

UNIVERSITY OF GHANA

**THE INFLUENCE OF TECHNOLOGY ON ORGANIZATIONAL STRATEGY AND
PERFORMANCE: A CASE OF WINMAT PUBLISHERS LIMITED**

BY

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**A LONG ESSAY SUBMITTED TO THE UNIVERSITY OF GHANA BUSINESS
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DECLARATION

I declare that this study is my original project and for that matter it has not been submitted for an award in any University.

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Signature.....

Date.....

CERTIFICATION

This is to certify that my approval is given as a supervisor of the University of Ghana for the submission of this research study for examination.

Signature.....

Date.....

Supervisor: Dr. Damoah Obi Berko

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DEDICATION

I dedicate this research study to my uncle Mr. Stephen Asiamah without whose financial support I would not have gone to the University. You were an angel in the midst of crisis. I am forever grateful.

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ABSTRACT

This research looked to decide the degree of utilization of technology and its influence on performance and organizational strategy at Winmat Publishers Limited which is an educational publishing institution. In achieving a descriptive survey, the objectives of the study were utilized. Again, “the collection of primary data was done through the use of questionnaire”. The study’s targeted population contained the whole Winmat Publishers Limited Head office staff which is 108 permanent employees. The total number of questionnaire distributed for this research were 108 out of which ninety (90) were retrieved from the respondents. This represents 83% of the respondents out of the targeted sample of 108 in the organisation. All the 90 questionnaire retrieved were completed and valid with the end goal of this examination. In view of this, the study’s findings indicated that Winmat Publishers Limited had received and utilized IT to an enormous degree and that IT had a positive effect on execution. Further, the study’s findings revealed that “there is a positive relationship between information technology use and organizational performance”.

More importantly, the study recommended that organizations particularly publishing companies must endeavor to grasp IT apparatuses and benefits to have focused edge and improve administration conveyance to clients in order to accomplish higher proficiency, dependability and control in the association. Additionally, the study recommended that further studies be carried out in different associations in order to see whether there are some other components with regards to “the effect of information technology on organisational performance” especially within the publishing industry in Ghana.

CHAPTER ONE

INTRODUCTION

1.1. Background of the Study

Since the beginning of the twentieth century, there existed a massive revolution with regards to “information technology”. According to Tom (1991), “This revolution in technological advancement is arguably considered to be the most interesting development post the industrial revolution in the mid-18th Century”. In this regard, human activities are changing drastically on daily basis due to this revolution in information technology in that it is changing the manner in which individuals think, communicate and behave. UNDP (2001) opines that, “With the advent of technology, the world has virtually become a global village with technological tools such as the internet, mobile phones and satellite networks bridging time and space, linking computers and communications together; which has resulted in innovative ways of communication, processing, storing and disseminating enormous amounts of information”. It is in this light that the headway in satellite, radio, optical fiber, and chip innovation have empowered a huge number of individuals in various sections of the globe to interface electronically regardless of national or global limits. Evans & Wurster (1997) explain that, “the escalation in connectivity is the latest and the most important wave in the information revolution”. Allen & Morton (2004) adds that, “technology is seen as powerful tool that promotes tremendous growth in a dynamic and highly competitive business environment which requires the utilization of advanced technological tools in order to improve efficiency, cost effectiveness, and deliver high quality products and services to customers”. Further, Attewell & Rule (1984); Boynton (1993); Molloy & Schwenk (1995) state that, “organizations are increasingly using technology to develop solutions to business problems, to improve both the efficiency and effectiveness of the decision-

making process, to enhance productivity and service quality, to achieve dynamic stability, and compete for new markets”. “Organizations have always sought and adopted technologies that enhance efforts of their manpower in production and management” (Cerere, 1993). In this instance, he concluded that in spite of the fact that it has advanced over an extensive stretch of time, innovation has risen as a significant device in the management of authoritative tasks.

1.2. Technology

“Information technology implies anything related to figuring innovation of computing, for instance, software, the internet, hardware, networking, or the general population that work with these advances”. “Information technology can be defined as the hardware, software, telecommunications, database management, and other information-processing technologies used to store, process, and deliver information” (Daft, 1997). “Information technology is usually used to help directors with direct power over business capacities, staff and different assets”. As directors supervise asset coordination and designation, it very well may be hard to facilitate business works crosswise over different tasks. According to Hobday (2000), “Technology is one of the key innovations that is frequently implemented to assist in this process”. Bjork (1999); Peansupap and Walker (2005) maintain that “Information technology is often implemented as it is believed to facilitate communication, improve integration, enhance productivity and service delivery”. Feeny & Willcocks (1998) also explain that, “As organisations grow and change, they depend more and more on technology for their survival”. Porter & Millar, (1985) opines that, “Companies today implement and use technology to find solutions to business problems, to improve management decision-making, enhance productivity and quality, and compete for new markets in our global and aggressive business environment”. Also, innovation through

technology “can be seen as an earth shattering force that opens invigorating open entryways for relationship to accomplish their objectives and destinations in a convincing manner”. Accordingly Hacker & Saxton (2007) state that, “pioneers in associations must get a general energy about the capability of technology and connection the procurement and usage of it to the authoritative mission”.

1.3. Organisation Performance

Computerized information is at the focal point of various business limits, tasks, things and organizations. Today, affiliations by and large spend over half of their new venture assets on innovation and related interchanges. How affiliations manage these enormous ventures is of essential hugeness to hierarchical proficiency and adequacy. Additionally, “technology is habitually the association between the game plan and the fundamental drivers of progress”. Numerous associations have been ineffective with their innovation based ventures in view of poor course of action of innovation with the business. In such instance of Toyota; “a Japanese car maker, which has thrived in a profoundly aggressive condition since it has made a lot of finely-tuned business procedures and data frameworks that at the same time advance dexterity, productivity, and quality. It can react quickly to clients and changes in the commercial center as situations develop, while working intimately with providers and retailers”. As a feature of its progressing exertion to screen quality, effectiveness and costs, the administration of Toyota saw there was a chance to utilize data frameworks to improve business execution. Despite the fact that “innovation alone would not have given the arrangement, Toyota painstakingly overhauled its business procedures to help a work to-arrange creation model that put together vehicle generation with respect to genuine client arranges instead of "best conjectures" of client request”.

When that was practiced, Oracle e-business application was valuable for organizing the progression of data among divergent inside creation, requesting, and invoicing frameworks inside the organization and with frameworks of retailers and providers. This brought about Toyota fabricating just the autos clients have requested, its vehicle request the board framework lessens stock expenses, on the grounds that the organization and its sellers don't need to pay for making and putting away vehicles clients did not need. The framework additionally builds consumer loyalty by making it simpler for clients to purchase precisely the model, make and alternative they want. Data given by the framework enables the board to screen patterns and conjecture request and generation necessities all the more precisely. The framework makes an incentive for Toyota by making its requesting and creation forms increasingly productive and viable. Electronically coordinating key business forms in vehicle requesting and stock administration has made this organization substantially more light-footed and versatile to client requests and changes in its provider and seller network. According to Beckey, Elliot, & Procket (1996); McNutt, & Boland (1999), "The impact of Information Technology on organizations' services, strategy and performance has been examined by many studies". Mano (2009) explains that, "Although most of these studies have suggested that Information Technology plays a vital role in improving the quality and quantity of information, its potential for adoption and innovation is often uncertain". McAfee & Brynjolfsson (2008) explain that, "Different firms allocate their resources differently in a way that maximizes their objectives and those firms that allocate more resources on IT perform better than those firms that allocate less resources". Additionally, Mwanja & Muganda (2012) opines that, "Achieving high performance also requires good IT infrastructure supported by good IT management practice".

1.4. Organizational Strategy.

“An organizational strategy is the entirety of the exercises an association hopes to take to achieve whole deal targets”. Together, these exercises make up an association's key plans. Key plans take at any rate a year to complete the process of, requiring relationship from all association levels; Chandler (1962) states that, “Organization’s strategy can be defined as the establishment of the basic long-term objectives of an enterprise, and the adoption and commitment of resources to a course of action intended to obtain these corporate objectives”.

“Contingency theory contends that the mapping of causal relations between value-driving actions and firm performance depends on the strategic focus of the organization” (Fisher, 1995; Chenhall 2003). “There are basically two types of strategic positioning: differentiation and cost leadership” (Porter, 1980, 1997; Miller, 1986; Miller and Freisen, 1986; Dent, 1990; Simons, 1987; Govindarajan, 1988). Differentiation includes creating critical parts of an item to isolate it from its opponents. At any rate one thing works, for instance, brand picture and character, advancement and features, or customer organization and merchant mastermind, is made to an astonishing level and the resultant included worth seen by the customer justifies paying a higher price (Porter, 1997). Porter (1980), Phillips et al. (1983) opine that, “Differentiation by quality insulates a business from competitive rivalry by creating customer loyalty, lowering customer sensitivity to price, and protecting the business from other competitive forces that reduce price-cost margins” (). “Cost leadership involves the pursuit of economy and efficiency in all business operations with the aim of providing the product or service to the buyer at the lowest possible price” (Phillips et al., 1983). “Although the focus on cost does not preclude an attention to quality and detail, these are not the primary considerations” (Porter, 1997). Cost leadership may likewise include age of higher edges in respect to contenders by accomplishing lower assembling

and dissemination costs than contenders. Higher edges are thus reinvested in new assembling hardware and offices to keep up cost authority. Though separation improves cost edges by expanding request and costs, cost authority achieves the equivalent by decreasing expenses (Phillips et al., 1983).

1.5 Winmat Publishers Limited

“Winmat Publishers Ltd. (WPL)” is a limited liability company registered in 1996 as a publishing house under the Companies Act of Ghana 1963, and is effectively engaged with neighborhood distributing and the conveyance of Winmat productions. The organization is focused on the successful improvement of education in Ghana and West Africa.

WPL Company is under the management of a board of directors who are accountable to the shareholders. The day-to-day activities are run by a Managing Director directly supported by an Administrative, Accounts, Sales/Marketing, Warehouse and Publishing Managers.

WPL ensures that the book needs of individuals in all pieces of the nation and the sub-region are effectively taken care of. The company is at the bleeding edge of educational distributing in Ghana, Sierra Leone, Liberia, Gambia and is focused on the viable improvement of education in the West-African sub region.

Winmat Publishers Limited has been effectively engaged with creating neighborhood initiation aptitudes in exploratory writing as well as in different territories like education course readings also. The Company, occasionally, direct examination into territories where books are required. WPL then searches for neighborhood writers who are specialists in those branches of knowledge, commission them to compose, work in a joint effort with them in the readiness of the composition and distribute books to fill indispensable regions.

WPL collaborates with different subject affiliations and bodies in the planning of course books. For instance, in the planning of the SHS GAST Science Books, the Company worked in “Collaboration with the Ghana Association of Science Teachers”. (GAST). WPL has a solid base of highly qualified and experienced permanent and freelance staff in Ghana, Sierra Leone, Liberia, Gambia and overseas. These experts are readily available to assist in the production of materials to the highest standards. WPL currently has offices in Ghana and Sierra Leone, and operate in Liberia and the Gambia. Over the years, the Company has won tenders to supply textbooks, which has been executed successfully. Some of the leading clients of the company are the Ministry of Education, NGO’s like United State Department of Agriculture (USDA), Catholic Relief Service (CRS), Plan International, Action Aid, International Relief Committee (IRC) and World Vision International.

