%), Oceanic/Australia (0.9%).The analysis confirmed that Africa as a continent still has a long way to go in order to meet up with the Asian countries' having (45.7%). However, the intention of professionals in the area of ICT in Africa is to create an atmosphere that inspires networking of facilities and application; encouraging commerce and skill advancement programmes for goods and services; supporting online services and strengthening network security (Miles, 2001).

## Conceptual Clarification: ICT Overview

Information communication technology (ICT) can add hugely to a nation Gross Domestic Product (GDP) and can enhance the market attractiveness of a product and service. In the same vein, it can also contribute effectively in the international economic integration, expand standard of living and improve bio-diversity utilization and management.

Akunyili (2010) explains information communication technology as that umbrella which envelopes all other technical means in order to communicate and process information. African Development Bank (2003) described ICT as a set of actions that is facilitated by electronics means for the process and displaying of information. A study by Lymer (1997) explains that ICT application in any system has the capacity to moderate cost overheads and grow the level of productivity. Sajuyigbe and Alabi (2012) opined that ICT are being adopted for management of data, decision making at top management level, teamwork, customers accessibility, strategic management, communication and knowledge management, since it assist to offer a framework for an operational means of organizational efficiency and good delivery of service.

The adoption of ICT has brought about development in many organizations. However, there are still some challenges associated with the adoption of ICT for business. Some of these challenges are: ICT skills and facilities shortage, monetary resources limitation and private public partnership inadequacy. However, the above challenges can be fixed through the use of public-private smart partnership.

**Information Communication Technology vis-à-vis Business Development**

A business is said to be a means of selling a small group of product to a specific customers. However, business development has to do with successful creation of profitable business ventures. It encompasses the definition, evaluation and direction leading to profitable business ventures. The advancement of technology impacts considerably on business by shifting the industry structure, operations and the principles for the advent of competitive benefits for those corporations that are implementing ICT in their business practices.

Information communication technology (ICT) has become the key component in business undertakings in the 21st century (Dimovski and Skerlaraj, 2004). The implementation of ICT by business operators offers the capability of swift access to data, valuation, handling and distribution of enormous data volumes. A report by OECD (2004) stated a number of elements that impede ICT utilization by enterprise owners which negatively affect business development in Nigeria. These include (i) communication networks infrastructure and computer inadequacy; (ii) inconsistency in policy by the regulatory body in relation to ICT

adaptation for business; (iii) inadequate understanding and managerial abilities of ICT deployment; (vi) business processes mismatched; (v) security deficiency of ICT application and trust; (vi) cost of expansion and preservation of automated systems (Hardware), and (vii) other related encounters which has to do with electronic business practices.

However, according to Ongori and Migiro (2010), the study opined that only those business owners which use the ultramodern technologies have the prospect to enter the global market and stay competitive regardless of the encounters of liberalization, technical progress and globalization. ICT solution therefore assists organization to advance their output and realize better business performance growth (Ryssel, Ritter and Gemunden, 2004).

**Empirical Review**

It is often said that access to information is one of the most essential business services. Basically, the development of information technology in business has occupied the attention of researchers (Chatfield and Yetton, 2000; Leek et al., 2003). According to Chau (1995), ICT enhances the invention procedure in the organizations, because technology monitoring can be adopted to reduce the count of supervisors needed for the process. Moreso, Brynjolsson and Hitt (2003) agree that there is a considerable lasting productivity advantage with the practice of ICT in any organizations.

Information technology is mostly recognized as a tactical device for enterprises to boost their competitive advantages due to increasing level of uncertainty (King, Grove and Hufnagel, 1989). Therefore, the impression that information technology can be a source of optimization of business assets, allow and enhances business development, is recognized and sustained by several empirical research (Croteau and Bergeron, 2001). In a related study, Bahalis (2003) opined that the introduction of ICT can provides the business with both tactical and strategic tools when they are applied appropriately. Another potency of ICT deployment is in the area of contributing to business product variability, improved response rate to customers' requests, product adjustment and improvement in total market share. Not only is the intensity of the use of ICT, but also the eminence of the use of ICT is an essential element for business development (Berisha-Namani, 2010).

A research by Dewan and Kraemar (2001) and Pahjola (2001) where data was collected from 36 affluent and developed countries of

various continents concluded that a highly significant relationship exist between ICT and business development. Likewise, Onugu (2005) supports that ICT adoption empowers business enterprise to form inter-organizational directions, grow organizational competences and cut costs to the minimum level. A study conducted by OECD (2004) also revealed that ICT has the capacity to increase business-to-business (B2B) consistency, promptness and business-to-consumer (B2C) transactions. Lauder and Westhall (1997) concluded that ICT impact on business entails communication at a quick and low-cost rate, improved customer service, well-organized marketing, enhanced information accessibility and good product development. Therefore, this study intends to contribute to this ongoing discussion by investigating the strategic role played by ICT on the development of businesses in Nigeria.

**Roles of ICT on Business Development in Nigeria**

The collective role of information and communication technology (ICT) in all sectors of the economy via the internet to enrich business development in Nigeria cannot be over emphasized. Not only that, it brings about collaboration with the people and a different network of communication among the general public and government in the country. It is a record for this country that, the advent of ICT improved the socio-economic and democratic rule immediately after Nigeria returned to democracy in 1999.

However, ICT has been acknowledged as the instrument for development and the foundation of emergence for the economic and social enablement of any nation, most especially the developing countries (Ogidan, 2017). The Nigerian technological space is said to have been improved in recent time. As a result of the operating license awarded to three companies in January 2001 to operate Global System for Mobile communication (GSM) in the country, since then, there has being a significant growth in the Nigerian digital mobile network (Oladimeji and Folayan, 2018).

Not only that, ICT has also contributed to business enterprise in both private and public sector of the economy, in that it serves as a tool for national development and expansion. It generates a friendly business environment and prospects for firms in a semi-rural centers, and also link up suppliers with their respective clients.

In the same vein, service industries like real estate, insurance and finance industries will not be able to operate without the use of ICT. Therefore, ICT has been able to contribute to development of business in the following ways:

i. Reduction in transaction costs thereby improving productivity.
ii. It offers business with immediate connectivity.
iii. It gives channel knowledge and information at all levels.
iv. Provides alternative choice for customers in the market place for goods and services which are not available.

A World Bank survey revealed that organizations using ICT will experience swift employment progression, growth in terms of sales and increase in the level of productivity e.g. Jumia, Konga, Dealdey etc.

**Methodology**

This study adopts a survey research method. Primary source of data was used to get information from the respondent through a well-structured questionnaire. The study population consists of all employees in Jumia Nigeria Limited totaling three thousand (3,000). Simple random sampling techniques were used to select employees so as to give them equal chance of being selected. A sample size of three hundred and fifty three (353) respondents from the total population constitutes the sample size for questionnaire that was administered. However, from the 353 questionnaire distributed, only 270 were filled and returned appropriately. Both descriptive and inferential statistics was used to analyze the data collected and test of hypotheses.

**Data Presentation**

Table no. 1 shows the total number of questionnaire which was three hundred and fifty three (353) administered to the respondent. Two hundred and seventy (270) questionnaire representing 76.5% were returned and eighty three (83) questionnaire representing 23.5% were not returned. This means that the number of returned questionnaire is good enough to make valid conclusions.

**Table no. 1.** Analysis of response rate

| QUESTIONNAIRE | RESPONSE | PERCENTAGE (%) |
|---|---|---|
| Returned | 270 | 76.5 |
| Not Returned | 83 | 23.5 |
| **Total Distributed** | **353** | **100** |

Table no. 2 shows details about the organization that participated in the research. Jumia Nigeria Limited with 3,000 employees was analyzed in our study. However, out of the 353 questionnaire distributed, only 270 was filled and returned appropriately, as illustrated in table no.1.

**Table no. 2.** Brief presentation of the analysed organization

| S/N | NAME OF COMPANY | NUMBER OF EMPLOYEES | DISTRIBUTED QUESTIONNAIRE |
|---|---|---|---|
| 1. | Jumia Nigeria Limited | 3,000 | 353 |
| | | | |
| | **Total** | **3,000** | **353** |

**Source**: Author Field Survey, 2018

**Measurement of Research Variables**

This section evaluates the sources of the variables used for this research. The variable of the research is information communication technology (ICT) as independent variable, with two analyzed elements: e-commerce and social media, as well as the dependent variable: business development.

Table no. 3 revealed that, the mean scores of E-commerce as independent variable ranged between 2.36 and 3.86 (above the average), with their corresponding standard deviation of 0.52 and 1.88; mean scores of Social media as independent variable ranged between 2.57 - 3.99 (above the average), while their standard deviation of 0.12 and 1.91; and the mean scores of Business development as dependent variable ranged between 2.83 - 4.57 (above the average), while their standard deviation of 0.97 - 1.95 respectively.

**Table no. 3.** Descriptive Statistics of ICT and Business Development.

| | N | Mean | Std. Deviation |
|---|---|---|---|
| **E-COMMERCE** | | | |
| My enterprise receives orders for goods and services placed via online website | 270 | 3.86 | 1.38 |
| We use the internet mostly to transact our businesses | 270 | 2.36 | 1.77 |
| Customers can track their order placed on our dedicated website | 270 | 3.59 | 1.01 |
| We received and sent E-invoices to our customers through our online platform | 270 | 3.45 | 0.52 |
| Sales have significantly increased as a result of internet adoption in my enterprise. | 270 | 3.22 | 1.88 |
| **SOCIAL MEDIA** | | | |
| My company uses the social media platform on the internet to advertise our various product and services | 270 | 3.41 | 1.91 |
| Social media is a platform for customer service and product delivery in my enterprise | 270 | 3.29 | 0.12 |
| The use of selected social media, networks, blogs as improved the sales of our product | 270 | 2.57 | 1.46 |
| Customers link up to my company social media profiles to transact their business. | 270 | 3.57 | 1.11 |
| Through social media, we are able to reach and communicate to numerous online customers. | 270 | 3.99 | 1.89 |
| **BUSINESS DEVELOPMENT** | | | |
| The introduction of ICT has improved the sales and revenue base of our products | 270 | 3.43 | 1.95 |
| ICT is a veritable tool that should be adopted for business growth in Nigeria | 270 | 2.83 | 1.59 |
| We have competitive edge and advantage over other competitors due to our online sales platform | 270 | 3.73 | 1.36 |
| We achieve and get more sales through our online platform | 270 | 3.19 | 0.97 |
| There are security facilities on our online platform to protect our customers' interest against scam and fraud. | 270 | 4.57 | 1.04 |
| **AVERAGE** | | **3.47** | |

**Source:** Authors computation, 2018

## Test of Hypotheses

### Hypothesis I

**$H_0$**: there is no significant relationship between ICT and business development.

**Table no. 4.** Correlation test - Relationship between E-commerce and Business development

| | | E-commerce | Business Development |
|---|---|---|---|
| E-commerce | Pearson Correlation | 1 | .462** |
| | Sig. (2-tailed) | | .000 |
| | N | 270 | 270 |
| Business Development | Pearson Correlation | .462** | 1 |
| | Sig. (2-tailed) | .000 | |
| | N | 270 | 270 |

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

**Table no. 5.** Correlation test - Relationship between Social media and Business development

| | | Social Media | Business Development |
|---|---|---|---|
| Social Medial | Pearson Correlation | 1 | .382** |
| | Sig. (2-tailed) | | .000 |
| | N | 270 | 270 |
| Business Development | Pearson Correlation | .382** | 1 |
| | Sig. (2-tailed) | .000 | |
| | N | 270 | 270 |

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

### Interpretation

The entries in table no. 4 and 5 explain the results using Pearson correlation which was used in order to establish a relationship between the independent variable (ICT) and the dependent variable (business development). Given the correlation analysis, the result shows that there is a moderate positive significant relationship between ICT and business development, where E-commerce ($r = 0.462$, $P < 0.01$); and social media ($r = 0.382$, $P < 0.01$). Therefore, we reject the null hypothesis ($H_0$) and accept the alternative hypothesis ($H_1$). This implies that a significant relationship exist between ICT and business development in Nigeria.

