Information and Communication Technology as a Tool for Effective Communication in an Organization

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Abstract

Communication is an act of transmitting message or exchange of information from sender to receiver. Without communication no aspect of business can survive effectively. This paper determines the use of Information and Communication Technology as a tool for Effective communication in an organization. It looks into the communication system of College of Nursing & Midwifery Yola. More often than not, organizations fail to understand the importance of communication and as a result, the importance attached to ICT is neglected which leads to ineffective communication. The rapid growth in the development of the economy as a result of the application of ICT pose some challenges to individuals and organizations such as system failure, security breaches, and invasion of privacy. Questionnaire was used to collect the necessary data, and descriptive method using mean was used to analyse the data obtained based on 5 point Liker Scale. The paper was able to find out that passing of information boost the morale of workers. The advent of information technology has created a significant business opportunities on the economy as a whole, ICT recognizes the gateway to plan technological and socio-economic transformation of a nation. The paper recommends that both public and private organizations should endeavour to imbibe the new technology for good result in terms of communication, and improve service delivery irrespective of the cost implication; government should take advantage of current development in the field of ICT and build national capability in terms of infrastructure, institutional framework and manpower; technological changes in the communication sector should be encouraged and sustained; management and staff should be educated on the importance of information technology in the aspect of communication; and finally trainings such as seminars, workshops, and conferences should be organized to acquaint management and staff with the use of the new ICT equipment that is necessary for the achievement of organizational goal.

Keywords: *ICT, Information, Technology, Communication, Development, Organization*

Background of the Study

Communication is very important to managers anywhere and it varies from one person to another. People have to relate with each other in business organization so as to have different views on how best to develop the organizational plan, achieve organizational objectives and to improve on customer services. To harmonize these views, people have to communicate effectively. The efficiency of an organization has direct relationship to the standard of its communication system and its operation. The business environments as a whole have their goals and aspirations they usually wants to accomplish as well as to ensure good relationship between the management, workers and customers. These can be achieved only through effective communication. According to Whitcomb (1994), communication is of vital importance because it is through communication that a firm makes contact with its customers, suppliers, and the various internal elements of the organization. Communication provides the means by which business managers perform their functions.

It is apparent that communication does not take place in isolation. It involves the interaction of two or more people either in oral or written form, and the choice of various mediums which may be the use of telephone or written mails. In other words, organizations are faced with challenges for corporate survival thereby making it necessary to evaluate alternative means of communications by employing emerging technologies to gain competitive edge which will involve the use of information and communication technology tools in communication within and outside the organizations.

There is a great negligence in the way people communicate with one another. More often than not, organizations fail to understand the importance of communication and as a result, much attention is not paid to the process of communication which leads to so many problems that may include ineffective communication, system failure, security breaches, and invasion of privacy. Therefore, this paper aimed at assessing the use of information and communication technology for effective communication in organizations. This is achieved with the following objectives: to determine the importance of ICT to organizations; to ascertain the effect of ICT on the economy as a whole; to assess the challenges of ICT in communication; to determine the effectiveness of ICT in organizations.

The paper assess the communication process and the effect of ICT for effective communication within School of Nursing and Midwifery Yola.

Research Questions
    i.   Is information technology important in achieving organizational goal?
    ii. What effect does information technology have on the economy?
    iii. What are the challenges of information technology in communication?
    iv. How effective is information technology in business organization?

Literature Review
Information Technology
Information technology is relatively a recent concept. It was apparently invented in the 1970s and has actually been in practice in 1980s. Many people use information technology synonymously with computer science, others broaden the definition to encompass telecommunication. Valerie (1996), defined information technology as any form of equipment or technique used by people to handle information. He added that information technology incorporate the whole of computing and telecommunications technology.

Johnson (1996), out rightly confessed of his preparedness to the long gestation period of investment in the broadest industry to own a private television station. He confirmed that "Technology is the bedrock of broadcasting and that competing communication has not intimidated him despite the emerging trends of information technology.