1.6 Rationale for the Study

The idea of execution has dependably been available in the board writing covering different viewpoints, for example, adequacy, proficiency, aggressiveness, significance and money related reasonability. “Organization’s performance represents the manner in which the company is organized to reach its objectives and the way it manages to reach them” (Marmouse, 1997). Throughout the years, Winmat Publishers Limited kept on developing as an association and this included an adjustment in its tasks and procedures. There has been an enormous development in the quantity of mechanical gadgets utilized by staff at Winmat Publishers Limited and speculations on information the board and correspondences frameworks. There is thusly the need to see whether that is contributing emphatically to the hierarchical exhibition consequently the quintessence of this exploration. Foreseen changes in hierarchical execution include decrease in

the length taken in preparing basic undertakings and disposal of dreary errands bringing about higher profitability and proficiency just as better and quality administration conveyance. Griffith (1999) states that, “Information technology researchers have empirically demonstrated that technology investments enhance firm’s productivity, management capabilities and comparative advantage”. Study within the developed world have verified that given the correct foundation, innovation can be an empowering influence for financial advancement. Kamel, Rateb & ElTawil (2009) explains that, “Examples given from the developed world where significant technological investments have had major impacts include increasing the United States gross domestic product (GDP) by 7.8%, UK by 8.0%, Singapore by 8.3% and Australia by 8.4%”. Delineations of concentrates done on “the effect of innovation on authoritative execution included; an examination on the impact of data innovation (IT) on firm performance (FP) and organizational structure (OS)” by Farhanghi et al (2013). Their results showed that Information Technology has a direct and indirect impact on organizational performance. According to their study, Organizational structure is found to have a direct effect on organizational performance. Finally, they also alluded to the effect that Information Technology has a direct effect on Organizational structure in that Information Technology has likewise improved profitability and expanded worth production of associations. Ali, Abbas & Reza (2013) explains that, “Information Technology is important for a firm's growth and survival in the sense that it serves as an integral part and fundamental to support, sustain and grow a business”.

Mahmood and Mann (2005) presumed that “companies which invest more in information technology appear to achieve a higher level of performance and productivity”. “Information technology is valuable in the sense that potential benefits range from flexibility and quality improvements to cost reduction and productivity enhancement” (Melville et al., 2004). Utilizing

computerized information gainfully and satisfactorily influences an association's landing on arrangements and bit of the pie. Associations with high information technology capability examinations have nitty gritty higher benefit for arrangements than associations with low adequacy assessments. Associations with high information development sufficiency assessments in like manner extended their bit of the pie more than associations with low suitability appraisals. Hosseini, 2005 states that, "Low information technology effectiveness resulted in lost market share". Further, "a study by Mahmood and Mann (2005) presumed that computer capital and information technology labor spending contribute to a firm's return on investment". They additionally demonstrated that "powerful partnerships are spending more on information technology and have better data innovation foundations". These computerized information frameworks build up a medium where data can be better disseminated as the two chiefs and workers can be increasingly beneficial in a situation that advances open access of information.

- i. "IT labour produced substantial high returns in organizational performance" (Pourmirza, 2006). Comparative investigations that were done to conceal some light regarding the matter under examination included; Gakuo (2011) who led an examination on "the impact of ICT at Nairobi Water and Sewerage Company" and saw that its ventures considerably expanded the normal hierarchical presentation in accomplishing different achievements, generally speaking income increase, improving innovative work and product advancement. Even though there have been several studies bordering on technology and organizational performance, most of these investigations have not exactly given definite experiences and examination of the issues that are tended to in this examination in this way leaving a learning hole with respect to the impact of computerized information on organizational strategy

and performance. The purpose of this study is to determine the meaning of technology at Winmat Publishers Limited and understand how technology affects (a) departmental, (b) team and (c) individual performance so as to ascertain the variations in the aforementioned. In particular, the following research question is to be addressed; what is the influence of technology on organizational performance?

1.7 Objectives of the Study

The objectives of this study are to;

1. Find out the meaning of technology at Winmat Publishers Limited.
2. Understand how technology affects (a) Departmental performance, (b) team performance and(c) individual performance at Winmat Publishers Limited.
3. Ascertain the variations in departmental performance as well as team and individual performance.

1.8 Research Questions

1. What is the meaning of technology at Winmat Publishers Limited?
2. How does technology affect (a) Departmental performance, (b) team performance and(c) individual performance at Winmat Publishers Limited?
3. What are the variations in departmental, team and individual performance?

1.9 Significance of the Study

It is my fervent hope that the management of Winmat Publishers Limited will utilize the discoveries of this investigation as the measuring stick whereupon to audit association execution and essential upgrades distinguished will be embraced to improve execution at the work spot and

increment tasks effectiveness. Once more, it is likewise trusted that the discoveries of the examination will be utilized by human asset the executives to support worker execution. Further, it is my conviction that this study will be of immense significance to associations in distinguishing unexploited chances in information technology systems and tools, and identify regions of wastage with respect to these assets, put in control mechanism and in this manner save money on expenses. Furthermore, it is additionally my expectation that the discoveries of this examination will be helpful to associations and organizations with respect to creating methodologies for embracing innovation effectively. More importantly, analysts may profit by the examination as it includes to the developing pool of learning in Information Technology and in that capacity will fill in as a wellspring of reference for different investigations to be done as for technology. On the basis of the aforementioned, this study seeks to bridge the current scholastic gap via doing an examination because of technology on performance and organizational strategy.

CHAPTER TWO

LITERATURE REVIEW

2.1. Technology and Organisations

Publishing associations have generally contributed altogether to a nation's future, particularly in the educational sector. Notwithstanding, to proceed with this work adequately in the present mechanical age, they need the technology as well as the abilities to utilize and pick up an incentive from applications from which the advancements have empowered. Besides, “they require opportune access to 'business sectors' to empower the sharing and spread of the data and information acquired”. The greater part of the publishing organizations embrace the customary (manual) techniques by utilizing PCs for word handling, spreadsheet and bookkeeping applications, and dealing with an interwoven of old and new components that frequently don't function admirably together. Most Publishing associations face a few requirements that repress them from embracing technology. These inhibitors incorporate absence of spending plan to put resources into the best in class systems and technology devices, absence of supportable capital for interest in technology, a powerlessness to pay focused pay rates to specialized work force, and failure to fabricate the required specialized abilities. Funds of publishing firms are for the most part committed to accomplish the association's main goal, objectives, and arranged exercises, (Hacker, and Saxton, 2007), “while a similarly low extent of the financial backing is coordinated to general technology backing or staff's proficient advancement”. Nitterhouse (1999) explain that, “Lack of such IT budgetary planning or IT strategic planning impacts the organization’s ability to take advantage of the strategic and innovative opportunities provided by

IT”. In associations “there are those variables which impact an organizations' IT selection including foreseen advantages and boundaries”. Brynjolfsson & Hitt (2006) added that, “An organization will adopt the new technology if it perceives there will be savings of inputs, general efficiency, gains, higher flexibility and improvement of product quality”. Heinz (2002) also opined that, “A firm will often fail to adopt the new technology if it perceives that it is faced with unfavorable financial conditions, human capital restrictions (e.g. lack of IT specialists and multi-skilled workers), information and knowledge barriers and managerial barriers like resistance to the new technology within the firm”.

2.2 Technology and Business Processes

The ongoing advancements on information technology have colossal ramifications on the activity, structure and procedure of associations. “The competitiveness of future economies will, to a great extent, depend both on the development and application of these technologies” (Evans & Wurster, 2007). The multiplication of the World Wide Web constrained most associations to reevaluate the manner in which they work together and how they can reengineer their business forms. Dennis, 2007 states that, “As businesses can now interact more efficiently, competent businesses become digital and networked, facing a whole range of fresh opportunities and challenges”. “Technology has already revolutionized a wide range of functions including business functions, external environment monitoring, communicating with partners and with consumers at large” (Bocij, 2003). Clear key objectives and responsibility are essentials for the advancement of a suitable web based business technique and the improvement of sites and other innovative arrangements. Evans & Wurster, (2007) concluded that, “The emergent mobile technologies and mobile commerce are expected to change drastically a number of industries and to force organisations to reconsider their strategic management”.

2.3 The Role and Use of Technology in Organisations

Inside the global network, the aggregate specialized framework of equipment, programming, and media communications is regularly alluded to as information and communication technology (ICT). Numerous associations see technology as a significant device to advance activities and lead data trades. According to Porter (2001), “Technology can provide powerful strategic and tactical tools for organizations, which, if properly applied and used, could bring great advantages in promoting and strengthening their competitiveness”. IT tends to be a method for encouraging correspondence and the trading of data or potentially encouraging learning sharing between different divisions and capacities in the association. Additionally, Scott (2001) opined that, “In this light IT can act as an enhancer of collaboration and a networking tool amongst employees, customers and partners because it removes the barriers to real-time communication and effective information sharing”. Diem (2007) also added that, “IT helps organisations innovate through fusion of new technologies with society and business thus enabling the creation of new knowledge and discovery”. Hagen (2010) presumed that, “IT is being used by organizations to improve performance, communication, motivate employees, increase competitiveness, improve market dynamics, and repositioning the company against its competitors facilitating entry into new markets”.

2.4 Technology and Productivity - Productivity Paradox

“Productivity is the fundamental measure of a technology’s contribution. While major success stories exist, so do equally impressive failures” (Kemerer & Sosa, 1991; Schneider, 1987). “The absence of precise quantitative measures for the yield and worth made by information

technology has made information systems director's activity of assessing speculations especially troublesome". Scholastics have had comparative issues evaluating "the commitments of new innovation, and some of the time this has been translated as a negative sign of its worth". During the 1980s and mid-1990s, "disillusionment in information technology was chronicled in articles uncovering expansive negative relationships with economy-wide profitability and data specialist efficiency". A few econometric gauges additionally demonstrated low IT capital profitability in an assortment of assembling and administration businesses. All the more as of late, scientists discovered positive connections between IT speculation and different proportions of monetary execution. Strassmann (1985) announced baffling proof in a few examinations. Specifically, he found that "there was no relationship among's IT and rate of profitability in an example of 38 administration segment firms: some top entertainers put intensely in IT, while others didn't". In his later book (1990), he reasoned that "there is no relation between spending for computers, profits and productivity". An examination by Parsons, Gottlieb and Denny (1990) assessed a creation work for banking administrations in Canada and found that by and large; the effect of IT on multifaceted efficiency was very low somewhere in the range of 1974 and 1987. They theorized that IT had situated the business for more prominent development later on. Comparable ends were come to by Franke (1987), who found that "IT was related with a sharp drop in capital efficiency and stagnation in labor profitability, however stayed idealistic about its future capability, referring to the long time slacks related with past "technological transformations" for example, the change to steam control". Harris and Katz (1991) and Bender (1986) took a gander at "information on the protection business from the Life Office Management Association Information Processing Database". They found a positive connection between IT cost proportions and different execution proportions in spite of the fact that now and again the

relationship was very frail. Alpar and Kim's (1991) investigation of 759 banks demonstrated cost diminishing impacts of IT. A 10% expansion in IT capital was related with 1.9% decline in complete expenses. IT commitment to yield and profitability is recorded in a few significant examinations, yet whether this yield development is helpful to benefits and market worth isn't yet clear. Likewise, a few specialists and scientists still accept that “the full power of the computer in increasing national productivity has not yet unfolded.” In this sense, the efficiency oddity still anticipates clarification.