### Hypothesis II

**$H_0$**: there is no significant effect of ICT on business development.

**Table no. 6.** Regression test of E-commerce, Social media and Business development

**Model Summary**[b]

| R | R Square | Adjusted R Square | Std. Error of the Estimate | Change Statistics | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | R Square change | F Change | df1 | df2 | Sig. F Change |
| .521[a] | .183 | .149 | 2.47691 | .183 | 10.846 | 2 | 132 | .000 |

a. Predictors: (Constant), E-commerce, Social Media
b. Dependent Variable: Business Development

**Table no. 6.** (Continued)
**ANOVA**[a]

| | Model | Sum of Squares | Df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 321.011 | 2 | 57.467 | 10.846 | .000[b] |
| | Residual | 882.254 | 132 | 7.557 | | |
| | Total | 1203.265 | 134 | | | |

a. Dependent Variable: Business Development
b. Predictors: (Constant), E-commerce, Social Media

**Table no. 6.** (Continued)
**Coefficients**[a]

| | Model | Unstandardized Coefficients | | Standardized Coefficients | t |
|---|---|---|---|---|---|
| | | B | Std. Error | Beta | |
| 1 | (Constant) | 6.589 | 1.732 | | 3.916 |
| | E-commerce | .177 | .084 | .179 | 2.331 |
| | Social Media | .210 | .079 | .258 | 2.716 |

a. Dependent Variable: Business Development

Table no. 6 shows that there is a significant effect of ICT factors on business development, based on F-value (10.846), and the level of significance (Sig=0.001) less than 0.05. Correlation Coefficients (R=0.521) represent the strength of relationship between two variables which is positive, while the value of the coefficient of determination ($R^2$ =0.183, Adjusted $R^2$= 0.149, P=0.000) refers that 18.3% of the variance in business development can be explained by the variation in ICT.

Further analysis also reveals that of all the ICT factors, both E-commerce (17.9%) and Social media (25.8%) accounted for the variation in business development. It therefore implies that, the null hypothesis is hereby rejected and accepts the alternative hypothesis which states "there is a significant effect of ICT on business development". The result is in congruence with the findings of Dewan and Kraemar (2001) and Pahjola (2001): a highly significant relationship exists between ICT and business development. It also agrees with the study of Bahalis (2003) which state that ICT adoption provides businesses with both tactical and strategic tools when applied appropriately.

**Conclusion and Recommendation**

The contribution of information communication technology (ICT) to business development in the 21st century cannot be overemphasized. Hence, the study assesses the strategic role of ICT on the development of businesses in Nigeria. However, from the review, it was revealed that the introduction of ICT is an avenue for businesses to open up new opportunities, reduction in inventories and making services to be more tradeable. Some of the challenges being faced by business enterprise like: partial understanding and managerial expertise of ICT utilization, cost of expansion and maintenance of electronic system were also put into consideration. To overcome this identified challenges, enterprises are required to adopt the use of public private smart partnership. A critical analysis on the subject matter of this research was carried out and discoveries have been made. Two variables which are E-commerce and Social media platform were used as a determinant of ICT for this study. The results revealed a moderate positive relationship of these identified factors on business development. The central findings from this study are that ICT offers the business with immediate connectivity and widen the geographic scope of potential markets. It is also worthy of note to state that the implementation and proper application of ICT will result into quality production of goods and services. It is therefore recommended that to achieve business development, management of the organizations should considered ICT as a strategic tool which can lead to business expanding to new markets, boosting of profitability level and generating competitive advantages.

**Bibliography**

Adewoye, J. O., Abioro, M. A. (2017). Information communication technology and employees job security: evidence from selected manufacturing companies in Nigeria. *Ilorin Journal of Human Resource Management, 1(1),* pp. 1-13.

African Development Bank (2003). A strategic approach to information and communities' technology towards E-development in Asia and the Pacific Asia Development Bank.

Akunyili, D. (2010). ICT and e-Government in Nigeria: opportunities and challenges. An address delivered at the World Congress on Information Technology, Amsterdam, Netherlands, 25-27 May, 2010.

Berisha-Namani, M. (2010). Business Electronic, Prishtine.

Brown, M. M. (2000). Public sector information resources in the coming millennium: A management imperative, in public and management: *An Interactive Journal 5(1),* pp. 25-32.

Brynjolsson, E., Hitt, L. (2003). Paradox Lost? Firm level evidence on the returns to information systems spending. *Journal of Management Science, 42(4),* pp. 54-62.

Buhalis, D. (2003). E-airlines: strategic and tactical use of ICTs in the airline industry. *Journal of information and Management, 41(5),* pp. 78-86.

Chatfield, A. T., Yetton, P. (2000). Strategic payoff from EDI as a function of EDI embeddedness. *Journal of Management Information Systems, 16 (2),* pp. 195-224.

Chau, P. Y. K. (1995). Factor used in the selection of packaged software in small businesses: views of owners and managers. *Journal of information and Management, 29(2),* pp. 71-78.

Croteau, A. M., Bergeron, F. (2001). An information technology trilogy: Business strategy, technological deployment and organizational performance. Journal of Strategic Information Systems, 8(2), pp.125-150.

Dewan, S., Kraemar, K. L. (2000). Information technology and productivity: Preliminary evidence from country level data. *Journal of Management Science, 46(4),* pp. 458-562.

Dimovski, V., Skerlaraj, M. (2004). Communication technologies as management tools: case of Slovenia, Faculty of Economics, University of Ljubljana.

Drunker, P. (1995). Managing in a time of great challenge, New York: Truman Talley Books.

Egan, T., Clancy, S., O'Toole, T. (2003). The integration of E-commerce tools into the business process of SMEs. Irish Journal of Management, 24(3), pp.139-151.

Hoffman, L., Novak, I., Peterson, T. (1997). Service Quality in a business enterprise.

King, W. R., Grove, V., Hufnagel, E. H. (1989). Using information and information technology for sustainable competitive advantage. Some empirical evidence. *Journal of Information and Management, 27(2),* pp. 87-93.

Lauder, G., Westhall, A. (1997). Small firms on-line. Commissions on public policy and British business.

Leek, S., Turnbull, P.W., Naude, P. (2003). How is information technology affecting business relationships? Results from a UK survey. *Industrial Marketing Management Journal, 32(3),* pp. 119-126.

Lymer, A. (1997). Small businesses: a study of impacts. 5th European Conference on Information System.

Miles, P. (2001). Globalization-Economic growth and development, and development indicators. Planet Papers.

Minton, S. (2003). Nordic Nations still top information index. The world Paper.

OECD, (2004). Promoting entrepreneurship and innovative SMEs in a Global economy: towards a more responsible and inclusive globalization. ICT, E-Business and SMEs, Paris.

Ogidan, J. (2017). ICT for good governance and socio-economic development in Nigeria. World Scientific News (WSN), pp. 522-534.

Oladimeji, T. T., Folayan, G. B. (2018). ICT and its impact on national development in Nigeria. An overview. *Journal of Engineering and Technology, 7(1),* pp. 5-10.

Ongori, H., Migiro, S. O. (2010). Information and communication technology adoption: a literature review. *Journal of Chinese Entrepreneurship, 2(1),* pp. 93-104.

Onugu, B.A.N. (2005). Small and medium enterprises (SMEs) in Nigeria: Problems and Challenges. PhD Thesis, St Clements University.

Pahjola, M. (2001). Information technology and economic growth: A cross-country analysis, Oxford University Press, pp. 242-256.

Ryssel, R., Ritter, T., Gemunden, G. H. (2004). The impact of information technology deployment on trust, commitment and value creation in business relationships. *Journal of Business and Industrial Marketing, 19(4),* pp. 197-207.

Sajuyigbe, A. S., Alabi, E. (2012). Impact of information and communication technology in selected small and medium enterprises in Oshogbo metropolis, Nigeria. *Journal of School of Communication and Information Technology,* 4(2), pp.78-92.

Tapscott, D., Caston, A. (1993). Paradigm Shift. New York: McGraw Hill.

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# Knowledge Management Process Capabilities and Competitive Advantage in the Nigerian Food, Beverage and Tobacco Industry

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**Abstract**
This study examines the effect of knowledge management process capabilities on the competitive advantage of the Food, Beverage and Tobacco (FOBTOB) firms in Nigeria. A survey research design was employed, with a structured and self-reporting questionnaire as a tool for data collection. Stratified sampling technique was used in the determination of three hundred and sixty (360) sample respondents, from a population of 1718 management staff of the FOBTOB firms under study. 234 copies of the questionnaire were returned and found usable, hence, formed the actual sample size for this study. Data obtained were analyzed using tables, frequencies and percentages for descriptive, while t-test, simple and multiple regressions and Pearson Product moment correlation analyses were used as inferential statistics for testing of hypotheses. The findings of this study show that knowledge management process capabilities positively and significantly affect competitive advantage with $R^2$

= .299; F=24.397; p<0.05 while more effect was seen from the protection and application processes. It is recommended that firms should give more attention to the process of acquiring and applying knowledge gained in order to achieve the desired innovation outcome.