Olagunji (1999), states that technology is a human device meant to improve efficiency by aiding human skills and human thought. However, information technology is considered to be known as that equipment that can accelerate the collection of data processing, analyzing, transmitting and presentation of facts to aid rational decision making, planning and control of business operations which therefore synchronizes with the thought expressed. He also states that rapid and far reaching changes in micro-electronics based on the information technology are helping the competitive advantages of countries liking distant enterprises for global financial services and raising new problems and opportunities for development and growth of the poor countries

Technological Trends
O'Brien (2003), states that open systems are information systems that use communication standards for hardware, software applications and networking. Open system like the internet create a computing environment that is open to easy access and communicate with each other and share information. Telecommunication is also being revolutionaries by the rapid change from analog to digital network technologies. Telecommunication systems have always depended on voice-oriented analog transmission systems designed to transmit electrical frequencies generated by the sound wave of the human voice. However, local and global telecommunication networks are rapidly converting to digital transmission technology that transmit information in the form of discrete pulses as computer do. This provides:
a)   Significant higher transmission speed
b)   The movement of larger amount of information
c)   Greater economy and
d)   Much lower error rates than analog system

According to O'Brien (2003), the competitive arena for telecommunication services has changed dramatically in many organizations in recent years. Numerous companies now offer business organizations and customers a choice of everything from local and global telephone services to communication using satellite channels, mobile radio, cable TV,

cellular phone services and internet access. The explosive growth of the internet and World Wide Web has spawned a host of new telecommunication products, services and providers. Driving and responding to this growth, business firms have dramatically increased their use of the internet and web for electronic commerce and collaboration. Thus the service and vendor option available to meet a company's telecommunication needs have increased significantly and provide business managers with decision making alternatives. In addition, digital technology allows telecommunications networks to carry multiple types of communication (data, voice, and video) on the same circuits.

The telecommunications networks are now playing vital and pervasive roles in electronic commerce, enterprises, collaboration, and other e-business application that support the operations, management and strategic objective of both large and small business enterprise. An organization's local and global computer networks can dramatically cut costs, shorten business lead times and responses time, support electronic commerce, improve the collaboration of work groups, develop online operational processes, share resources, lock in customers and suppliers and develop new products and services. This makes telecommunications a more complex and important decision area for business that must increasingly find new ways to compete in both domestic and global markets (Allison and Lorraine, 2012).

Internet Revolution and Applications
According to Susannah (2011) the internet has become the largest and most important network of networks today and has evolved into a global information super high way. The internet is constantly expanding, as more and more business and other organization and their users, computers, and networks join its global web. Thousands of business, educational, and research networks now connect millions of computers systems and users in more than 200 countries to each other. The internet has become a key platform for a rapidly expanding list of information and entertainment services, business application including enterprise collaboration and electronic commerce systems. Internet provides electronic discussion forums and bulletin board systems formed and managed by thousands of special-interest newsgroup. Other popular applications include loading software and information fields and accessing databases provided by thousands of business, government and other organizations. Internet provided additional services which includes electronic mail (email) which allow users to send messages, data files and software programmed to other internet users of most commercial networks and on-line services; remote login (telnet) which allow users on one system to access other host systems across the network with just handful of commands. A user with an account at one internet site can log in to check for mail messages or files from anywhere else on the network; World Wide Web which serve as the collection of multimedia document created by organizations and users all over the world. These documents are linked in a hyperlink that allows users to explore far and wide with simple mouse click.

Communication in an Organization

According to Ludlow and Panton (1992), communication is very important function to manage any organization whether it is small or large. In other words, nothing happens in management until communication takes place. Communication can be defined as exchange of facts, ideas, opinions or emotions between two or more persons to create a common ground of understanding. Communication is the process of passing information and message from one person to another. It involves at least two persons i.e. a sender and a receiver. The sender develops and transmits a message to the receiver. The purpose is to achieve common understanding between the sender and the receiver. The basic unit of communication in an organization is the link between manager and subordinator. Managers communicate to their subordinates and receive messages from them. To be effective as a manager, you need to be an effective communicator. There are two main types of communication in every organization – formal and informal communication.