2.5 Technology and Performance of Organisations

Bird & Lehrman (1993) reason that, “In the 1960's and 70's, information technology was widely employed by many firms mainly for achieving routine clerical and administrative activities such as processing data related to bookkeeping and accounting activities”. Additionally Blili & Raymond (1993) stated that, “It was used as a monitor of the firm's internal and external environment; in other words, as a support factor for the other organisational system components”. In any case, the cost, the appropriation, and the way that it was commonly connected to just straightforward errands in its beginning periods disheartened its application to vital uses in territories, for example, upgrading the association's situation against rivals, moving into new markets, and giving directors better information for successful basic leadership. Bird & Lehrman, 1993 opined that, “The advancement in the technological field along with other advancements have enhanced the economies of information technology and greatly expanded its applications”. Today, “information technology has turned out to be not just an instrument to process information and record exchanges, yet in addition a focused weapon that can change an industry's structure”. “Because of the rapid pace of technological advances and the impact of information technology on the changing competitive environment, organisations are forced to

critically evaluate their management of information and technology resources in order to achieve their strategic objectives” (Galliers, 1994).

According to OECD (2003), “one of the strongest evidences of the impact of Information Technology has been illustrated as coming from the firm- level analysis that is confirmed to a number of developed countries”. Gretton, 2002 continues to say that, “Most of these studies use a combination of growth accounting methods and econometric models to examine samples of industries and firms”. For instance, concentrating firm-level information from the Australian Business Longitudinal Survey, discovered positive and noteworthy connections between its utilization and development in both assembling and administration industry. “Investigating US firm-level data, proved that IT has a solid impact on productivity” (Brynjolfsson & Hitt, 2003). Furthermore, in an investigation by Pilat and Wolfl (2004) to look at “the job of key ICT-consumer sectors and ICT-producers areas in clarifying by and large profitability development in OECD (Organization for Economic Co-task and Development) nations; they found that the effect of ICT-maker segments is most noteworthy in Finland, Ireland, and Korea though ICT-buying divisions in certain nations, strikingly US and Australia, had a great development in the second 50% of the 1990s”. Further, (Hempell, 2004) additionally examined “tantamount board information of the Dutch and German firms in the administration business and found that ICT capital developing and advancement have integral effect on efficiency”. In addition, “The Massachusetts Institute of Technology bunch in 1991 inferred that data innovation is the stage on which achievement can be constructed however hierarchical elements are critical to understanding the advantages of computerization and 'informating' process” (Morton, 1991; Zuboff, 1988). Information technology can be viewed as a progression of advancements. Despite the fact that the developments furnish association with new and various methods for taking care

of issues and improving execution, there is still a lot of research to be done on talk among scientists and authoritative scholars on how advancements ought to be actualized and oversaw and how they influence associations on various levels. “It is broadly acknowledged among numerous creators and scientists in the hierarchical field that IT significantly affects the exhibition of the association's exercises” (Bhattacharjee & Hirschheim, 1997; Morris & Westbrook, 1996; Porter & Millar, 1985). For instance, “information technology applications can be utilized to improve the degree of proficiency of authoritative capacities in an association and to upgrade the viability of administrative exercises”. These applications can likewise be utilized as apparatuses to better association on errands and to give better data to supervisors. Zuboff (1988) brought up that “information technology applications are firmly changing the manner by which generation tasks are completed in an assortment of ventures and in this manner utilizing innovation to make and gain an upper hand”.

2.6 Technology Acceptance Theories

The investigation will depend on theoretical models to decide the influence of technology on organisation performance. Despite the fact that there are different speculations that endeavor to anticipate the effect of technology on human conduct, in any case, this examination will make a survey of writing on three hypotheses.

The examination will along these lines depend on; “Model of the organisation (Leavitt, 1965)”, “the Technology Acceptance Model (Davis et al., 1989)” as well as “the Theory of Reasoned Action (TRA)” and “Theory of Planned Behavior (TPB)” since they are best known and utilized concerning systems of information technology.

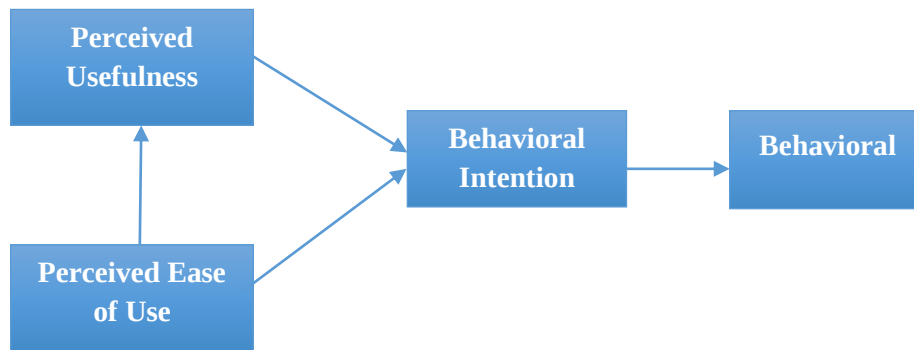
Carvalho (2006) says that “in the writing in Computer Science are ordinary the investigations gone to the specialized parts of systems; then again, Information Science came to change this methodology, giving more significance to the powerful utilization of frameworks and of the quality traits seen by the clients”. “To comprehend why individuals reject or use PCs ended up a standout amongst the most testing topics in inquires about the information systems” (Davis; Bagozzi; Warshaw, 1989). Silva (2006) features “the significance of not just having a specialized view, what implies, to guide the considerations to the prerequisites offered by innovation, to comprehend the utilization of data innovation, yet to look to grasp the conduct of who will utilize it”.

2.6.1 Technology Acceptance Model (TAM)

“The Technology Acceptance Model, widely known as (TAM), was proposed by Davis (1989), being an adjustment of the Theory of Reasoned Action (TRA) model”. In any case, as per Davis (1989), for being so widespread, “the TRA was changed explicitly, to make models of acknowledgment in information technology, as in the particular instance of TAM”. According to Davis; Bagozzi; Warshaw, (1989), “The intention of the development of the model TAM resulted from an IBM Canada contract with the Massachusetts Institute of Technology – MIT, in the 80 s to evaluate the market potential to new products of the brand and to make it possible an explanation of the determinants of computers use”. “Against this backdrop, the TAM to focus on the reason the users accept or reject the information technology and how to improve the acceptance, offering, this way, a support to foresee and explain the acceptance” (Davis, 1989). “A survey conducted in a group of 112 users at the Canada IBM and in 40 MBA students of Boston University” (Davis, 1989). According to Davis (1989) and SÁ (2006), “The validation of the TAM model was based in the acceptance of a software text editor”. Silva (2006) includes that

“Davis (1989) on this example discovered that the apparent use had higher effect on the conduct than the apparent office. The TAM has the upside of being explicit to data innovation and has a solid hypothetical base, other than the wide empiric help, as cases Davis (1989)”. The model TAM was intended to “appreciate the causal connection between outer factors of client's acknowledgment and the genuine utilization of computers, attempting to comprehend the conduct of this client through the utility learning and use office seen by him” (Davis, 1989). For Davis (1989) “the general population will in general use or not certain innovation with the target to improve his exhibition at work – perceived use”. In any case, “regardless of whether this individual comprehends that decided innovation is valuable, its utilization might be harmed on the off chance that it is excessively confounded, such that the exertion isn't advantageous the utilization – perceived office”. Davis (1989) presumed that, “the TAM is based basically in two constructs: the perceived utility and the perceived facility, seeing that both measured completely the effects of external variables, such as feature systems, development process, training, in the use intention”. “The expectation of this model is to speak to the effect of outer components identified with the data framework, under those internals of the person, as the mentalities and use aims” (Davis; Bagozzi; Warshaw, 1989; Davis 1989; Dillon; Morris, 1996; Lee et al., 2003; Venkatesh et al., 2003). Davis (1989) characterizes “the two primary determinants of TAM in the accompanying manner: Perceived utility – degree in which an individual accepts that the utilization of a specific framework may improve his presentation; Facility of perceived use – degree in which an individual accepts that the utilization of an information system will be free of exertion”.

Figure 1: Technology Acceptance Model (TAM)



Source: Davis (1989)

The Technology Acceptance Model diagram above proposes that “people will utilize a decided technology on the off chance that they accept that this utilization will give constructive outcomes, along these lines concentrating on the perceived usefulness and the perceived ease of use”.

As per the model, “the utilization of the information systems would be resolved basically by the use intention that the individual presents”. This, thusly, “would be resolved together by the individual use frame of mind in connection to the genuine utilization of the framework and by perceived usefulness, every one applying a relative weight”. This connection among disposition and goal recommends that “individuals structure expectations to perform activities to the ones they have a positive inclination”. Actually, “the connection between perceived usefulness and use intention depends on the possibility that, inside an authoritative setting, the general population structure aims in connection to practices which they accept will expand their execution at work”. The authors Davis, Bagozzi, and Warshaw (1989) presuppose that “the saved effort, due to the improvement in the perceived usefulness ease may be applied in other tasks, consequently allowing that one person carry out more work with the same effort, this way

having a direct effect in the perceived usefulness”. Perceived usefulness use has a causal effect in perceived usefulness. “The effects of external factors in the use intention are mediated by usefulness and ease” (Davis; Bagozzi; Warshaw, 1989; Dillon; Morris, 1996; Lee et al., 2003; Silva, 2005; Venkatesh et al., 2003).

Saleh (2004) explains that, “As the model is behavioral, it may refer only to questions related directly to the user and his perceptions about the system use”. Saleh (2004) elaborates more that, “So the concept should be developed in a way to capture personal opinions and treat assumptions in respect to third (persons or institutions)”. “This model is useful not only to prevent, but also to describe, in a way that researchers and professionals may identify the reason for not accepting a system or technology in particular by the users and, consequently, implement the appropriate corrective steps” (Davis; Bagozzi; Warshaw, 1989). “The TAM model has gotten hypothetical and observational help, through approvals, applications and imitates made by specialists and the information technology region experts”. Lee et al. (2003) directed “a meta-analysis of literature about the TAM and in general, found out that the model showed coherent results, keeping its efficacy in the explanation of technology acceptance by the users of information system, been applied in different technologies, as, for example, text processors, e-mail, internet, bank and hospital systems, as well as different situations (over time and cultures), with different control factors (sex, types, and organizational size) and different subjects (graduate and post-graduate students, and free professionals), which leads us to believe in its strength” (Gagnon; McCarthy, 2004; Hong et al., 2002; Lobler, 2006; Legris; Ingham; Collette, 2003; Lee et al., 2003; Mantzana, 2007; SÁ, 2006; Saleh, 2004; Silva, 2005). According to Lee et al. (2003) “a proof of the TAM popularity is that in specialized literature in the year of 1989, age of its validation, received 424 citations, the researchers obtained this information through the Social Science

Citation Index - SSCI, a citation index, edited since 1972, which presents the number of times in which an analyzed article was quoted at the journals covered by the index”.