**Keywords:** Knowledge management; Process capabilities; Innovation; Market share; Competitive advantage.

## Introduction

Organization's success and survival to a large extent depend on its ability to adapt to the ever dynamic and multi-faceted business environment. The focal point of businesses, therefore, becomes the attainment of a position of competitive advantage that may enhance firm performance relative to that of competitors'. Against this backdrop, the intensity for the search of strategic and efficient techniques that may enable organizations to meet their general as well as competitive objectives becomes paramount. Hence, several tools, techniques and interventions like Six Sigma, Total Quality Management (TQM), Decision Support System (DSS), Management by Objectives (MBO), Lean processes, Management Information System (MIS), Business Process Re-engineering, Risk Management, Strategic Management are employed by organizations to remain relevant and effective (Alabi and Alabi, 2012).

Studies on strategy posit that some firms consistently outperform others, leading to what is referred to as competitive advantage (CA). Hence, businesses locally and globally strive not only to attain a competitive advantage, but also to sustain and persevere in the long run. Sustaining competitive advantage depends on a range of factors which include a firm's relative capability development (Johannessen and Olsen, 2003); or blend of traits that allows it to do better than its competitors like access to natural resources or access to highly trained and skilled human resources (Wang, Lin and Chu, 2011).

These traditional sources of CA have been eroded by the globalization of business activity according to Jacome, Lisboa and Yasin (2002). Proponents of the resource-based view (RBV) opine that resources with tangible and intangible attributes possessed by a firm which are valuable, uncommon, poorly imitable and non-substitutable

form the core competency for attaining and sustaining CA. In their view, "knowledge" is one of the strategic resources that can sustain CA; and this triggered off another school of thought the "Knowledge-Based View" (KBV). The KBV considers "knowledge" as the most strategic of the firm's resources and identifies knowledge and the managing of knowledge-based resources as a vital tool for sustaining CA and superior performance.

The foregoing sets the belief that the foundation for organizational competitiveness is shifting to an emphasis on knowledge, and as Wong (2005) reflects, organizations are becoming more knowledge-intensive and hiring more "*minds*" rather than "*hands*"; and emphasis is on the role of knowledge management (KM) in creating SCA for organizations (Ho, 2008; Zheng, Yang and McLean, 2010). There are several definitions of KM as there are many authors. What is common however is that KM has to do with the ability of an organization to create, share and use the collective knowledge of its products, processes and people. Hence, it involves the process of acquiring, organizing and communicating both, tacit and explicit knowledge of employees in order to improve productivity (Sodiya, Onashoga, Dansu and Adeleye, 2006).

**Methodology and Purpose of the study**

This study set to establish the effect of KM process capabilities measured through knowledge acquisition, conversion, application and protection on competitive advantage measured using innovation and market share. The study adopts a cross-sectional survey research design. The area of study is Lagos state. Lagos was chosen due to its cosmopolitan nature being the nation's former federal capital and a hub for commercial activity. About 50% of the Food, Beverage and Tobacco (FOBTOB) companies, the sector under study are domiciled within Lagos. The target population for the study comprises the three levels of management staff of the firms in the FOBTOB industry. The sector dominated the activity of the manufacturing industry in 2014, having the largest output of all, and contributed the highest percentage to the nation's GDP (NBS, 2014). The sector still has very great influence in the Nigerian nation economy till date. The stratified sampling technique was adopted in this study.

From the FOBTOB population in Lagos, 31.57% (six organizations) were selected. This is a good representation going by De

Vaus (1996) which suggests that 10% of the population under study should be the minimum sample size. From this six organizations, three hundred and sixty sample respondents were drawn and administered a self-reporting questionnaire using a seven-point Likert scale of 1= strongly disagree to 7 = strongly agree. Constructs item measures were obtained from already validated instruments with Cronbach alpha greater than or equal to 0.7. However, a reliability and validity test to check consistency were done through a pilot study and the Cronbach alpha was well over 0.7. Data were analyzed using tables, frequencies, percentages and mean item scores for the descriptive while one sample t-test, Pearson product moment correlation and regressions analyses were used as inferential statistics for hypotheses testing.

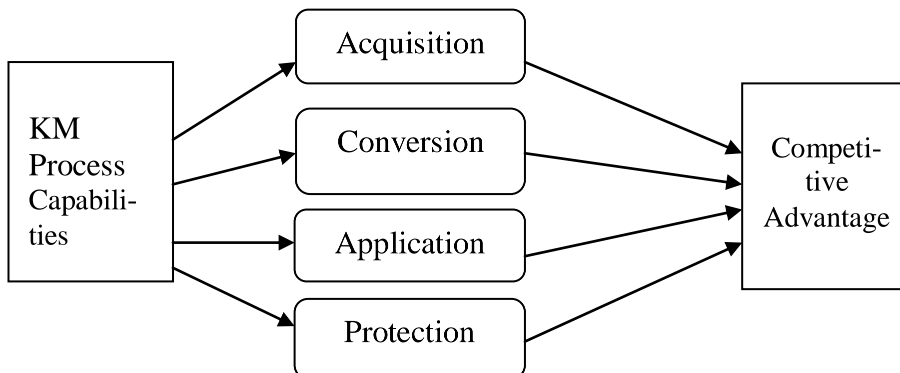
**Theoretical Framework**

The resource based view (RBV) as an approach to achieving competitive advantage emerged in the 1980s and 1990s following the major work of Wernerfelt (1984) and the likes of Barney (1991). The proponents of this view opine that organizations should search inward the company rather than the competitive environment to identify the sources of competitive advantage. This is against the background that activities to cash-in-on by a firm can be environmental in nature in terms of paying attention to external industry structure as proposed by Porter or directing attention to the internal resources, capabilities and investments, which provide the instruments and tools to shape the external environment as stated by the resource-based view (RBV). Knowledge is one of the internal assets or resources identified by the RBV supporters as necessary for sustaining competitive advantage. Whereas the knowledge-based view (KBV) which is an extension of the RBV aver that “knowledge” is the core competency required by an organization to be competitive. The rapidity at which companies develop or acquire new knowledge is such that having special knowledge is no longer a criterion for sustainable competitive advantage; rather, a firm requires knowledge that is hard for competitors to replicate in addition to the ability to rapidly develop new knowledge to achieve sustained competitive advantage (Lubit, 2001). The two ways by which companies can create sustained competitive advantage via knowledge is to spread internal knowledge that other companies will find very difficult to imitate - “tacit knowledge”; while the second thing is for companies to endeavor to create superior knowledge management

capabilities which can foster ongoing innovation (Lubit, 2001) and create increased market share.

Ologbo and Nor (2015) aver that sustainable CA is a product of innovation while innovation itself could be derived from the four processes of knowledge management (Acquisition, Conversion, Application and Protection). Knowledge management efforts typically focus on organizational objectives such as improved performance, the sharing of lessons learned, competitive advantage, integration and continuous improvement of the organization (Banes, 2011). The theory predicts the relationship among the variables as can be seen in Fig. no.1.

**Fig. no. 1.** Relationship between KM Process Capabilities and Competitive Advantage




**Source:** Authors (2017)

**Literature Review**

The need to outperform one another has always being the concern of business organizations hence the need for discerning what constitutes competitive advantage. Competitive advantage (CA) is an advantage that a firm has over its competitors, which allows it to innovate more or generate greater sales or margins and/or retains more customers than its competitors (Alaneme, Kuye and Oghojafor, 2016). The root of CA stems from "Competitive strategy which is about being different and deliberately choosing to perform activities better than rivals to deliver a unique mix of value" (Porter in Thompson and Strickland, 2001).

Constant improvement in the field of KM led to the identification of a number of significant factors like organizational culture, leadership, information technology, processes and activities, and human resources management referred to as enablers, or capabilities, or the critical success factors (CSFs) of KM (Zheng *et al.,* 2010). Capabilities or CSFs are defined as the managerial and organizational factors which require serious attention in order for KM implementation to be successful. Several capabilities (firms' resources) which serve as preconditions for effective KM have been proposed by scholars, but the Gold, Malhotra and Segars (2001) model appears to be the most widely referred to in the literature. This model presents knowledge management capabilities as multidimensional concepts that incorporate an "infrastructure" perspective, which focuses on "knowledge management infrastructure capabilities", and a "process" perspective, which focuses on a set of activities termed "knowledge management process capabilities". This study is interested in the process perspective.

The "knowledge process capabilities" consists of knowledge acquisition, knowledge conversion, knowledge application and knowledge protection. These capabilities have been adopted by several researchers in their studies. Studies show that managing knowledge for CA requires the use of distinct capabilities and competencies embedded in the organization in order to create, share, use and protect knowledge so as to improve and sustain competitiveness. CA was measured looking at innovativeness, which includes product and process innovativeness, and market position.

Since organizations are heterogeneous in their resources, strategic capabilities or competencies as well as arrangement, it implies that each organization will need to identify these capabilities and be able to apply them effectively. However, there is a need to determine which of the knowledge processes affects innovation and market share the most, as well as what their combined effect is on competitive advantage. Hence, we hypothesize that:

**$Ho_i$** KM process capabilities (acquisition, conversion, application and protection) do not significantly influence innovation.

**Hoii** KM process capabilities (acquisition, conversion, application and protection) do not significantly influence market share.

**$Ho_{iii}$** KM process capabilities have no significant effect on competitive advantage.

**Results**

Table no.1 is a summary of Pearson's correlation matrix on all the variables and show that all the knowledge management process capabilities were moderately but positively correlated with innovation, market share and competitive advantage; except for the conversion process which had a weak (.287) but positive relationship with innovation.

**Table no. 1.** Summary of Pearson's Correlation Matrix

| Knowledge Management Process Capabilities | Innovation | Market Share | Competitive Advantage |
|---|---|---|---|
| Acquisition process | .398** | .383** | .473** |
| Conversion Process | **.287**** | .402** | .423** |
| Application Process | .333** | .478** | .498** |
| Protection Process | .398** | .394** | .481** |
| Knowledge Infrastructure Capabilities | .333** | .407** | .453** |
| Knowledge Process Capabilities | .357** | .414** | .471** |

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed). N = 234

**Source:** Field Survey, 2017

**$Ho_i$:** Effect of KM Process capabilities (acquisition, conversion, application, protection) on innovation

Table no. 2 represents a multiple regression analysis conducted to test $Ho_i$ which aim at ascertaining the joint effect of the knowledge management acquisition, conversion, application and protection processes on innovation.