Formal Communication

Formal Communication according to Ludlow and Panton (1992) refers to official communication which takes place through a chain of commands. It flows in formally established channels that is concerned with work related matters. Members of the enterprise are expected to communicate with one another strictly as per channels laid down in the structure. The formal communication may be divided into three categories which are given as follows:

a. Downward Communication: Under this system, the flow of communication is made from the top management down to the operating level. It may also be called a communication from a superior to a subordinate. It follows the line of authority from the top to the bottom of the organization hierarchy. Downward communication consists of plans and policies, orders and instructions, procedures and rules etc.

b. Upward Communication: It means the flow of information is made from the lower levels of the organization to the higher level of the authority. It passes from subordinate to superior. This communication includes opinions, ideas, suggestions, complaints, grievances, appeals, reports etc. and it is very important as it serves as the feedback on the effectiveness of downward communication. Management is able to know how well its policies, plans and objectives are followed by those working at lower levels of the organization.

c. Horizontal Communication: The transmission of information and understanding between people on the same level of organization hierarchy is called the horizontal communication. This type of communication is also known as lateral or sideward or crosswise communication. Usually, it pertains to inter departmental managers working at the same level of organization or among subordinates working under one boss. Horizontal communication speeds up information and promotes mutual understanding. It enables the managers working at the same level to exchange information and co-ordinate their activities without referring all matters to the higher level of management. The horizontal communication is generally of an informal nature. Whenever a departmental

head requires some information from another departmental head, he tends to contact him directly. However, this type of communication can be oral or written.

Informal Communication

The informal communication flows through informal channels and may or may not be work related. Informal communication cuts through the formal organizational structure. Most of us are familiar with the term 'grapevine' used to describe a network of informal communication. Grapevines are present in all organizations. In fact, in large organizations, there are many grapevines moving up, down and across departments. Grapevines flourish because communication is a natural human tendency. People who know each other in the organization talk together informally. One thing they have in common is the organization they work for, so they talk about the happenings in the organization. Grapevines carry two types of information: work related and people related. Employees want to know what is going on in the organization. When they are not kept informed through formal channels, they seek information from the grapevine. Likewise, they are curious about the people they work with. Grapevine carry the type of personnel information not generally communicated through formal channels. Employees get to know plans, promotions, punishments, etc. much before they are formally announced. Informality however, reduces uniformity of communication and sometimes false or distorted news is circulated. Some employees consider the grapevine their main source of information Ludlow and Panton (1992).

Importance of Communication

Taylor (2000) is of the view that communication is an indispensable part of the process of management. The success of an enterprise depends upon the effective of communication. Every manager must communicate in order to get things done through others. A good communication system offers the following benefits:

i.   Basis of Decision-Making and Planning: Communication is essential for decision-making and planning. It enables the management to secure information without which it may be possible to take any decision. The quality of managerial decisions depends upon the quality of communication.

ii.   Smooth and Efficient Working: It is only through communication that the management changes and regulates the actions of the subordinates in the desired direction.

iii. Facilitates Co-ordination: Management is the art of getting things done through others and this objective of management cannot be achieved unless there is unity of purpose and harmony of effort. Communication through exchange of ideas and information helps to bring about unity of action in the pursuit of common purpose.

iv.   Increases Managerial Efficiency: It is rightly said that nothing happens in management until communication takes place. The efficiency of a manager depends upon his ability to communicate effectively with the members of his organization. It is only through communication that management conveys its goals and desires, issues instructions and orders, allocates jobs and responsibility and evaluates performance of subordinates.

v.   Sound Industrial Relations: Effective communication creates mutual understanding and trust among the members of the organization. It promotes co-operation between the employer and the employees. Without communication, there cannot be sound industrial relations and industrial peace. It is only through communication that workers can put in their grievances, problems and suggestions to the management.

vi.   Effective communication helps in establishing effective leadership.

vii.   Motivation and Morale: Through communication workers are motivated to achieve the goals of the enterprise and their morale is boosted.

viii.   Effective Control: Communication acts as a tool of effective control. The plans have to be communicated to the subordinates, the actual performance has to be measured and communicated to the top management and a corrective action has to be taken or communicated so as to achieve the desired goals.

ix.   Effective communication creates job satisfaction among employees as it increased mutual trust and confidence between management and the employees.