The SSCI covers “the writing delivered in 2,500 titles of journals in excess of 50 disciplines, in the zones of Information Science and Librarianship, Psychology, among others”. The looks into identified with the selection of information technology, just as the assessments of their effects as significant exercises in the examination of information systems, whatever it manages authoritative settings or the general public. “Consequently, the companies and the society need to develop, not only a culture that is generally positive, but specific cultural characteristics which maximize the technology.

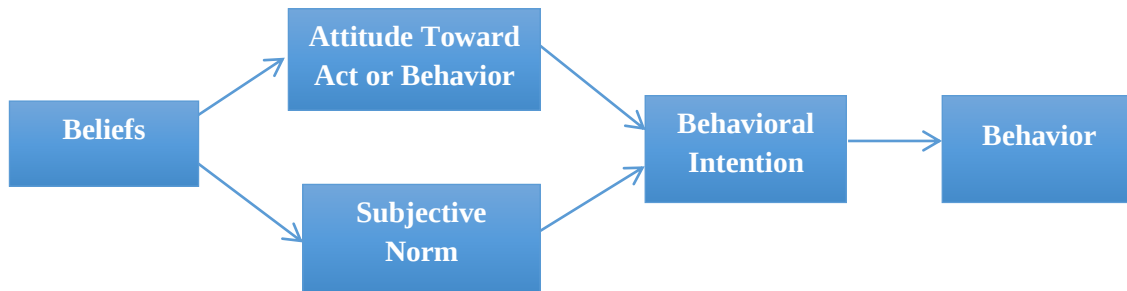
Use to the performance of their employees on daily basis” (McCoy; Galleta, 2007; Raitoharju, 2007; Saleh, 2004). Other than the significant examination body related to the reception of information technologies, despite everything it can't clarify every one of the wonders that are related to it. “Such fact is due to the complexity of adoption processes on one hand mainly because they involve persons and interfere with their perceptions of cognitive nature, the ones which not always govern themselves by the organizational interests (before are affected by matters of individual and cultural nature); and, on the other hand, due to the nature of strongly dynamic and evolutionary of information technologies, changing very fast the technological paradigms and creating new investigation fields” (Mccoy; Galleta, 2007; Raitoharju, 2007).

2.6.2 Theory of Reasoned Action (TRA)

According to Fishbein & Ajzen (1979), “The Theory of Reasoned Action (TRA) emanates from the social psychology that searches to identify the determinant factors of the consciously

intentional behavior”. Also Quintella and Pellicione (2006) opines that, “It defines the relations between beliefs, attitudes, norms, intentions and behavior, that is, a determined **behavior**, for example, technology use or rejection is the result of an **intention** in making the behavior, and this intention is influenced conjointly by the individual **attitudes**, been this attitude determined by beliefs and subjective norms in relation to the aimed behavior”. “For the elements that form the attitudes are the beliefs, that refer themselves to the information that the subject has about a determined object and the **subjective norms**, that is the perception of an external evaluation about adopting or not determined behavior” (Fishbein & Ajzen, 1979). According to the TRA, “the intention determines the effective behavior that refers to the observable acts” (Fishbein; Ajzen, 1979). Crafted by the TRA could be exemplified in the accompanying manner: “it is envisioned that a client who has the cognizant expectation to utilize a decided information system, subordinate from the utilization demeanor, which might be sure or antagonistic, trailed by emotional standards, which are alluded to the observation that the client has of the other individuals' conclusion”. According to Oliveira Júnior (2006) “the people choose to perform a behavior, even not agreeing with it and its consequences, in case they believe that a determined person thinks that this one should be his behavior and if they are motivated to please that person”. “The model was used to make accurate predictions of human choice in many situations as to vote in the elections and alcoholic drinks consumed, which found out that the theory adapted itself well in the prediction of choice among alternatives” (Dillon; Morris, 1996). The TRA model is illustrated by the diagram below.

Figure 2: Theory of Reasoned Action (TRA)



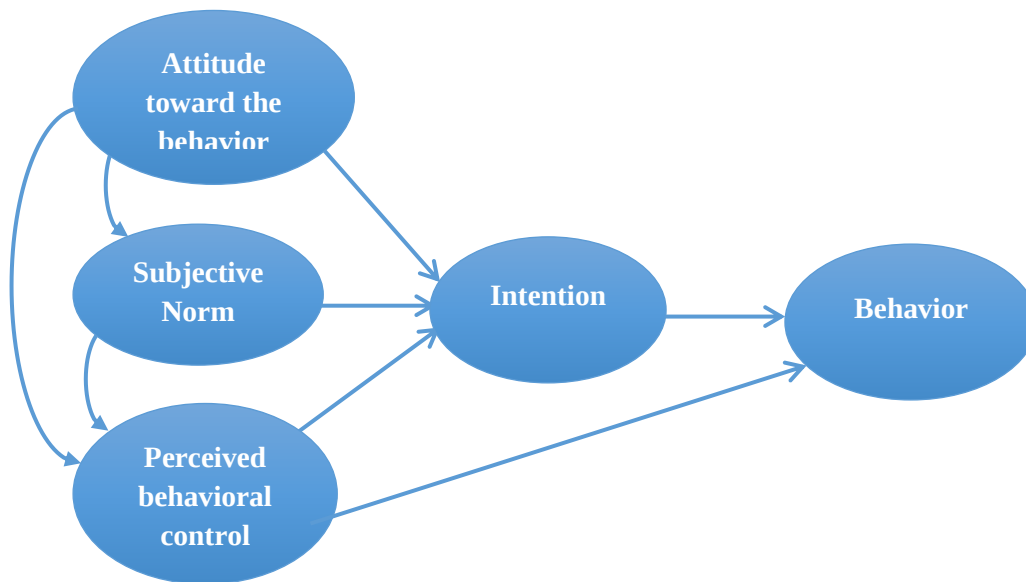
Source: Fishbein & Ajzen (1979)

The TRA thinks about that the general population act in a balanced manner, assessing what they need to lose and to win with the appearance of their mentalities. According to Fishbein and Ajken (1979), Davenport and Prusak (1998), “ideas, personal goals, values, beliefs and attitudes influence the behavior they emit at work; if they believe, for example, that to share knowledge will bring them benefits, they will tend to be favorable to the sharing”. Davis, Bagozzi & Warshaw (1989) add that, “The theory of reasoned action has already been widely researched and showed success in the prediction and explanation of human behavior in a variety of areas”. “For being so generalized and also for integrating various theoretical perspectives of psychology, before applied in researches of acceptance of information systems, the TRA should be perfectly appropriate for the study of the determinants of the use of the computer as a specific case to” (Davis, 1986).

2.6.3. Theory of Planned Behavior (TPB)

Dillon and Morris (1996) explain that, “More than a decade after the TRA, Ajzen (1991) proposed the Theory of Planned Behavior (TPB), which complements the TRA, aggregating to it more a construct intention of use: perceived behavioral control”. “The TPB is a theory designed to foresee and explain the human behavior in specific context, for example, in information systems. The perceived behavioral control reflects the belief about the access to the resources and to the necessary opportunities to perform determined behavior” (Ajzen, 1991; Oliveira Júnior, 2006). As general principle, the more grounded the goal to engage in a conduct, the more plausible its presentation. “The behavior intention is reflected in the behavior if the person decides on his own will to adopt or not the behavior, what means, by the perceived control that he has about the desired behavior” (Ajzen, 1991). The conduct is the result of a progression of intellectual and full of feeling occasions went before ordinarily by the cognizant goal of acting. To have a superior cognizance about the TPB, it very well may be watched, from an auxiliary graph, the similitude that “this Theory has with the TRA, as previously mentioned just varying by the develop perceived behavioral control”.

Figure 3: Theory of Planned Behavior(TPB)



Source: Ajzen (1991)

In furtherance of the aforementioned Technology Acceptance Theories, “there is the need to see how the understudy and extern may influence the capacity of an association in receiving and utilizing information technology”. The acknowledgment is a basic factor to the accomplishment of the data innovation. In perspective on this, “the TAM, TRA and TPB objectives are to give a conventional base to examine the data innovation acknowledgment determinants, which can clarify the client conduct through a wide scope of computational advancements and client populace and in the meantime being hypothetically defended”. Davis, Bagozzi and Warshaw (1989) opine that, “These models are useful not only to foresee, but also to describe, in a way that researchers and professionals may identify the reason for not accepting a system or technology in particular and, consequently, implement the corrective adequate steps”. The procedures of the acknowledgment of technology, “as reflected at the TAM, TRA and TPB”, are

progressively significant in the associations consistently. Thusly, the conduct and acknowledgment factors should be very much understood, to dodge squanders and the exertion of an incredible number of scientists who build up the information technology.

2.6.4. Model of the Organisation

According to Leavitt (1965), “The research theoretical framework to be applied in this study is based on the model of the organization”. He proposed that “an association comprises of four interrelated segments: structure, task (procedure), individuals, and innovation”. “Organisation's structure refers to systems of communication, systems of authority, and systems of workflow; organization's strategy can be defined as the establishment of the basic long-term objectives of an enterprise, and the adoption and commitment of resources to a course of action intended to obtain these corporate objectives” (Chandler, 1962); “People refers to individuals working in the organisation and; Technology can be defined as the tools, techniques, and actions used to transform organisational inputs into outputs” (Daft, 1995). “If any of the four components changes, the other three must also change” (Leavitt, 1965). It is the collaboration between these four parts that decides the destiny of an association. This structure has been decided for this investigation since “it covers numerous basic issues that could lead us to a thorough comprehension of the connection between information technology and associations”. This examination centers around the effect of data innovation on the association which is a piece of the technology segment, and organizational attributes.