The result shows a positive and statistically significant joint effect of the process variables on innovation with an $F (4, 229) = 15.519$, $p < .05$) and an $R^2$ of .213. This means that 21.3% of the variation in innovation is jointly caused by these variables. The individual coefficients illustrating the input of each individual variable indicate that the acquisition process (0.457, $p < 0.05$) and protection process (0.299, $p < 0.05$) had more influence in predicting innovation. The conversion and application process, however, had negative coefficients and insignificant contribution to the model. The implication of this result is that what is most important in innovation in an organization is acquiring the knowledge first and learning how to protect the knowledge from theft and misuse. Again, innovation is likely

to take place more with less transfer of knowledge to people who may not have the use for it so as to prevent divulging it to competitors. In addition, a negative application of knowledge reduces innovation. Hence, innovation predicted:

$$INN = 2 \cdot 898 + \cdot 457(AC) + (- \cdot 165)(CV) + (- \cdot 123)(AP) + \cdot 299(PT) + \epsilon i \cdots (1)$$

This implies that INN may increase by .457 of knowledge acquisition process and by .299 of knowledge protection process. On the other hand, innovation will be inversely affected by -.165 of knowledge conversion process and -.123 of knowledge application process. In précis, the combination of the four variables shows they are significant predictors of innovation (INN). However, the conversion and application process influenced by other factors have inverse and insignificant contribution to the model.

**Table no. 2**. KM Process Capabilities on Innovation

| Model 1 | B | Beta (β) | t-value | P-value | R | $R^2$ | F-value | F-sig. |
|---|---|---|---|---|---|---|---|---|
| Constant | 2.898 | | 10.010 | .000 | .462[a] | .213 | 15.519 | .000[a] |
| Acquisition process | .363 | .457 | 3.508 | .001 | | | | |
| Conversion Process | -.123 | -.165 | -1.567 | .118 | | | | |
| Application Process | -.089 | -.123 | -.958 | .339 | | | | |
| Protection Process | .242 | .299 | 3.878 | .000 | | | | |

a. Predictors: Protection Process, Acquisition process, Conversion Process, Application Process
b. Dependent Variable: Innovation. Significant at 0.05 level.

**Source**: Field survey, 2017

**$Ho_{ii}$:** Effect of KM Process capabilities (acquisition, conversion, application, protection) on market share.

Table no. 3 presents a multiple linear regression calculated to predict market share (MS) based on acquisition, conversion, application and protection process. A significant regression equation at degree of freedom (4,229) gives an $F = 19.534$, $p < .05$ with an $R^2$ of .254. Therefore, predicted market share is:

$$MS = 2 \cdot 997 + (- \cdot 226)(AC) + \cdot 088(CV) + \cdot 504(AP) + \cdot 164(PT) + \epsilon i \ldots (2)$$

The implication of this is that knowledge acquisition process with a negative coefficient of .226 may decrease MS by that margin, increase by .088 of knowledge conversion process, .504 of knowledge application process and .164 of knowledge protection process. From the individual coefficients, it is obvious that more contribution to the model came from the knowledge application process with 0.504, $p < 0.05$. This explains the fact that the ability to gain market share lies in applying the acquired knowledge to fill identified gaps which can be used to satisfy, draw and establish customers' loyalty. Also very important to the model is the knowledge protection process. This is understandable because an unprotected knowledge becomes everybody's knowledge and will no longer serve any competitive advantage; and in the case of gaining market share, if everyone (all competing organizations) is offering the same service, for instance, there is nothing distinguishing about it anymore, and no organization can lay claim to being the market leader for that particular knowledge. In addition, the knowledge acquisition process has an inverse relationship with market share. This can be explained given the fact that acquiring less of unimportant or not useful knowledge will increase gaining market share or vice versa.

In essence, a combination of the four variables significantly predict market share (MS), whereas the acquisition and conversion processes interacting with other factors lost their significance in predicting MS as they had p values > .05.

**Table no. 3. KM Process capabilities on market share**

| Model 1 | B | Beta (β) | t-value | P-value | R | $R^2$ | F-value | F-sig. |
|---|---|---|---|---|---|---|---|---|
| Constant | 2.997 | | 9.263 | .000 | .504[a] | .254 | 19.534 | .000[a] |
| Acquisition process | -.206 | -.226 | -1.782 | .076 | | | | |
| Conversion Process | .075 | .088 | .861 | .390 | | | | |
| Application Process | .419 | .504 | 4.049 | .000 | | | | |
| Protection Process | .152 | .164 | 2.180 | .030 | | | | |

a. Predictors: (Constant), Protection Process, Acquisition process, Conversion Process, Application Process

b. Dependent Variable: Market share. Significant at 0.05 level.

**Source:** Field survey, 2017

**Hoiii:** Effect of KM Process capabilities (acquisition, conversion, application, protection) on competitive advantage

Table no. 4 shows a multiple regression analysis of KM process capabilities of acquisition, conversion, application and protection on competitive advantage. The result demonstrates a statistically significant effect with an R of 0.547 and $R^2$ of .299. The model is fitted under degree of freedom (4,229) with an f-ratio ($F= 24.397$, $p < 0.05$).

A look at the individual coefficients show that the application and protection processes make positive and significant contribution to achieving competitive advantage, while acquisition has a positive but insignificant ($p > .05$) input into the model, and the conversion process had an inverse (-0.036) and insignificant ($p > .05$) contribution to the model. This implies that the less transfer or conversion of knowledge to people, the more the competitive advantage a firm will have. This simply indicates that most employees especially those who may not have immediate use of particular knowledge within the organization, if conferred the privilege of such knowledge, may likely abuse it, perhaps through divulging such information to other competitors for some kickbacks. Once the other competitors grab it, it becomes common and less valuable, and therefore not a capability anymore. Basing our model from the general regression model of $Yi = b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4$, we then have: $CA = b_1AC + b_2CV + b_3Ap + b_4PT$. Thus the model is specified as:

$$CA = \cdot 112(AC) + (- \cdot 036(CV) + \cdot 258\,(AP) + \cdot 275(PT) + \epsilon i \cdots (3)$$

Against this background, it is obvious that a combination of the predictors: acquisition, conversion, application and protection do influence competitive advantage. We, therefore, reject the null hypotheses that acquisition, conversion, application, and protection do not significantly affect CA.

**Table no. 4.** KM Process Capabilities on Competitive Advantage

| Model 1 | B | Beta (β) | t-value | P-value | R | $R^2$ | F-value | F-sig. |
|---|---|---|---|---|---|---|---|---|
| Constant | 2.948 | | 12.191 | .000 | .547[a] | .299 | 24.397 | .000[a] |
| Acquisition process | .078 | .112 | .908 | .365 | | | | |
| Conversion Process | -.024 | -.036 | -.363 | .717 | | | | |
| Application Process | .165 | .258 | 2.135 | .034 | | | | |
| Protection Process | .197 | .275 | 3.781 | .000 | | | | |

a. Predictors: (Constant), Protection Process, Acquisition process, Conversion Process, Application Process
b. Dependent Variable: Competitive Advantage. Significant at 0.05 level.

**Source:** Field survey, 2017

**Discussions**

The results show that KM process capabilities measured by the four variables - acquisition, conversion, application and protection combined, significantly predict competitive advantage (CA). This is in line with the studies of Chiu and Chen (2016) which found a significant positive effect of knowledge process capabilities on organizational effectiveness. It also supports the findings of Emadzade *et al.* (2012), Nguyen (2010), Seleim and Khalil (2007), Gold *et al.* (2001) and Grant (1996).

The individual standardized beta coefficients, however, show that the conversion process was negatively and insignificantly related with CA since the p-value > 0.05; while the acquisition process was positively insignificant. This inverse relationship of conversion on CA is an indication that increasing the conversion process may decrease competitive advantage. This may be looked at from the point of view that when too many people supposedly are aware of particular information it becomes an open-secret which may no longer be an advantage to the organization since some are bound to sell out this knowledge. Further, the inability of the acquisition process to significantly predict competitive advantage with the interaction from other variables shows that it is not necessarily the ability to generate or acquire knowledge that matters in CA, but a combination of other factors which will make the knowledge generated to be meaningful.

Linking the insignificant effect of the conversion process to CA in Nigeria can be explained by the fact that most times transfer of knowledge through formal training in organizations are made for the "preferred employees" and not necessarily the "deserving employees". This implies that knowledge is being transferred to the wrong people that may be unable to use it. This negates the effect of the conversion process as an advantage to the organization. Similarly, the positive but insignificant effect of the acquisition process when related to Nigerian organizations whether public or private indicates that when it comes to searching for useful information or knowledge to solve problems, Nigerians are good at it, but after which the information is shelved and hardly used. Having more knowledge than the competitor should be an advantage, but the implication on CA will be on how it is applied.

On the other hand, the application and protection processes appeared the most crucial processes. This affirmed the studies of Cohen and Levinthal (1990), Seleim and Khalil (2007) which found that through knowledge utilization, acquired knowledge transforms from potential capability to dynamic capability which yields organizational performance. That is, a direct impact on CA will be felt when acquired knowledge that has been shared to the right people is put into use or applied. The view of Barney (1991), Smith (2006) and Gold *et al.* (2001) on the importance of protection of knowledge from inappropriate use or theft through using a variety of policies, rules, procedures, incentives and technology, was confirmed. This indicates a direct effect on CA and the need for an organization to secure its knowledge resource from misuse and theft especially in an environment like Nigeria where people look out to steal others idea and patent at the slightest opportunity.

## Conclusions

The findings of this study indicates that the processes for effective KM which can yield and sustain CA in terms of knowledge acquisition, conversion of acquired knowledge, application or use of knowledge acquired, and protection of organizational knowledge from theft and incorrect use, are available in the Nigerian studied organizations. The results provide a support for the knowledge-based view of the firm which posits that the major source of competitive advantage rests in the ability to apply integrated knowledge resources

and not only in the ability to generate new knowledge or convert new knowledge as such (Grant, 1996).

The outcome of the study further implies that while the four main processes combine to determine the KM process capabilities, more emphasis and highlight should be placed on the application process in order to fully exploit and utilize the different types of knowledge sourced for achieving organizational objectives. In addition, there is a need to protect the valuable, rare and imitable resources acquired, converted and applied from being stolen in order to maintain CA (Barney, 1995).

**Bibliography**

Alabi, G., Alabi, J. A. (2012). New functional management model in perspective: building on Deming's system of profound knowledge and Dewey's quest for certainty. *Marketing and Business Management*, 1(1), pp. 001 – 015.

Alaneme, G. C., Kuye, O. L., Oghojafor, B.E.A. (2016). Knowledge Management infrastructure and process capabilities as determinants of competitive advantage in the Food, Beverage, and Tobacco Industry in Nigeria. *Nigerian Journal of Management Studies,* 16(1), pp. 224-233.

Banes, A. (2011). Knowledge Management in Business. *Lucrari Stiintifice*, Seria I, XIII (2), pp. 75-78.

Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of Management*, 17(1), pp. 99-120.