2.7 Empirical Literature

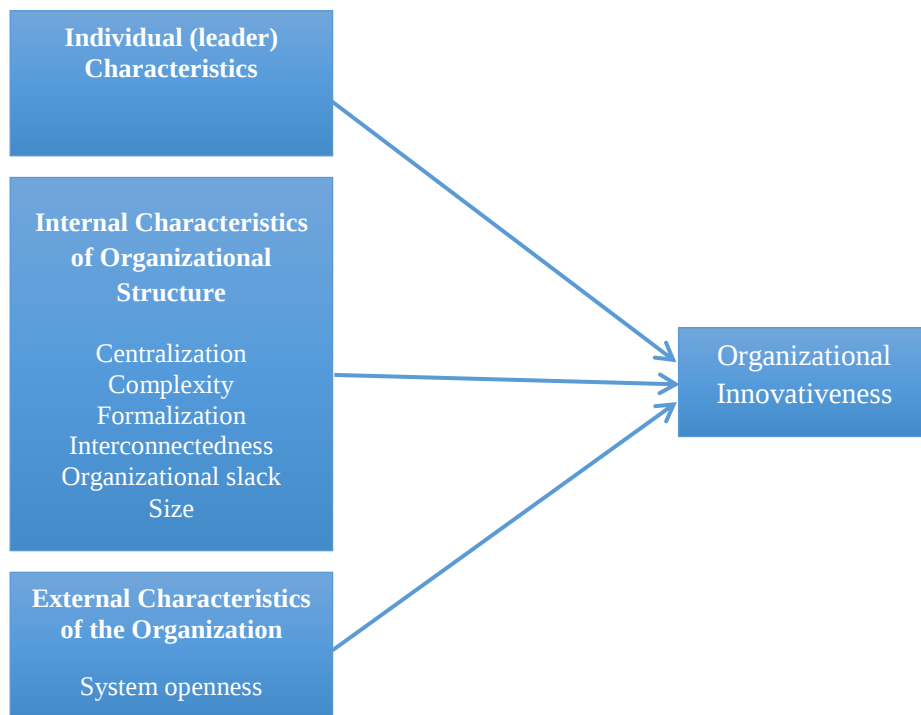
Concerning the examination, “the scientists explored hypotheses for appropriation models at the firm level utilized in data frameworks (IS) writing and talked about two conspicuous models”. Rogers (1995) reported that, “The two models reviewed are: diffusion of innovation (DOI)”; According to Tornatzky and Fleischer (1990) “and the technology, organization, and environment (TOE) framework”, Chong et al. (2009) explain that, “Since most studies on IT adoption at the firm level are derived from theories such as these two”. The scientists displayed “a broad investigation of the TOE system, breaking down the examinations that utilized just this hypothesis and the investigations that consolidate the TOE structure with different speculations, for example, DOI, and the institutional hypothesis”.

2.7.1 Diffusion of Innovation (DOI)

DOI is “a hypothesis of how, why, and at what rate new thoughts and technology spread through societies, working at the firm and individual level”. According to Rogers (1995), “DOI theory sees innovations as being communicated through certain channels over time and within a particular social system”. Rogers (1995) adds that, “Individuals are seen as possessing different degrees of willingness to adopt innovations, and thus it is generally observed that the portion of the population adopting an innovation is approximately normally distributed over time”. Rogers (1995) continues that, “Breaking this normal distribution into segments leads to the segregation of individuals into the following five categories of individual innovativeness (from earliest to latest adopters): innovators, early adopters, early majority, late majority, laggards”. The innovation process in organizations is much more complex. According to Rogers (1995), “It generally involves a number of individuals, perhaps including both supporters and opponents of

the new idea, each of whom plays a role in the innovation-decision”. Rogers (1995) states that, “Based on DOI theory at firm level, innovativeness is related to such independent variables as individual (leader) characteristics, internal organizational structural characteristics, and external characteristics of the organization. (a) Individual characteristics describe the leader attitude toward change. (b) Internal characteristics of organizational structure includes observations according to Rogers (1995) whereby”: “centralization is the degree to which power and control in a system are concentrated in the hands of a relatively few individuals”; “complexity is the degree to which an organization’s members possess a relatively high level of knowledge and expertise”; “formalization is the degree to which an organization emphasizes its members’ following rules and procedures”; “interconnectedness is the degree to which the units in a social system are linked by interpersonal networks”; “organizational slack is the degree to which uncommitted resources are available to an organization”; “size is the number of employees of the organization”. (c) External characteristics of organization refer to system openness.

Figure 4: Diffusion of Innovation



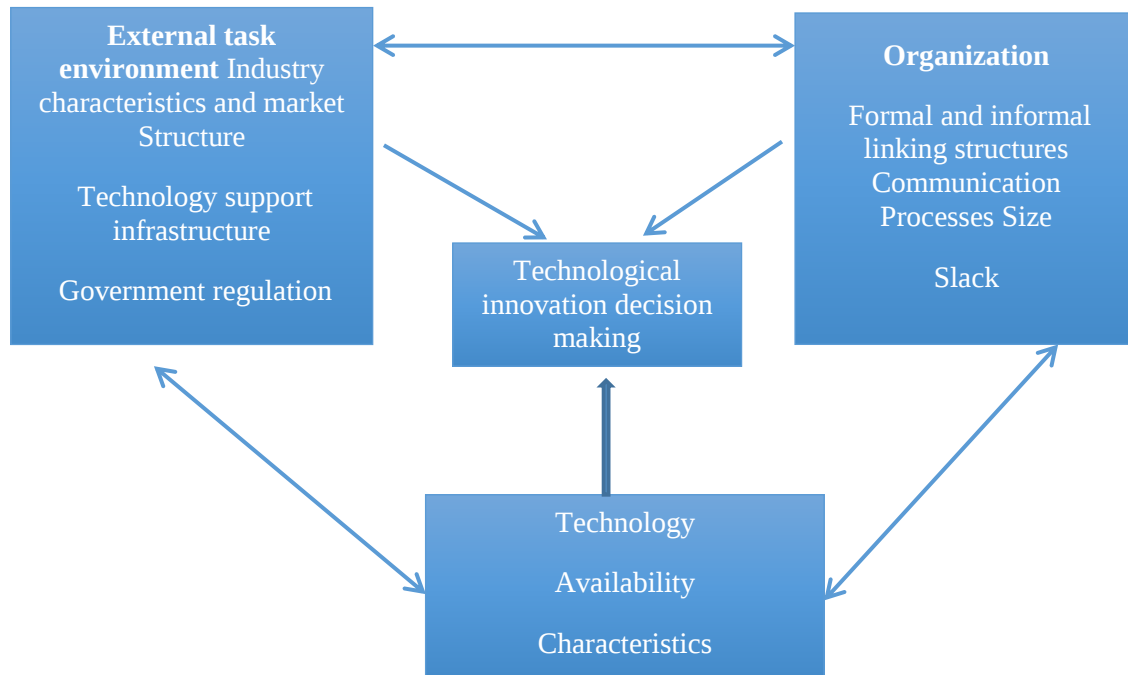
Source: Rogers (1995)

2.7.2 Technology, Organization, and Environment Context

According to Tornatzky and Fleischer (1990), “The TOE framework was developed in 1990”. Tornatzky and Fleischer (1990) elaborates that, “It identifies three aspects of an enterprise’s context that influence the process by which it adopts and implements a technological innovation: technological context, organizational context, and environmental context, (a) Technological context describes both the internal and external technologies that are relevant to the firm”. Starbuck 1976 adds that, “This includes current practices and equipment internal to the firm, as well as the set of available technologies external to the firm” (Thompson 1967, Khandwalla 1970, Hage 1980). Tornatzky and Fleischer 1990 concludes “(b) Organizational context refers to descriptive measures about the organization such as scope, size, and managerial structure. (c)

Environmental context is the arena in which a firm conducts its business—its industry, competitors, and dealings with the government”.

Figure 5: Technology, Organization, and Environment Framework



Source: Tornatzky and Fleischer (1990)

“The TOE structure as initially displayed, and later adjusted in IT reception thinks about, gives a helpful explanatory system that can be utilized for contemplating the selection and osmosis of various sorts of IT advancement”. The TOE structure “has a strong hypothetical premise, steady exact help and the capability of utilization to IS development spaces, however explicit variables recognized inside the three settings may shift crosswise over various investigations”. This system is reliable with the DOI hypothesis, in which Rogers (1995) accentuated “singular attributes, and both the inside and outer qualities of the association, as drivers for hierarchical ingenuity”. These are indistinguishable from “the innovation and association setting of the TOE system; however the TOE structure additionally incorporates another and significant part, condition setting”.

Nature setting presents the two restrictions and open entryways for mechanical headway. Hsu et al. (2006) states that, “The TOE framework makes Rogers’ innovation diffusion theory better able to explain intrafirm innovation diffusion”. Thus, the next Section analyses the studies that adopted TOE framework.

Empirical Literature of the TOE Framework

With regards to the above, “the researchers thoroughly analysed the TOE framework and presented an exhaustive description of studies that draw on this theory and discussed the relevant papers that used only the TOE framework as a theoretical model as well as a few papers that consolidated the TOE structure with other hypothetical models”.

“Several authors used only the TOE framework to understand different IT adoptions”, such as: Kuan and Chau (2001) states “electronic data interchange (EDI)” ; Chau and Tam (1997) adds “open systems” ; Oliveira and Martins (2008) includes “web site” ; “e-commerce” (Liu 2008, Martins and Oliveira 2009, Oliveira and Martins 2009); Pan and Jang (2008) add “enterprise resource planning (ERP)” ; Teo et al. (2006) include “business to business (B2B) e-commerce”; “e-business” (Zhu et al. 2003, Zhu and Kraemer 2005, Zhu et al. 2006b, Lin and Lin 2008, Oliveira and Martins 2010a); Lee et al. (2009) opine “knowledge management systems (KMS)”. The factors investigated, strategies utilized, information, and setting of experimental examinations are introduced below.

Table 1: Studies Based only on Tornatzky and Fleischer (1990)

IT Adoption	Analysed Variables	Methods	Data, and context	Author(s)
EDI	Technological context-perceived direct benefits; perceived indirect benefits. Organizational context - perceived financial cost; perceived technical competence. Environmental context - perceived industry pressure; perceived government pressure.	Factor analysis (FA), and Logistic regression	Letter with questionnaires was sent; 575 small firms Hong Kong	(Kuan and Chau 2001)
Open systems	Characteristics of the “Open Systems Technology” Innovation -perceived Benefits; perceived barriers; perceived importance of compliance to standards, interoperability, and Interconnectivity. Organizational technology - complexity of IT infrastructure; satisfaction with existing systems; formalization of system development and management. External environment - market uncertainly.	T-test, FA, logistic regression	Face-to-face interview, 89 firms Hong Kong	(Chau and Tam 1997)

Table 1: Studies Based only on Tornatzky and Fleischer (1990) Continued

IT Adoption	Analysed Variables	Methods	Data, and context	Author(s)
Web site	Technological context - technology readiness; technology integration; security applications. Organizational context - perceived benefits of electronic correspondence; IT training programmes; access to the IT system of the firm; internet and email norms. Environmental context - web site competitive pressure. Controls - Services sector	Multiple correspondence analysis (MCA), and probit model	3155 small and 637 large firms Portuguese	(Oliveira and Martins 2008)
Website E-commerce	Technological context -technology readiness; technology integration; security applications. Organizational context – perceived benefits of electronic correspondence; IT training programmes; access to the IT system of the firm; internet and email norms. Environmental context - web site competitive pressure; E-commerce competitive pressure. Controls -Services sector.	MCA, and probit model	2626 firms Portuguese	(Oliveira and Martins 2009)

Table 2: Studies based only on Tornatzky and Fleischer (1990)