Barney, J. (1995). Looking inside for competitive advantage. *The Academy of Management Executive,* 9 (4), pp. 49-61.

Chiu, C. N., Chen, H. H. (2016). The study of knowledge management capability and organizational effectiveness in Taiwanese public utility: the mediator role of organizational commitment. *Springer Plus, 5:1520.*

Cohen, W., Levinthal, D. (1990). Absorptive capacity: A new perspective on learning and innovation. *Administrative Science Quarterly*, 35(1), pp. 128–152.

De Vaus, D. A. (1996). *Surveys in social research*. Melbourne: Allen & Irwin Pty Ltd.

Gold, A. H., Malhotra, A., Segars, A. H. (2001). Knowledge Management: An organizational capabilities perspective, *Journal of Management Information Systems,* 18(1), pp.185-214

Emadzade, M. K., Mishayakhi, B., Abdar, E. (2012). Knowledge management capabilities and organizational performance. *Interdisciplinary Journal of Contemporary Research in Business,* 3 (11), pp. 781-790.

Grant, R. M. (1996a). Toward a knowledge-based theory of the firm. *Strategic Management Journal.* 17 (Winter Special Issue), pp. 109-22.

Ho, L. A. (2008). What affects organizational performance? The linking of learning and knowledge management, *Industrial Management & Data Systems*, 108 (9), pp. 1234-54.

Jacome, R., Lisboa, J., Yasin, M. (2002). Time-based differentiation - an old strategic hat or an effective strategic choice: an empirical investigation, *European Business Review*, 14(3), pp. 184-93

Johannenssen, J. A., Olsen, B. (2003). "Knowledge Management and sustainable competitive advantages: The impact of dynamic contextual training. *International Journal of Information Management,* 23, pp. 277-289.

Lubit, R. (2001). Tacit knowledge and knowledge management: The keys to sustainable competitive advantage. *Organizational Dynamics,* 29(4), pp. 164–178.

National Bureau of Statistics (2014). Nigerian Manufacturing Sector Summary Report: 2010-2012

Nguyen, T. N. Q. (2010). Knowledge management capability and competitive advantage: an empirical study of Vietnamese enterprises. Ph.D. Thesis, Southern Cross University, Lismore, NSW.

Ologbo, A. C., Nor, K. M. (2015). Knowledge Management processes and firm innovation capability: A theoretical model. *Asian Social Science*, 11(18), pp. 10-17.

Seleim, A., Khalil, O. (2007). Knowledge management and organizational performance in the Egyptian software firms, *International Journal of Knowledge Management*, 3(4), pp. 37-66.

Smith, T. A. (2006). Knowledge management and its capabilities linked to the business strategy for organizational effectiveness, DBA thesis, Nova Southeastern University.

Sodiya, A. S., Onashoga, S.A., Dansu, B. M., Adeleye, B.A. (2006). An assessment of Knowledge Management capabilities of Nigerian banking institutions.

Thompson, A. A. Jr., Strickland, A. J. (2001). *Strategic Management: Concepts and Cases*. (12th ed.). New York, NY: McGraw-Hill/Irwin.

Wang, W. C., Lin, C. H., Chu, Y. C. (2011). Types of competitive advantage and analysis. *International Journal of Business and Management* 6 (5), pp. 100 – 104.

Wong, K. Y. (2005). Critical success factors for implementing knowledge management in small and medium enterprises. *Industrial Management & Data Systems*, 105(3), pp. 261-279.

Zheng, W., Yang, B., Mclean, G. N. (2010). Linking organizational culture, strategy and organizational effectiveness; the mediating role of knowledge management. *Journal of Business Research*, *63*, pp. 763-771.

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# An Empirical Attempt on determining an Adjusted Model of Accounting Manipulation Detection

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**Abstract**
The quality of the information disclosed by financial statements is fundamental on assuring an optimal decision-making process. Determinants of financial information quality are numerous, but users' focus must be especially on the accounting compliance of firms' accounting strategy with current accounting regulation and international best practice. Unfortunately, financial reporting practice underline the opportunity of various accounting manipulation practices used by the preparers, leading in some cases to material financial figures alteration, and consequently to adverse selection in capital allocation. In this article we try to adjust Dechow et al. (2011) model to the Romanian economic environment.
**Keywords:** earnings quality; accruals; accounting manipulation; IFRS; Fscore.

## Introduction

Financing decision is essential within the actual context of the recent financial crisis, reason why managers use various strategies for financing policy optimization, through the component of capital cost reduction and increase of the firms market value. This purpose affects significantly the quality of financial information disclosed by the mandatory and voluntary corporate financial reporting. Accounting

manipulation practice is part of current reality through a wide range of techniques and tools. The motivations behind those practices lead to multiple objectives set up by managers, shareholders and the other stakeholders. The fraud triangle is more than relevant when describing the context of the discussion, as the pillars of pressure, opportunity and rationalization depict fairly the construction of each of those practices (Hayes et. al., 2005). It just remain the question how can be drawn-up the boundaries between fraud and creative accounting and how the economic environment is reacting to such practices (enforcements mechanisms, quality of conceptual reporting framework, corporate governance practice, analysts' and auditors' missions, market perception on cost of capital and shares liquidity etc.).

The quality of financial information is fundamental on investors' resources allocation strategies, as moral hazard and adverse selection are altering the investment decision, especially in case of individual investors that cannot use analysts' services. Same, financial reporting quality is necessary for the markets to inspire confidence within investors that can lead to higher market liquidity, lower cost of capital, an implied reduced level of uncertainty and a proper environment for a sustainable economic growth.

Despite the advantages of a high quality financial reporting, significant part of the managers choose to manipulate accounting numbers by smoothing earnings over time, avoiding losses or earnings declines, delaying liabilities recognition, miss-classifying assets, or simply becoming more creative on building a superficial perception of firms financial health through financial statements.

In this article, we want to bring some insights on analytical techniques used on detecting accounts manipulation, by redesigning the model of Dechow et al. (2011). This model is one of several similar models, aimed to detect earnings management based on a score function built on accounting measures, which correlate the value relevance of the information disclosed on the statement of financial position, the statement of profit and loss, and the statement of cash flow.

This study is relevant in the context of the dynamics of Romanian accounting regulation, and the significant and continuous efforts of local standard-setter to harmonize local GAAP with the European Directives, and the International Financial Reporting Standards (IFRS).

The contradictory results regarding benefits and costs of IFRS adoption have installed an initial confusion around the decision of IFRS adoption, thus leading numerous companies before mandated IFRS adoption to follow strategies of delisting in order to avoid IFRS implementation at firm level (Bruggemann et. al., 2012).

The empirical analysis reveal potential risk of accounts manipulation within the process of IFRS implementation, as the recent experience revealed visible disparities on IFRS adoption and practice (Nobes, 2011) and the adoption of IFRS is not voluntary, but mandated.

## Review of Related Studies

There is an end-less discussion in the literature, regarding financial information manipulation, as they are various opinions about the motivations or determinants that stay behind them (Stolowy and Breton, 2000; Dechow et al., 2010). These reviews seem to highlight a lack of a clear definition of what earnings management means. They draw several motivations behind the practice of earnings management and accounting manipulation, and try to make an in-depth analysis of the impact on decision making by analyzing the quality of the earnings, the accruals and their qualitative structure in order to isolate the discretionary component reflecting bad accounting practices.

### *Accounting manipulation techniques taxonomy*

The interest for accounts manipulation, as a considerable part of earnings management practices, is visible as numerous areas such as firm valuation, debt contracting, managers accountability, or executive compensation contracts, use information disclosed on financial statements (Dichev et al., 2013). It is clear that all the financial numbers game's practices aim to alter, or distort a company's true financial performance and position in order to achieve a desired result, and mislead the users of financial information. What differ among the existing definitions is the distinction between real manipulation (timing of transactions) and artificial manipulation (timing of presentation).

The accounts manipulation consists of three main directions:

- use of accounting choice, of which effect in investors decision making is mainly influenced by manager's intention to follow firm's objectives, or only personal interest (Fields et. al., 2001);
- opportunistic classification and disclosure items, favored by the lack of approach within the existing accounting regulation, which

permits the managers to control the level of financial transparency and determine them to use aggressive accounting practices that force the limits of the principle-based accounting standards (Ronen and Yaari, 2008);

- structuring and timing real transactions in order to achieve financial targets or aim for management buyout, case when they are opportune the use of various creative accounting techniques (big bath accounting, in substance defeasance, bill-and-hold transactions, channel stuffing, lease-back operation) (Stolowy and Breton, 2000).

In order to reduce accounts manipulation, the process of international accounting convergence conducted by IASB was supported, on a global scale, in order to limit the negative effects of the alternative accounting choices. But, this seemed to be not enough as the reporting incentives created by the markets and institutional structures play a central role for managers in setting the financial reporting strategy (Graham et al., 2005; Burgstahler et al., 2006). This is the way economic substance became relative, based on a function of managers' incentives, accounting standards quality, enforcement mechanisms and maybe, most important, the politics and economics of accounting regulation.

The problem of accounting misclassification and improper accounts recognition in financial statements is an old preoccupation of the international accounting standard-setters. Just that the political factor is persistent, through the lobbying practices, on preserving multiple accounting choices in order to defend especially the tax interest of the state in financial reporting as there is evidence that the firms tend to stimulate the tax directors to reduce the fiscal base as much as possible (Armstrong et al., 2012; Graham et al., 2013).

Structuring and timing real transactions in order to manipulate accounting numbers, shows the small flexibility of the accounting systems reported to the economic system they should serve. There is empirical evidence that managers prefer management activities manipulation instead of accounting manipulation, as the accruals manipulation are considered a substitute of real activities manipulation because of the higher cost of accrual manipulation (Graham et al., 2005; Zang, 2012). This means that the standard-setters have to focus more on detecting different potential fraudulent schemes, and less on prescribing different additional accounting choices to cover controversial specific topic of accounting.

*Earnings quality factors*

Defining earnings quality means we have to look for consistency of reporting choices over time, long-term estimates avoidance, earnings persistence based on a real economic growth, a strong correlation between earnings and future cash flows, a less volatile behavior of earnings than cash flow variations, or simply the achievement of a benchmarked level of earnings (Dechow et al., 2010; Graham et. al., 2013).

Dechow et al. (2010) reveals among the basic earnings quality determinants:

- the firm's characteristics defined by firm size, financial performance, perspectives of economic growth, or simply by debt covenants which, in general, are associated with accounting method choice;
- financial reporting practices, influencing earnings quality by discretionary financial reporting practices;
- governance mechanisms, which determine a slight reduction of earnings management practices in case of optimal executive compensation, a dispersed shares ownership, or efficient internal control mechanisms;
- quality of audit, a function depending on the auditor efforts and effectiveness explained by factors such auditor reputation, expertise, independence or perceived incentives and litigation risk implied by the contract of audit;
- equity market incentives which explain why managers are willing to engage in earnings management practices to assure better condition for IPOs issuance, or simply because they try to achieve different earnings benchmarks or targets set up by contractual agreements;
- other external factors that reflect the economic and political costs of earnings management, through accounting choice, referring to costs of debts covenants violations, state sanctions and lawsuits costs, or tax avoidance litigation costs.

Demirkan et al. (2012) explains cost of capital evolution not only by earnings management practices, but also by business model complexity, raising more severe internal agency problems. Belkaoui (1999) prove the causal relation between magnitude of earnings manipulation and firms' business model, with focus on international activities. Moreover, the national culture takes an important place on

earnings managements, earnings quality being positively associated with uncertainty avoidance, especially by its discretionary component (Nabar and Boonlert, 2007). An additional determinant of earnings quality is mentioned in Francis et al. (2006), who sustains that, in spite of methodological issue regarding empirical validation, the quality of the information system can be considered a significant factor of earnings quality, as it is required to integrate more and more sophisticated accounting valuation techniques.

Belkoui (2006) choose a different approach on analyzing the impact of earnings quality, as he points out interdependent relationship between earnings opacity, accounting system, religious perception regarding earnings manipulation, political environment and macroeconomic factors. Important insights are brought regarding the reality that validate a higher impact of political environment, social and economic elements on earnings opacity (defined as a complex interaction between the managerial motivation, accounting standards, and the enforcement of accounting standards) than the accounting order.

**Methodology research**

Detecting accounts manipulation is an old preoccupation among the academics and practitioners, vivid proof being the vast literature developed around analytical procedures used within the audit missions. Analytical procedures consist of the analysis of significant ratios and trends including the resulting investigation of fluctuations and relationships that are inconsistent with other relevant information or deviate from predictable amounts (Hayes et. al., 2005; Dechow et al., 2010). They include trend analysis, ratio analysis, reasonableness testing or data mining analysis used for big data handling, their use being necessary on estimating significant audit risks in any phase of audit mission, including within the substantive testing.

Recent trends emphasize an increasing interest of auditors in using data mining techniques, based on more sophisticated multivariate statistical tools, aimed to direct the auditors' efforts towards a more rigorous and systematic way of financial statements interpretation. Factor analysis, principal components analysis, discriminate analysis, multivariate regression analysis, or inference statistics are the mostly used techniques in international auditing (Robu, 2014).

This study is designed to check Dechow et al. (2011) F-score model validity in the case of Romanian accounting environment, in the

context of recent mandatory IFRS adoption for statutory financial statements. The F-score model is defined by the relation bellow:

$$\widetilde{Fscore} = -6.789 + 0.817 * RSST + 3.230 * \Delta Rec + 2.436 * \Delta Inv + 0.122 * \Delta Cash\ Sales - 0.992 * \Delta Earnings + 0.972 * ACTI$$

, where:

RSST= $\Delta WC + \Delta NCO + \Delta FIN$

$$\Delta WC = (Current\ Assets - Cash\ \&Short\ term\ Investments) - (Current\ Liabilities - Debt\ in\ Current\ Liabilities)$$

$$\Delta NCO = (Total\ Assets - Current\ Assets - Investments\ \&Advances) - (Total\ Liabilities - Current\ Liabilities - Long\ term\ Debt)$$

$$\Delta Fin = (Short\ term\ Investments + Long\ term\ Investments) - (Long\ term\ Debt + Debt\ in\ Current\ Liabilities)$$

$$\Delta Rec = Rec_t - Rec_{t-1}$$

$$\Delta Inv = Inv_t - Inv_{t-1}$$

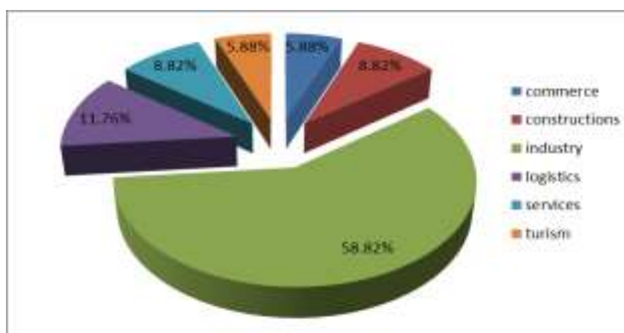
$$\Delta Cash\ Sales = \frac{Sales_t - \Delta Rec}{Sales_t}$$

$$\Delta Earnings = \frac{Earning_t}{\overline{TA}_t} - \frac{Earning_{t-1}}{\overline{TA}_{t-1}}$$

$ACTI_t$ - dummy variable controlling securities issuance during current year coded by 1 if the firm issued securities during year *t*.

$\widetilde{Fscore}$ values determine a predictive value which appreciate a firm's odds for accounting manipulation, as the econometric model is the binomial logistic regression. Mathematically, this means that the conditional probability for accounts manipulation in case of a firm *X* is calculated based on Fscore predictive value, using relation $Prob = \frac{e^{\widetilde{Fscore}_X}}{1+e^{\widetilde{Fscore}_X}}$. The unconditional probability is set up to 0.34% as it depend on the sample size used on Dechow et al. (2011) model. Consequently, we can calculate the *Fscore* value by reporting conditional probability to the unconditional probability, namely $= \frac{Prob}{0.0034}$. An *Fscore* greater than 1 indicate a higher probability of accounts manipulation.

**Fig. no. 1.** Sample distribution by activity




**Source:** authors own projection

The sample consists of the companies with the first most 34 liquid stock shares transacted on the Bucharest Stock Exchange. All financial information where collected by consulting each company's website and financial statements published on the BSE website. They refer to period 2011-2013 financial statements, being prepared according to IFRS, meaning a total of 2,161 observations.

We will use SPSS 20.0 and Excel to proceed on data analysis, as follows:

- calculate the differences corresponding to 2012 and 2013 *Fscore* model;
- calculate descriptive statistics for main indicators composing predictive *Fscore*;
- determine the impact of ΔWC, ΔNCO, ΔFin on accruals variation magnitude (RSST);
- determine the probability distribution of the *Fscore* values obtained by year;
- proceed to redesign the coefficient of *Fscore* model, based on our sample observations:
  - first we classify the firms in two groups, firm with risk of manipulated accounting figures („manipulated") and firms without risk of manipulated accounting figures („non-manipulated");
  - we check for correlations between variables included in Dechow et. al. (2011) model and eliminate those with high coefficient of correlation, in order to avoid multi-linearity hypothesis;

- we proceed to a principal components analysis, to see how used parameters explain total variance among the entire sample observations;
- afterwards, we determine a binary logistic regression model that predicts if firm manipulate accounts or not, based on the uncorrelated parameters explaining the most part of total variation;
- we check for model validation according to the classification rate done by the model.

**Results and discussion**

On enterprise level, numerous comparative empirical studies are performed between reporting financial performances recorded in accordance with IASB international accounting standards and national accounting standards. These studies, based on cross-country samples, prove enhanced quality of accounting information released from financial statements prepared under IFRS (Chen et. al., 2010; Barth et. al., 2013), ensured by reducing earnings management practices determined by accounting choice. These results must be used cautiously because of the increasing flexibility of the revised and the new IFRSs, as they permit more options in areas of earnings smoothing, especially in the case of the mandatory IFRS adopters, who accounting chosen policies depends on market and institutional structures incentives (Capkun et. al., 2009).

IFRS adoption decision in Romanian environment has taken a long time, especially under the pressure of international financial institutions and political objectives. Actually, IFRS is mandatory for statutory and consolidated financial statement for financial institutions and listed companies. However, there remained the problem of a dual accounting system as Street and Larson (2004) revealed.

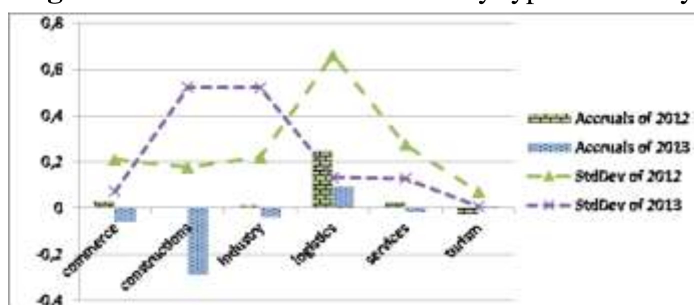
In spite of these results and of the higher claimed implementation costs and several areas of ambiguity provided by IFRS, Romanian environment shows a positive perception towards IFRS (Ionascu et. al., 2014). Cost of capital decrease, increase in transparency, comparability, value relevance and forecast accuracy as well are main reasons encouraging a real IFRS implementation at firms' level.

**Table no. 1.** Most important KPIs evolution

| KPI | Year | *Com merce* | *Construc tions* | *Indus try* | *Logis tics* | *Servi ces* | *Turi sm* |
|---|---|---|---|---|---|---|---|
| ROE | 2011 | 5.75% | 1.31% | 23.96% | 5.85% | 2.78% | 1.32% |
| | 2012 | 0.34% | 2.79% | 5.49% | 4.19% | -1.71% | 1.55% |
| | 2013 | -2.20% | 2.05% | 7.29% | 6.19% | 1.84% | 1.28% |
| Leverage | 2011 | 51.22% | 29.07% | 41.47% | 28.47% | 14.50% | 11.75% |
| | 2012 | 54.80% | 27.37% | 43.43% | 27.33% | 13.87% | 8.32% |
| | 2013 | 51.98% | 27.60% | 14.71% | 16.08% | 13.95% | 8.32% |
| Cash Cycle (days) | 2011 | -0.29 | 0.05 | 4.33 | 0.02 | 8.17 | 0.18 |
| | 2012 | -0.10 | 0.02 | 4.01 | 0.03 | 2.42 | 0.15 |
| | 2013 | -0.01 | 0.27 | 4.40 | 0.07 | 1.21 | 0.18 |
| ROA | 2011 | 53.17% | 54.75% | 100.30% | 41.37% | 40.70% | 19.25% |
| | 2012 | 60.19% | 49.98% | 93.59% | 38.46% | 39.22% | 21.79% |
| | 2013 | 66.10% | 47.12% | 39.16% | 36.01% | 39.66% | 19.40% |

**Source:** authors own calculation with Excel

**Fig. no. 2.** Deflated accruals level by type of activity

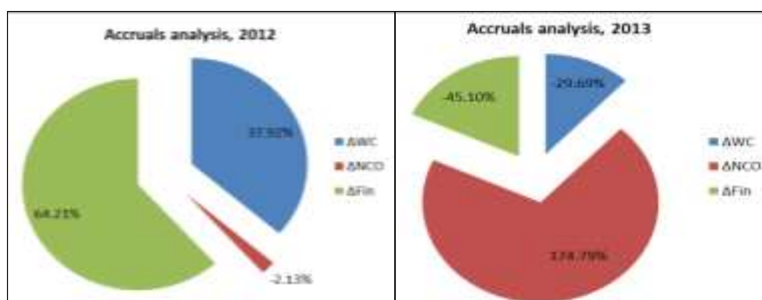



**Source:** authors own projection with Excel

Unfortunately, the level of accruals by firm varies widely, as the variance coefficient of standard deviation on the mean is of 60.11% for 2012 figures and of 169.45% for 2013 figures. This situation can be explained by the IFRS transition effects, which generated a substantial negative result in the comprehensive income statement of the firms, especially cause of IAS 29 inflation adjustments required for the equity capital.