IT Adoption	Analysed Variables	Methods	Data, and context	Author(s)
Internet Web site E-commerce	Technological context -technology readiness; technology integration; security applications. Organizational context -perceived benefits of electronic correspondence; IT training programmes; access to the IT system of the firm; internet and email norms. Environmental context - internet competitive pressure; web site competitive pressure; e-commerce competitive pressure. Controls - Services sector	MCA, and logit model	3155 small firms Portuguese	(Martins and Oliveira 2009)
E-commerce development level (0-14)	Technological - support from technology; human capital; potential support from technology. Organizational - management level for information; firm size. Environmental - user satisfaction; ecommerce security. Controls - firm property	FA and OLS	e-mail survey, online survey and telephone interview during 2006; 156 firms. Shaanxi, China	(Liu 2008)

Table 2: Studies based only on Tornatzky and Fleischer (1990) Continued

IT Adoption	Analysed Variables	Methods	Data, and context	Author(s)
ERP	Technological context - IT infrastructure; technology readiness. Organizational context -size; perceived barriers. Environmental context - production and operations improvement; enhancement of products and services; competitive pressure; regulatory policy	FA, and Logistic regression	Face-to-face interview, 99 firms. Taiwan	(Pan and Jang 2008)
Deployment of B2B e-commerce: B2B firms versus nonB2B firms	Technological inhibitors - unresolved technical issues; lack of IT expertise and infrastructure; lack of interoperability. Organizational inhibitors -difficulties in organizational change; problems in project management; lack of top management support; lack of ecommerce strategy; difficulties in cost-benefit assessment. Environmental inhibitors - unresolved legal issues; fear and uncertainty.	FA, t-tests and discrimination analysis	249 firms North America and Canada	(Teo et al. 2006)

Table 2: Studies based only on Tornatzky and Fleischer (1990) Continued

IT Adoption	Analysed Variables	Methods	Data, and context	Author(s)
E-business	Technology competence - IT infrastructure; e-business know-how. Organizational context - firm scope, firm size. Environmental context - consumer readiness; competitive pressure; lack of trading partner readiness. Controls (industry and country) Technological context -technology competence. Organizational context - size; international scope; financial commitment.	Confirmatory factor analysis (CFA), second order factor modelling, logistic regression, and cluster analysis (CA) CFA, second order factor modelling, and SEM	Telephone interview during 2000; 3552 firms European (Germany, UK, Denmark, Ireland, France, Spain, Italy, and Finland) Telephone interview during 2002, 624 firms across 10 countries Developed (Denmark, France, Germany, Japan, Singapore, U.S.) and developing (Brazil, China, Mexico and Taiwan) countries	(Zhu et al. 2003)
E-Business usage	Environmental context -competitive pressure; regulatory support. e-Business functionalities - front-end functionality; back-end integration.			

Table 2: Studies based only on Tornatzky and Fleischer (1990) Continued

IT Adoption	Analysed Variables	Methods	Data, and context	Author(s)
E-Business initiation E-Business adoption E-Business reutilization	Technological context -technology readiness; technology integration. Organizational context - firm size; global scopes; trading globalization; managerial obstacles Environmental context - competition intensity; regulatory environment	CFA, and structural equation modelling (SEM)	Telephone interview during 2002, 1857 firms across 10 countries Developed (Denmark, France, Germany, Japan, Singapore, U.S.) and developing (Brazil, China, Mexico and Taiwan) countries	Zhu et al. 2006b)
E-business	Technological context -technology readiness; technology integration; security applications. Organizational context -perceived benefits of electronic correspondence; IT training programmes; access to the IT system of the firm; internet and email norms. Environmental context - web site competitive pressure Controls - Services sector	T-test, FA, and CA	Telephone interview during 2006, 6964 firms across 27 countries UE27 countries	Oliveira and Martins 2010a)

Table 2: Studies based only on Tornatzky and Fleischer (1990) Continued

IT Adoption	Analysed Variables	Methods	Data, and context	Author(s)
Internal integration of e-business External diffusion of use of e-business	Technological context - IS infrastructure; IS expertise. Organizational context - organizational compatibility; expected benefits of e-business. Environmental context - competitive pressure; trading partner readiness.	CFA, and SEM	e-mail survey during 2006; 163 large firms Taiwan	(Lin and Lin 2008)
KMS	Technology aspect - Organizational IT competence; KMS characteristics (compatibility, relative advantage and complexity). Organizational aspect - top management commitment; hierarchical organizational structure. Environmental aspect - With external vendors; among internal employees.	Not empirical work	Not empirical work. Chinese	(Lee et al. 2009)

Studies that Combined the TOE Framework with Other Theories

According to Thong 1999, Gibbs and Kraemer (2004), Hsu et al.(2006), Zhu et al. (2006), Li (2008), Soares-Aguiar and Palma-DosReis (2008), Chong et al. (2009) and Oliveira and Martins (2010) “Some authors used the TOE framework with other theories to understand IT adoption”. Studies consolidating the TOE system and DOI speculations incorporate that of Thong (1999) which joins CEO attributes from DOI to the TOE structure. “Innovation attributes (relative advantage, compatibility, and complexity) from DOI and an additional new factor in the adoption study called information sharing culture characteristics to the TOE framework” (Chong et al., 2009). Zhu et al. (2006a) “combined relative advantage, compatibility, cost, and security concern from DOI with the TOE framework”. Wang et al. (2010) includes “relative advantage, complexity, and compatibility from DOI to the TOE framework”.

2.8 Institutional Theory

Scott and Christensen (1995) & Scott (2001) state that, “Institutional theory emphasizes that institutional environments are crucial in shaping organizational structure and actions”. In light of the institutional theory, “organizational decisions are not driven purely by rational goals of efficiency, but also by social and cultural factors and concerns for legitimacy. Institutions are transported by cultures, structures, and routines and operate at multiple levels”. DiMaggio and Powell (1983) explain that, “The theory claims that firms become more similar due to isomorphic pressures and pressures for legitimacy”. “This implies firms in a similar field will in general become homologous after some time, as forceful and customer loads impel them to copy industry pioneers”. For example, “rather than choosing a just inside driven decision to grasp web

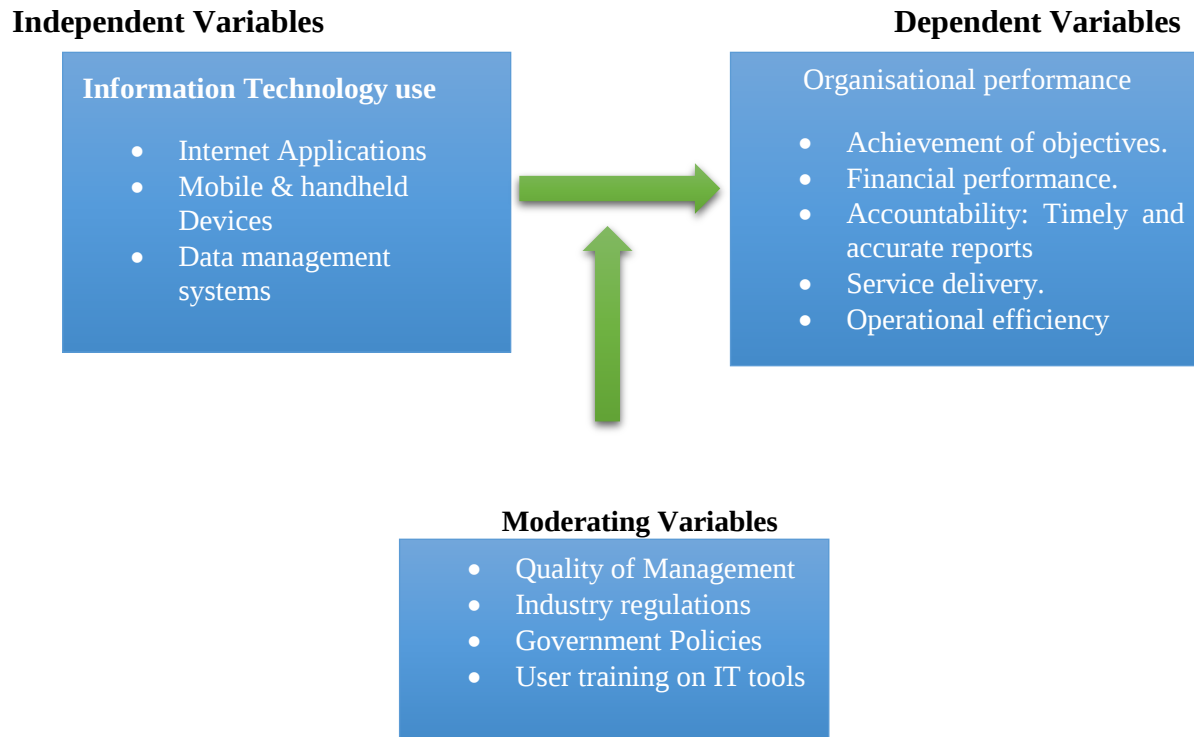
business, firms are most likely going to be incited to get and use online business by outside isomorphic loads from contenders, trading associates, customers, and government”. Purvis et al. (2001), Chatterjee et al. (2002) & Teo et al. (2003) state that, “Several recent studies have taken an institutional approach to e-commerce or EDI diffusion and assimilation”. According to Teo et al. (2003), “It is factually known that mimetic, coercive, and normative institutional pressures existing in an institutionalized environment may influence organizations’ predisposition toward an IT-based interorganizational system”. Soares-Aguiar and Palma-Dos-Reis (2008) opine that, “Mimetic pressures are observed when firms adopt a practice or innovation imitating competitors”. DiMaggio and Powell (1983) add that, “Coercive pressures are a set of formal or informal forces exerted on organizations by other organizations upon which the former organizations depend”. Standardizing weights originate from dyadic connections where organizations share some data, guidelines, and standards. According to Powell and DiMaggio (1991), “Sharing these norms through relational channels amongst members of a network facilitates consensus, which, in turn, increases the strength of these norms and their potential influence on organizational behavior”. Gibbs and Kraemer (2004), Li (2008), Soares-Aguiar and Palma-Dos-Reis (2008) explain that, “Some studies combine the TOE framework with the institutional theory”. The institutional hypothesis adds “to the ecological setting of the TOE structure outer weights, which incorporate weight from contenders and weight applied by exchanging accomplices”.

2.9 Conceptual Framework

“The conceptual framework looks performance of organisations as the dependent variables with internet applications, data management systems and mobile and handheld devices being the independent variables where operational efficiency, achievement of objectives, accountability

and service delivery measuring the performance of organisations as illustrated in the figure below”.

Figure 6: Conceptual Framework



Source: Author's construction

CHAPTER THREE

RESEARCH METHODOLOGY

3.1. Research Design

“A descriptive survey design was used for the research study”. Descriptive surveys are utilized “to portray a conduct of a given subject”. “The influence of technology on organizational strategy and performance was a cross-sectional study” in that it looked “to portray characteristics and data about the populace or wonder being contemplated and besides it utilized a quantitative research approach”.

3.2. Population

The study’s population targeted incorporated the entire Winmat Publishers Limited Head office staff which is currently 108 permanent employees. A sample size of ninety (90) respondents was taken from the population.