The extreme values of accruals in domains like constructions and logistics are explainable as the length of the operating cycle is shorter and the level of inventory is low, compared with the industry firms.

**Fig. no. 3.** Components analysis of accruals




**Source:** authors own projection with Excel

The differences between IFRS and RAS regarding financial instruments accounting treatments has led to significant negative values of RSST, especially cause of the fair value impact on financial instruments valuation.

**Table no. 2**

***Panel A: descriptive statistics for year 2012*** (deflated by assets avg.)

| | *RSST* | *ΔRec* | *ΔInv* | *ΔCash sales* | *ΔEarnings* |
|---|---|---|---|---|---|
| Mean | -0.069 | 0.008 | 0.000 | 0.766 | -0.007 |
| Standard Error | 0.042 | 0.011 | 0.006 | 0.087 | 0.007 |
| Minimum | -0.786 | -0.200 | -0.092 | 0.046 | -0.119 |
| Maximum | 0.293 | 0.148 | 0.102 | 2.429 | 0.070 |
| Confidence Level(95.0%) | 0.084 | 0.022 | 0.013 | 0.178 | 0.015 |

**Source:** authors own calculation with Excel

There is interest of preparers on using income smoothing as the relation $\frac{\sigma(Earnings)}{\sigma(CFO)}$ takes value of 64.48% for 2011, 58.25% for 2012 and 64.16% for 2013, far from the ideal value.

**Table no. 3**

***Panel B: descriptive statistics for year 2013*** (deflated by assets avg.)

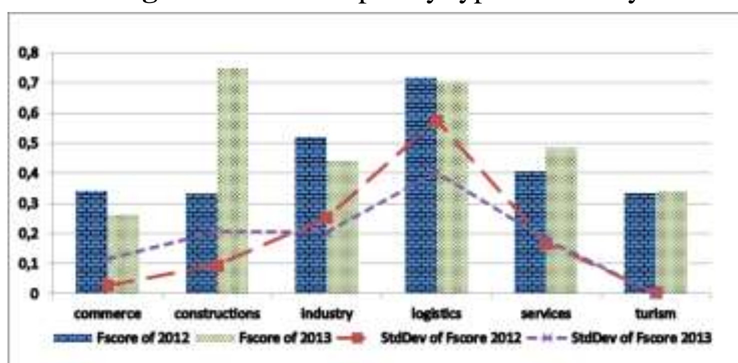
| | *RSST* | Δ*Rec* | Δ*Inv* | Δ*Cash sales* | Δ*Earnings* |
|---|---|---|---|---|---|
| Mean | -0.043 | 0.013 | 0.003 | 0.742 | 0.026 |
| Standard Error | 0.073 | 0.013 | 0.005 | 0.081 | 0.019 |
| Minimum | -2.107 | -0.222 | -0.069 | 0.077 | -0.072 |
| Maximum | 0.644 | 0.258 | 0.092 | 1.924 | 0.612 |
| Confidence Level(95.0%) | 0.150 | 0.027 | 0.010 | 0.165 | 0.040 |

**Source:** authors own calculation with Excel

The *Fscore* values obtained by applying Dechow et. al. (2011) model, reveal visible discrepancies among industries, confirming that accounting manipulation depend on industry specific, as well.

There is visible a change in the *Fscore* from 2012 to 2013, showing a slightly increase in accounting manipulation risk, as for 2012 there were 27 firms with an *Fscore* less than 0.5, and for 2013 they became only 23 firms with a *Fscore* less than 0.5.

**Fig. no. 4.** FScoresplit by type of activity




**Source:** authors own projection with Excel

In addition, there is evidence for 2012, that the financial component of RSST accruals is high, most probably as an effect of the fair value model first implementation. On the next year, the situation turn around, as the non-operating component of accruals is really high, suggesting an increase in accounting manipulation through the accounting estimates used.

**Table no. 4.** Correlation Matrix

| | Accruals | Recei vables | Inven tory | Cash Sales | Ear nings | PPE | Listing |
|---|---|---|---|---|---|---|---|
| Accruals | 1 | .077 | -.022 | ***.365*** | .081 | -.059 | -.257 |
| Receivables | | 1 | .279 | .041 | .064 | .064 | -.117 |
| Inventory | | | 1 | .255 | ***.370*** | .081 | ***-.348*** |
| Cash Sales | | | | 1 | .106 | -.225 | -.257 |
| Earnings | | | | | 1 | -.115 | -.202 |
| PPE | | | | | | 1 | -.048 |
| Listing | | | | | | | 1 |

**Source:** author's calculation with SPSS 20.0

In addition, if we look at the maximum values for measure of Cash Sales variation, and correlate with a relative low variance in receivables, we can assume that earnings smoothing practices most probably affect the financial statements. However, it is hard to decompose Sales variation into variation cause by accounting choice, fundamental earnings process, or intentional earnings smoothing (fraudulent revenue recognition). Moreover, the numerous changes made in the revenue recognition area along the last ten years have induced more flexibility for the preparers of the financial statements.

**Panel C:** *accounts manipulation detection models*

| Explanatory Variables | *Total Variance Explained* | | *Regression model* | | | *Regression model* | | | *Regression model* | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | -2 Log likelihood | Cox & Snell $R^2$ | Nagelkerke $R^2$ | -2 Log likelihood | Cox & Snell $R^2$ | Nagelkerke $R^2$ | -2 Log likelihood | Cox & Snell $R^2$ | Nagelkerke $R^2$ |
| | | | 20.088ª | .064 | .208 | 20.088ª | .064 | .208 | 20.088ª | .064 | .208 |
| | Eigen value | % of Variance | B | S.E. | Sig. | B | S.E. | Sig. | B | S.E. | Sig. |
| Accruals | 1.987 | 28.39 | 55.929 | 7029.03 | .994 | 1.338 | 2.11 | .525 | 1.400 | 2.10 | .505 |
| Receivables | 1.308 | 18.69 | 466.790 | 60851.79 | .994 | 12.319 | 7.42 | .097 | 12.142 | 7.43 | .102 |
| Inventory | 1.055 | 15.07 | -44.082 | 133257.61 | 1.000 | -30.508 | 20.33 | .133 | -34.550 | 23.75 | .146 |
| Cash Sales | .894 | 12.77 | 31.502 | 4829.54 | .995 | | | | | | |
| Earnings | .732 | 10.46 | 511.671 | 70248.34 | .994 | | | | | | |
| PPE | .634 | 9.06 | | | | | | | 1.133 | 2.70 | .675 |
| Listing | .390 | 5.57 | 136.809 | 9798.68 | .989 | | | | | | |
| Constant | | | -170.015 | 12133.63 | .989 | -3.793 | 0.92 | .000 | -4.387 | 1.78 | .014 |
| **Classification rate** | | | *model 1* | | 100.00% | *model 2* | | 95.50% | *model 3* | | 97.00% |

Source: calculus with SPSS 20.0

**Panel C:** *accounts manipulation detection control models*

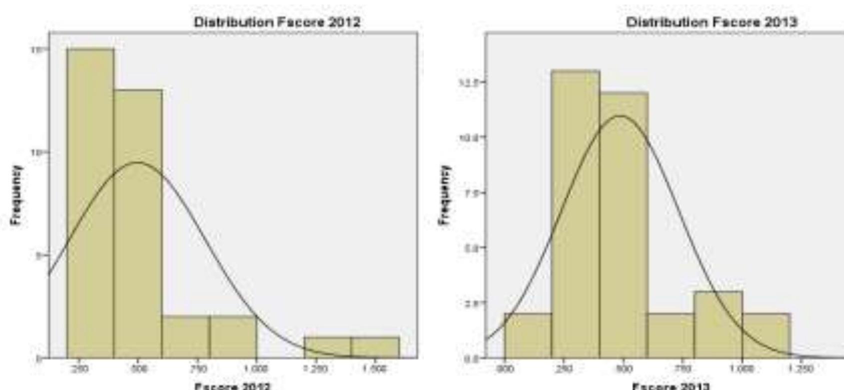
| Explanatory Variables | *Regression model* | | | *Regression model* | | | *Regression model* | | | *Regression model* | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | -2 Log likelihood | Cox & Snell $R^2$ | Nagelkerke $R^2$ | -2 Log likelihood | Cox & Snell $R^2$ | Nagelkerke $R^2$ | -2 Log likelihood | Cox & Snell $R^2$ | Nagelkerke $R^2$ | -2 Log likelihood | Cox & Snell $R^2$ | Nagelkerke $R^2$ |
| | 19.240ª | .144 | .276 | 19.749ª | .131 | .250 | 47.271ª | .207 | .338 | 49.621ª | .178 | .291 |
| | B | S.E. | Sig. | B | S.E. | Sig. | B | S.E. | Sig. | B | S.E. | Sig. |
| Accruals | -4.574 | 5.68 | .420 | -7.112 | 4.31 | .099 | -2.007 | 1.40 | .151 | -1.376 | .98 | .162 |
| Receivables | 5.131 | 13.53 | .705 | 4.769 | 12.68 | .707 | -1.973 | 5.70 | .729 | -1.198 | 5.63 | .832 |
| Inventory | 13.547 | 17.04 | .427 | 7.602 | 13.83 | .582 | -36.855 | 14.10 | .009 | -33.933 | 12.78 | .008 |
| Cash Sales | .545 | 1.97 | .782 | | | | 1.189 | .79 | .133 | | | |
| Earnings | -12.299 | 21.24 | .563 | | | | -4.008 | 5.59 | .474 | | | |
| PPE | | | | | | | | | | | | |
| Listing | -1.083 | 1.98 | .585 | | | | -.361 | 1.01 | .721 | | | |
| Constant | -2.183 | 1.51 | .149 | -2.638 | .876 | .003 | -2.486 | 1.07 | .020 | -1.818 | .40 | .000 |
| **Classification rate** | *model 4* | | 87.90% | *model 5* | | 87.90% | *model 6* | | 87.90% | *model 7* | | 87.90% |
| | H&L Test | $\aleph^2$ | 6.652 | H&L Test | $\aleph^2$ | 11.394 | H&L Test | $\aleph^2$ | 7.724 | H&L Test | $\aleph^2$ | 6.089 |
| | | df | 7 | | df | 8 | | df | 7 | | df | 8 |
| | | Sig. | .585 | | Sig. | .180 | | Sig. | .358 | | Sig. | .529 |

Source: calculus with SPSS 20.0

Next, we try to estimate the sign reflecting the type of the influence of each variable considered in the accounts manipulation detection model, by estimating a new logistic regression based on the financial measures included in our sample and the classification made by applying the Dechow et al. (2010) model.

The correlation matrix emphasizes a strong relation of dependence between variance of Cash Sales and Accruals. In addition, inventory variances are positively related with variation in earnings, but negatively associated with the listing dummy variable. Consequently, we will proceed to eliminate several variables from the Dechow et al. (2010) model in order to avoid the variables being collinear.

**Fig. no. 5.** Fscore Histogram split by year




**Source:** authors' projection with SPSS 20.0

On building models adjusted to Romanian environment for measuring the risk of accounts manipulation, we first eliminate variables Cash Sales, Earnings and Listing as they correlate with the other considered variables.

In addition, we consider an additional variable PPE, widely used on the classic accruals models, to reflect the impact of the accounting estimates (depreciation, impairment, fraudulent expenses capitalization).

The first model is a pure copy of the Dechow et al. (2010) model regarding the dependent used variable. Even if the classification rate given by the model is 100%, we can't validate this model as the variables used are strongly correlated. This is cause by the high number of variables for such a small sample of observations and the impact of extreme values as Dechow et al. (2012) also appreciated.

There is a rule in the multivariate data analysis that as many variables are, as the sample of observations must be larger, meaning that we have to reduce the variables from the model. The twofold criteria

used are the Pearson correlation value and the percentage of variance explaining the total variance within the sample observations. Consequently we obtain a new model using only variables RSST, inventory variance and receivables variance (model 2, model 3), which has a classification rate of 95% with all coefficients significantly different of null value (all Sig. values are greater than 5%).

The marginal effect of including the PPE measure as an additional variable in the model seems to improve the classification rate only with 2%. Model 3 can lead us to the conclusion that there is small risk that accounting manipulations referring to PPE accounting deter financial information.

Classification used to group the financial statements is made based on the *Fscore* obtained for each firm included in our sample. But this type of classification is relative as the regression function used for extrapolation is determined on a samples based on US firms being charged officially for financial statements manipulation. Therefore, our initial classification presumes that we accept the model is valid for Romanian environment as well.

Therefore, we introduce alternative control models (models 4 and model 6 VS model 1, models 5 and model 7 VS model 2) using different classification criteria. In case of models 4 and 5 we have classified firms, only for 2012 according to the information disclosed in the financial statements that mention in financial statements for 2013 year that the values corresponding to 2012 figures were adjusted because accounting misstatements. In case of models 6 and 7 we classified financial statements as being affected by accounting manipulation practices if net cash flow was of different sign than the net income, as theoretically there should be a strong positive connection between the two financial measures.

The results for the other four models are not conclusive as the signs vary from first model to the control models in case of inventory, earnings or listing independent variables. This situation can be explained especially because of the small size of used sample and because of the extreme values included in the regression models and the incompatible criteria used on classifying altered financial statements. We tend to make use rather on the control models as they base the financial statements classification on local data.

Essential on determining a more accurate predictive function of accounting manipulation, is the creation of a long timeframe database

containing evidence with firms found to misstate the financial statements, as SEC already does.

**Conclusion**

Our study tried to reveal some aspects regarding the impact of accrual accounting on the value relevance of the financial information, from the perspective of potential accounting manipulation managers tend to make use. There is evidence that the value relevance of the financial information is only slightly affected by the accruals component generate by the earnings management practices consisting of option for different accounting choices preferred by preparers of the financial statements. Analytical procedures used in auditing financial statements prove to be of real support, as results obtained from using multivariate data analysis are appreciate as confident. It is essential to mention that this does not mean the ratios analysis, or trend analysis will become useless. They can be used as control tools, complementary to the advanced statistics tools.

Statistical test run shows that the Dechow et al. (2010) model has to be adjusted to local environment. Surprisingly, the only financial measure that is in contradiction with the expected sign of influence on the risk of the accounting manipulation is the variation of inventory. Even so, there is only small evidence that the financial statements affected by the IFRS transition are actually deterred by accounting manipulations, as only 4.5% from the firms included on our sample were classified as with high risk of accounts manipulated according to Dechow et al. (2010) model. However, these results have to be interpreted carefully, as IFRS 1 permits on the first financial statements prepared according to IFRS several exemptions, especially when we refer to accounting estimates and implementation of the fair value valuation basis for assets. First financial statements prepared according IFRS requirements have to be analyzed with caution, as there is a theoretical risk of accounting manipulation such as big bath accounting, knowing that IFRS transition will record a significant negative result anyway.

Concluding, we are aware of the caveats of our research, looking forward for improving the weaknesses revealed in the paper. Overall, we recognize the opportunity of adopting IFRS, but auditor have to keep an eye open all the time, as the new financial reporting philosophy move from a rules-based accounting to a more flexible principle-based

accounting, where the professional judgment gain a central place on accounting strategy configuration. Corporate governance mechanisms, as well, have to focus their resources more in the direction of strengthening their internal control procedures and improve the instruments used. The elements from the multivariate data analysis techniques have to be used on a wider range of professionals, as they can offer more precise information, but with regard to the effects of the continuous IASB accounting standards improvement strategy.

**Bibliography**

Armstrong, C. S., Blouin, J. L., Larcker, D. F. (2012). The Incentives for Tax Planning, *Journal of Accounting and Economics,* vol. 53, pp. 1-2.

Barth, M. E., Landsman, W. R., Lang, M. H., Williams, C. D. (2013). Effects on comparability and capital market benefits of voluntary adoption of IFRS by US firms: insights from voluntary adoption of IFRS by non-US firms, available online at: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2196247.

Belkaoui, A. R. (1999). *Earnings Measurement, Determination, Management and Usefulness: An Empirical Approach*, Greenwood, Westport.

Belkaoui, A.R. (2006). Antecedents and Consequences of Earnings Opacity: Toward an International Contingency Theory, available online http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1368972.

Breton, G., Stolowy, H. (2000). *A Framework for the Classification of Accounts Manipulations*, available online http://papers.ssrn.com/sol3/papers.cfm?abstract_id=263290.

Bruggemann, U., Hitz, J. M., Selhorn, T. (2012). *Intended and unintended consequences of mandatory IFRS adoption: A review of extant evidence and suggestions for future research*, available on http://ideas.repec.org/p/hum/wpaper/sfb649dp2012-011.html.

Burgstahler, D., Hail, L., Leuz, C. (2006). The Importance of Reporting Incentives: Earnings Management in European Private and Public Firms. *The Accounting Review,* vol. 81, issue 5.

Capkun, V., Hammeri, A., Weiss, L. (2009). Does Adoption of IAS/IFRS Deter Earnings Management, available on http://hal-hec.archives-ouvertes.fr/hal-00675047.

Chen, H., Tang, Q., Jiang, Y., Lin, Z. (2010). The Role of International Financial Reporting Standards in Accounting Quality: Evidence from the European Union, *Journal of International Financial Management and Accounting,* vol. 21, issue 3.

Dechow, P., Ge, W., Schrand, C. (2010). Understanding earnings quality: A review of the proxies, their determinants and their consequences, *Journal of Accounting and Economics,* vol. 50.

Dechow, P. M., Ge, W., Larson, C. R., Sloan, R.G. (2011). Predicting Material Accounting Misstatements, *Journal of Contemporary Accounting Research,* vol. 28, issue 1.

Dechow, P. M., Hutton, A. P., Kim, J. K., Sloan, R. G. (2012). Detecting Earnings Management: A New Approach, *Journal of Accounting Research,* vol. 50, issue 2.

Demirkan, S., Radhakrisham, S., Urcan, O. (2012). Discretionary Accruals Quality, Cost of Capital and Diversification, *Journal of Accounting, Auditing and Finance,* vol. 27, issue 4.

Dichev, I. D., Graham, J. R., Harvey, C. R., Rajgpol, S. (2013). Earnings quality: Evidence from the field, *Journal of Accounting and Economics,* vol. 56, issue 2-3, supplement 1.

Fields, T. D., Lys, T. Z., Vincent, L. (2001). Empirical research on accounting choice, *Journal of Accounting and Economics,* vol. 31, issues 1-3.

Francis, J., Olsson, P., Schipper, K. (2006). Earnings quality, Foundations and Trends R in Accounting, vol. 1, issue 4.

Graham, J. R., Hanlon, M., Shevlin, T., Shroff, N. (2013). Incentives for Tax Planning and Avoidance: Evidence from the Field, *The Accounting Review*, vol. 89, issue 3.

Graham, J. R., Harvey, C. R., Rajgpol, S. (2005). The Economic Implications of Corporate Financial Reporting, *Journal of Accounting and Economics,* vol. 40, issue 1-3.

Hayes, R., Dassen, R., Schilder, A., Wallage, P. (2005). *Principles of Auditing. An Introduction to International Standards on Auditing*, 2th edition, Prentice Hall, London.

Ionascu, M., Ionascu, I., Sacarin, M. (2014). IFRS adoption in developing countries: the case of Romania, *Accounting and Management Information Systems,* vol. 13, issue 2.

Larson, R. K., Street, D. L. (2004). Convergence with IFRS in an expanding Europe: progress and obstacles identified by large

accounting firms' survey, *Journal of International Accounting, Auditing and Taxation,* vol. 13.

Nabar, S., Boonlert, T. K. (2007). Earnings Management, Investor Protection, and National Culture, *Journal of International Accounting Research,* vol. 6, issue 2.

Nobes, Ch. (2011). *International Variations in IFRS Adoption and Practice*, ACCA, available on www.accaglobal.com.

Robu, I. B. (2014). *Riscul de fraudă în auditul financiar*, Editura Economică, Bucureşti.

Ronen, J., Yaari, V. (2008). *Earnings Management: Emerging Insights in Theory, Practice and Research*, Springer, New York.

Zang, A.Y. (2012). Evidence on the Trade-Off between Real Activities Manipulation and Accrual - Based Earnings Management, *The Accounting Review,* vol. 87, issue 2.

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