3.3. Data Collection

The primary data for the study was used, which was gathered through a survey because of the simplicity of organization and proximity to staff. The Questionnaire was in two areas, the initial segment caught statistic data of the respondents and the second part had to do with the use and effect of Information technology on organizational performance. The survey was mysterious in that no close to home data of the respondents was gathered.

3.4. Data Analysis

The study's objectives were to determine the meaning of technology at Winmat Publishers Limited and to understand the effect of technology on (a) Departmental performance, (b) team performance and (c) individual performance at Winmat Publishers limited and also to ascertain the variations in performance. Information gathered from "the investigation was brought into a computer programme statistical package for social sciences (SPSS) for examination utilizing descriptive statistics like percentages, averages, and frequency distributions".

CHAPTER FOUR

DATA ANALYSIS, FINDINGS AND DISCUSSION

4.1. Overview

The total number of questionnaire distributed for this research was 108 out of which ninety (90) were retrieved from the respondents. This represents 83% of the respondents out of the targeted sample of 108 in the organisations. All the 90 questionnaire retrieved were completed and valid for the purpose of this research.

4.2. Analysis of Respondents' Demography

Analysis of the respondents' demography is shown in the sections below.

4.2.1. Analysis of respondents' Designation

The designation distribution of the respondents is shown in Table 3 below.

Table 3: Distribution of Respondents' Designation

Designation	Frequency	Percent
Senior Management	24	26.7
Middle Management	31	34.4
Subordinate	35	38.9
Total	90	100.0

From the distribution table in Table 3, 35 staff representing 39% of the valid respondents in the organisation were subordinates. While Middle level management accounted for 31 (34%) of the respondents, 24 (27%) were Senior level managers.

4.2.2. Analysis of respondents' Educational Background

Distribution of educational background of respondents is shown in Table 4.

Table 4: Respondents' Level of Education

Education	Frequency	Percent
Secondary Education	10	11.1
Certificate/Diploma	30	33.3
Undergraduate	30	33.3
Masters	20	22.2
Total	90	100.0

Majority of the respondents hold higher certificate/diploma and first degree. These group represents 67% of the total respondents. Meanwhile, 20 respondents representing 22% are

master's degree holders and 10 (11%) are secondary education certificate holders. The summary of the educational background is shown in Table 4.

4.2.3. Analysis of Respondents' Length of Stay

Distribution of respondents' length of stay in the organisation is shown in Table 5.

Table 5: Respondents' Length of Stay in the organisation

Length of Stay	Frequency	Percent
Less than 5 Years	34	37.8
5-10 Years	33	36.7
11-15 Years	10	11.1
16-20 Years	8	8.9
Above 20 Years	5	5.6
Total	90	100.0

Results from “the length of stay distribution table of respondents indicate that majority of the respondents have been with the organisation beyond 5 years. 34 (39%) have stayed in the organisation for about 5 years”. Again, 33 (36%) have also been working in the association somewhere in the range of 5 and 10 years. Likewise, 10 (11%) representatives have been working in the association between 11 to 15 years. Additionally, 8 (9%) have stayed for periods between 16 to 20 years. While those who have worked for over 20 years are 5 representing 5%. The distribution table for the length of stay of the employees is presented in Table 5.

4.2.4. Analysis of respondents' Gender

Presentation of respondents' gender is shown in Table 6.

Table 6: Respondents' Gender

Gender	Frequency	Percent
Male	48	53.3
Female	42	46.7
Total	90	100.0

As shown in Table 6 above, males were the dominant employees among the respondents numbering 48 which represents (53%). Meanwhile, female employees among the respondents were 42 representing 47%.

4.3. Analysis of respondents use and impact of technology in the organisation.

The following sections presents results and analysis of respondents "use and impact of technology in the organization".

4.3.1. IT Devices at the Disposal of Employees.

The analysis of respondents' access to IT devices at their disposal is presented in the Table 7.

Table 7: Types of IT Devices at the Disposal of Employees

IT Devices	Frequency	Percent
Mobile Phone	19	21.1
Desktop Computer	32	35.6
Laptop	24	26.7
IPad or Tablet	13	14.4
Other	2	2.2
Total	90	100.0

The type of IT devices at the disposal of employees is largely desktop computer. This represents 36% for 32 employees. 24 representing 27% have laptops at their disposal, while 19 representing 21% have mobile phones at their disposal. However, 13 (14%) and 2 (2%) have IPad or tablet respectively at their disposal. This summary of the types of IT devices at the disposal of employees is presented in Table 7. This is an indication that majority of the employees have access to desktop computers for their job activities.

4.3.2. Analysis of respondents understanding of the meaning of technology

This section analyses respondents understanding of the meaning of technology. Respondents were to choose from a Likert scale multiple choices. The options as indicated in the questionnaire were coded in Table 8 as follows.

Table 8: Code for Meaning of technology

Code	Meaning of Technology
TechMean1	“Information technology is seen as an important tool to optimize operations and conduct information exchanges”.
TechMean2	“IT serves as a powerful strategic and tactical tool for organizational competitiveness”.
TechMean3	“IT serves as a means of facilitating communication and the exchange of information”.
TechMean4	“IT is seen as a tool in facilitating knowledge sharing between various departments and functions in the organization”.
TechMean5	“IT acts as an enhancer of collaboration and a networking tool amongst employees, customers and partners”.

Table 9: Response distribution of TechMean1

Response Options	Frequency	Percent
Little Extent	3	3.3
Neutral	4	4.4
Large Extent	36	40.0
Very Large Extent	47	52.2
Total	90	100.0

With regards to the meaning of technology (TechMean1), 47 (52%) to a very large extent understand the meaning of technology. While 36 (40%) also understand to a large extent, only 4 (4%) were neutral. However, 3 (3%) had little extent understanding of the meaning of

technology. The distribution on respondents understanding of Technology (TechMean1) is summarised in Table 9.

Table 10: Response distribution of TechMean2

Response Options	Frequency	Percent
Little Extent	4	4.4
Neutral	9	10.0
Large Extent	52	57.8
Very Large Extent	25	27.8
Total	90	100.0

Again, with respect to TechMean2 52 (58%) of the respondents understand the meaning of technology to a large extent while 25 (28%) understand to a very large extent. 9 (10%) and 4 (4%) were neutral and with little knowledge respectively to the meaning of technology. The distribution on respondents understanding of Technology (TechMean2) is summarised in Table 10.

Table 11: Response distribution of TechMean3

Response Options	Frequency	Percent
Little Extent	1	1.1
Neutral	12	13.3
Large Extent	38	42.2
Very Large Extent	39	43.3
Total	90	100.0

Further, with respect to TechMean3 39 (43%) of the respondents understand the meaning of technology to a very large extent while 38 (42%) understand to a large extent. 12 (13%) were neutral and 1 (1%) had little knowledge of the meaning of technology. The distribution on respondents understanding of Technology (TechMean3) is summarised in Table 11.

Table 12: Response distribution of TechMean4

Response Options	Frequency	Percent
Little Extent	3	3.3
Neutral	13	14.4
Large Extent	36	40.0
Very Large Extent	38	42.2
Total	90	100.0

With regards to the meaning of technology (TechMean4), 38 (42%) to a very large extent understand the meaning of technology. While 36 (40%) also understand to a large extent, only 13 (14%) were neutral. However, 3 (3%) had little extent understanding of the meaning of technology. The distribution on respondents understanding of Technology (TechMean4) is summarised in Table 12.

Table 13: Response distribution of TechMean5

Response Options	Frequency	Percent
Very Little Extent	1	1.1
Little Extent	3	3.3
Neutral	16	17.8
Large Extent	34	37.8
Very Large Extent	36	40.0
Total	90	100.0

Furthermore, in respect of TechMean5, 36 (40%) to a very large extent understand the meaning of technology. While 34 (38%) also understand to a large extent, 16 (18%) were neutral. Nonetheless, 4 (4%) had little understanding of the meaning of technology. The distribution on respondents understanding of Technology (TechMean5) is summarised in Table 13.

4.4. Regression Analysis

Regression is a statistical analysis used to “determine the cause and effect among variable under study”. A simple linear regression is used to “denote the relationship between two or more variable and their effects on another”. Again, it is helpful for determining the outcome of future occurrences thus, forecasting. The study’s second objective was to understand the effect of technology on performance of employees at the department, team and individual levels. In view of this, the study adopts a linear regression technique to determine the extent of effect on the individual performances. Further, this is done to ensure that “the relationship between each of the predictor variables and the dependent variable is linear and that the error, or residual, is normally distributed and uncorrelated with the predictors”.

4.4.1. Effect of technology on departmental performance

The study first examines “the effect of technology on the performance of employees at the departmental level”. The result from the lineal regression as appeared in Table 14 demonstrates there is a noteworthy connection between employees understanding of technology and their performance at the departmental level.

Table 14: Summary of Effect of Technology on Departmental Performance

Model summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	F	Sig.
1	.565 ^a	.320	.312	2.30620	41.318	.000

a. Predictors: (Constant), MeanTech

Again, results from the regression table indicates that R Square (0.32) which is 32% variance means, the level of performance at the departmental level can be explained by an understanding of the meaning of technology at that level. Hence, the ability of the individual departments to understand the meaning and use of technology in Winmat Publishers Limited would positively improve on their performance in the organisation. This finding is consistent with (Ramdani, Chevers & Williams (2013) whose study confirms that an organisations ability to harmonize the understanding and use of technology would influence positively their performance. Hence, it is suggestive that, employees understanding and use of technology enhances the performance of employees at the department level.

4.4.2 Effect of Technology on Team Performance

Table 15: Summary of Effect of Technology on Team Performance

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	F	Sig.
1	.426 ^a	.182	.172	1.80241	19.548	.000

a. Predictors: (Constant), MeanTech

Additionally, the research tried to discover “the effect of technology on team performance in the organization”. As presented in the regression Table 15, R Square was 0.182 which is an indication that the understanding and use of technology in the organisation have influence on team performance. The regression result shows 18.2% percent of variance in the level of understanding and use of technology towards improving team performance. Thus, team’s appreciation of the use and understanding of technology have the ability to improve on their performance at Winmat Publishers Limited. Since team performance is key in the productivity of organisations, Suppiah & Singh Sandhu (2011) asset that, the availability of resources and enhancement of skills help improve the performance of teams at the workplace. The findings thus, suggest team performance would improve when they are well resourced with the needed technology and skills to match.

4.4.3 Effect of Technology on Individual Performance

Table 16: Summary of Technology effect on Individual Performance

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	F	Sig.
1	.363 ^a	.132	.122	2.35238	13.361	.000

a. Predictors: (Constant), MeanTech

Further, “the study sought to understand the effect of technology on the performance of individual employees in the organization”. As presented in the regression Table 16, R Square was 0.132 which is an indication that individual employees’ understanding and use of technology in the organisation has an impact on their respective performance. A percentage of 13.2% of variance individual performance can be explained by the existence of level of understanding and use of technology by individual employees. This is a reflection of Baden-Fuller & Haefliger (2013) understanding of how the adoption, understanding and use of technology has the propensity to improve the collective efficacy of the organisation. Therefore, the ability of Winmat Publishers Limited to make IT available for individual employees to use would greatly enhance their individual problem solving ability. The finding thus, suggests individual performance would improve when they are given the needed tools to work within the organisation.

4.4 Correlation Analysis

“Correlation analysis technique is used to determine the level of relationship existing between variable under study”. It also aids researchers to determine the state of the relationship thus, weak or strong. The third study objective was to determine the variations in departmental, team and individual performance. In view of this, the study adopts the use of a correlation analysis to determine the level of variations among all the performance variables thus, department, team and individual performances. Table 17 presents the summary of the correlation matrix of the variables.

Table 17: Correlation Matrix

	Perf_Var	Perf_Dept	Per_Team	Per_Indv
Perf_Var	1			
Perf_Dept	.505**	1		
Per_Team	.533**	.543**	1	
Per_Indv	.523**	.509**	.634**	1

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

First from the objective was to “determine the relationship between variations in performance with departmental performance”. The result from the correlation matrix shows that “there is a factually positive connection between variation in performance and the departmental performance at (0.505, $p=0.01$)”. This is an indication that, a unit change in the performance at the departmental level due to the use of IT would result in 50.5% variation in the total performance of the Winmat Publishers Limited by 0.505 times. This finding supports a study by

García-Morales, Jiménez-Barrionuevo, Gutiérrez-Gutiérrez (2012) that organisations use of IT would give employees the confidence to accomplish their job.

Second, the research tried to discover the connection between variations in performance and team performance. The result from the table thus, indicate an essential connection between team performance and total variations in performance. Hence, the variations of (0.533 at $p = 0.01$). This is an indication that, a unit change in the use of IT towards the performance of team in the organisation would result in 53.3% percent variation in the improvement of modernization of working methods at Winmat Publishers Limited. The findings confirm a study by Edquist (2013) supporting the school of thought that the use of IT at team level supports the total performance of the organisation.

Third, the study sought to find the relationship between individual performance and variations in the total performance of the organisation. The result from the correlation matrix indicates that there is a statistically positive relationship between variation in performance and the individual performance at (0.523, $p = 0.01$). This is an indication that, a unit change in the individual performance for the effective use of IT would result in 52.3% variation in the total performance of Winmat Publishers Limited by 0.523 times. This finding is consistent with Chen, Chen & Vanhaverbeke (2011) that organisations use of IT would improve the quality of product and services of the organisation.

4.5. Discussions

“The adoption and implementation of technology have a role to play in influencing and optimizing the activities of an organization” (Ramdani, Chevers & Williams, 2013). That

notwithstanding, users must not only implement the tools but, must also understand the need and use of it. Selwyn (2003) for instance, indicated that, understanding technology is as good as understanding use of it. It is in view of this that the study seeks to understand the level of understanding of employees at Winmat Publishers Limited on the meaning of technology and the impact at large.

The study's first objective was to determine the meaning of technology at Winmat Publishers Limited. Results from the survey indicated that, dominant part of the respondents understand the meaning of technology. Not only do they understand, they also understand how the use of technology would positively affect their job. Understanding the use of technology is good for employees towards empowering them to effectively and efficiently undertake their task on the job (Chen, Chen & Vanhaverbeke, 2011). The study's finding thus, supports the study objective in that majority of the employees understand the meaning of technology.

Further, the second objective was to determine the level of employees understanding of how technology affects Departmental, team and individual performance at Winmat Publishers Limited. Analysis on the results indicates a strong connection between the understanding of technology and performance at various designations. For instance, it was evident that, employees understanding of technology positively influence their performance at the departmental level in facilitating and coordinating activities within the various departments. This finding confirms the assertion that understanding the use of technology helps in the facilitation of decision making among units in an organisation (Selwyn, 2003).

Furthermore, the study's third objective tried to ascertain the variations in departmental performance as well as team and individual performance. This was significant for all

departments thus, there was strong correlation among all departments and the variations in the level of performance. Varying access to IT resources to employees has the propensity to negatively impact on the output of user (Ramdani, Chevers & Williams, 2013). The analysis of the results for instance pointed to the fact that, variations to access to technology has an inverse relationship with performance. In view of this, management of Winmat Publishers Limited must endeavor to improve on the use of technology at all levels of the organisation. This would collectively enhance the productivity of the organisation. Hence, it is suggestive that, variation in performance at one level as a result of IT knowhow, would affect other levels. This finding confirms the study by Selwyn (2003) who iterated the need for improve access and technical skills on technology use within an organisation.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1. Introduction

This section basically has to do with the study's conclusion, recommendations and summary. The study's findings were dependent on the study's objectives which were to find out the meaning of technology at Winmat Publishers Limited and also understand the effect of technology on departmental, team and individual performance as well as the variations in departmental, team and individual performance.

5.2. Summary of Findings

The study's main aim was "to assess the influence of technology on organizational performance at Winmat Publishers Limited". The cross-sectional survey research design was adopted for the study where all the head office staff of the organisation were targeted. Data was collected through administered questionnaire. The total number of questionnaire disseminated for this research were 108 out of which ninety (90) were retrieved from the respondents. This represents 83% of the respondents out of the targeted sample of 108 in the organisation. All the 90 questionnaire retrieved were completed and valid for the purpose of this research, thus was analysed using SPSS version 20 for descriptive and inferential statistics. Males were the dominant employees among the respondents numbering 48 which represents (53%), while female employees among the respondents were 42 representing 47%.

In furtherance of the aforementioned, the findings indicated that, majority of the respondents understand the meaning of technology in that not only do they understand, they also understand how the use of technology would have a positive impact on their job and empower them to effectively and efficiently undertake their task on the job.

Again, the second objective was to evaluate the degree of employees understanding of how technology affects departmental, team and individual performance at Winmat Publishers Limited. Analysis on the results indicates “there is a strong relationship between the understanding of technology and performance at various designations”. For instance, it was evident that, employees understanding of technology positively influence their performance at the departmental level in facilitating and coordinating activities within the various departments.

With regards to the study’s third objective, it tried to ascertain the variations in departmental performance as well as team and individual performance. This was significant for all departments in the sense that the findings revealed that there was strong correlation among all departments and the variations in the level of performance. In this regard, the analysis of the results for instance pointed to the fact that, variations to access to technology has an inverse relationship with performance. In view of this, it is imperative for the management of Winmat Publishers Limited to endeavor to improve on the use of technology at all levels of the organization as this would collectively enhance the productivity of the organisation. Hence, it is suggestive that, variation in performance at one level as a result of IT knowhow, would affect other levels.

5.3. Conclusion

The discoveries of the investigation demonstrated that Winmat Publishers Limited had received and utilized IT to an enormous degree and that IT positively affected execution. In encouragement of that, a portion of the manners by which IT had affected organization performance incorporate; the improvement in the quality of products of Winmat Publishers Limited due to IT, improved modernization of working methods at Winmat Publishers Limited as a result of IT, again, IT has given employees the confidence to accomplish their job to mention but a few.

In the final analysis, “the findings of the study intimated that there is a positive relationship between information technology use and organizational performance”.

5.4. Recommendations

Per the study’s findings, “it is recommended that organizations particularly publishing companies must endeavor to embrace IT tools and services so as to have competitive edge and improve service delivery to customers so as to achieve higher efficiency, reliability and control in the organization”. Further, “organizations should also enhance their in house capacity to manage IT systems policies and procedures that facilitates the retention of IT staff and develop backup plans”. Lastly, “the success of Winmat Publishers Limited with respect to the positive correlation between IT use and performance, offers a learning experience for other organisations in the country”.

5.5.Areas for Further Research

The research tried to evaluate “the influence of technology on organisational performance at Winmat Publishers Limited” with the aim to cross over any barrier in learning that existed with respect to information technology. In this light, the study concentrated mainly on one association thus it is basic to duplicate the examination utilizing numerous different associations in order to see whether there are some other elements with regards to “the effect of information technology on organisational performance especially within the publishing industry in Ghana”.

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APPENDIX 1

Questionnaire

Instructions: Please respond to the following questions and where applicable, mark the relevant box with a tick (✓)

Confidentiality: The responses you provide will be strictly confidential. No reference will be made to any individual(s) in the report of the study.

Part A: General Information:

1. Please state your designation

a) Senior management []

b) Middle management []

c) Subordinate []

2. Please indicate your highest level of qualification (Please tick where appropriate)

a) Secondary education []

b) Certificate/diploma []

c) Graduate []

d) Masters []

3. How many years have you worked for Winmat Publishers Limited? (Please tick where appropriate).

a) Less than 5 Years []

b) 5-10 Years []

c) 11-15 Years []

d) 16-20 Years []

e) 20 Years and above []

4. What is your gender?

[] Male [] Female

Part B: Use and impact of technology at Winmat Publishers Limited.

1. What IT device(s) do you have at your disposal to enable you perform your duty?

1. Mobile phone []

2. Desktop Computer []

3. Laptop []

4. iPad or Tablet []

5. Other [] Please specify _____

2. Kindly indicate the extent to which you agree with the following statements with regards to meaning of technology at Winmat Publishers Limited. (Please tick where appropriate).

Meaning of Technology	Very Large Extent	Large Extent	Neutral	Little Extent	Very Little Extent
Information technology is seen as an important tool to optimize operations and conduct information exchanges.					
IT serves as a powerful strategic and tactical tool for organizational competitiveness.					
IT serves as a means of facilitating communication and the exchange of information.					
IT is seen as a tool in facilitating knowledge sharing between various departments and functions in the organization.					
IT acts as an enhancer of collaboration and a networking tool amongst employees, customers and partners.					

3. To what extent do you agree with the following statements with regards to the effect of IT on departmental, team and individual performance at Winmat Publishers Limited? (Please Tick where appropriate).

Departmental Performance	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Use of IT has helped improve employees' productivity and increased flexibility in the various departments in the company.					
Quality of departmental work has improved due to IT.					
IT has facilitated easy coordination within the various departments in the company.					
Use of IT has improved departmental target monitoring and reporting significantly at Winmat Publishers Limited.					
IT has facilitated quick decision making at the departmental level.					
Team performance	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
IT has made team work more flexible.					
IT has helped in knowledge sharing and building on each other's ideas with respect to team work.					
Time for performing various team tasks has reduced due to IT.					
Use of IT has facilitated collaborative problem solving as far as work teams are concerned.					

Individual Performance	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
IT has helped individual employees to perform effectively and efficiently.					
IT has enhanced individual employee's problem-solving ability.					
The overall performance of individual employees has improved due to IT.					
IT has encouraged employees to explore more in research and innovation.					

4. Please indicate the extent to which you agree with the following statements. (Please tick where appropriate)

Variations in performance	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
IT has given employees the confidence to accomplish their job.					
IT has improved modernization of working methods at Winmat Publishers Limited.					
Communication within the company has improved due to IT.					
The use of IT has improved the quality of products of Winmat Publishers Limited.					

THANK YOU FOR YOUR TIME AND COOPERATION