Communication Process

Communication process involves sender, transmission of message through a selected channel, receiver and the feedback. The specific steps in communication process as identified by Taylor (2000) are described below:

a.   The Sender of the Message: Communication begins with the sender, who has a thought or an idea which is then encoded in a way that can be understood by both the sender and the receiver.

b.   Channel for Transmission of Message: The information is transmitted over a channel that links the sender with the receiver. The message may be oral or written, and it may be transmitted through a memorandum, a computer, the telephone, the telegram or television.

c.   The Receiver of the Message: The receiver has to be ready for the message so that it can be decoded into the idea. Accurate communication can occur only when both the sender and the receiver attach the same or at least similar meanings to the symbols that compose the message.

d.   The Feedback: To ensure that the message has reached the intended receiver correctly, the communicator has to get feedback from the receiver about the message. Feedback ensures that the process of communication has taken place. The feedback provides learning opportunities to the sender and the receiver because it mirrors the consequences of the behavior. In addition, if the behavior has been found to be incongruous with the message it opens avenues to make corrections wherever necessary. Without feedback it would be difficult to ascertain whether communication has been received as indicated or not.

e.   Noise and Filters in Communication: Unfortunately communication is affected by noise, which is anything- whether in the sender, the transmission, or the receiver- that hinders communication. Communication suffers from distortion, something intended, sometimes unconscious and it seldom reaches the intended receiver in the form it originated. Distortion in communication takes place because of both environment and human factors.

Barriers and Breakdowns in Communication

The managers frequently cite communication breakdowns as one of their most important problems. However, communication problems are often symptoms of more deeply rooted problems. Barriers can exist in the sender, in the transmission of the message, in the receiver, or in the feedback. Specific communication barriers are stated below according to Strunk *et al.* (2004):

(i) Lack of Planning
(ii) Unclarified Assumptions
(iii) Poorly Expressed Message
(iv) Loss of Transmission and Poor Retention
(v) Poor Listening and Premature Evaluation
(vi) Semantic Distortion
(vii) Distrust, Threat and Fear
(viii) Insufficient Period for adjustment to Change

Methodology

The paper used questionnaire for data collection using random sampling techniques, 100 questionnaire were distributed to both staff and students of College of Nursing and Midwifery Yola. The description method using mean was used for data analysis based on 5 point Likert Scale. The results was presented using tables. The 5 point Likert Scale is stated below:

Strongly Agreed (SA) 5
Agreed (A)   4
Undecided (U)   3
Strongly Disagreed   2
Disagreed   1

The Likert rating scale of 5,4,3,2 and 1, mean will then be calculated thus:

$$X = \frac{\sum X}{n}$$

Where:

x = mean
    = summation
n = nominal value of items
f = frequency of response under each mode

Thus:

$$\frac{5+4+3+2+1}{5}$$

$$= \frac{15}{5} = 3$$

Giving an allowance of 0.05 level of significance thus: (0.05 + 3) = 3.05

Decision Rule

Any response from 3.05 above was accepted either positive or negative while any response below 3.05 would be rejected. The mean score for each item would be computed by multiplying the frequency of each response with appropriate nominal value obtained under each item with the number of respondent to item thus:

$$X = \frac{\sum X}{n}$$

    x = mean
        = summation
    n = nominal value of items
    f   = frequency of response under each mode
    Nr = number of respondents

Results and Discussion

Questions	Variables				
	X1	X2	F	fx2	fx2/ f
Received information boost the morale of workers	SA	5	58	290	
	A	4	42	168	
	U	3	0	0	
	D	2	0	0	
	SD	1	0	0	
	TOTAL	15	100	458	4.58
An advancement of information technology has given rise to various equipment for passing and receiving information	SA	5	40	200	
	A	4	37	148	
	U	3	23	69	
	D	2	0	0	
	AD	1	0	0	
	TOTAL	15	1OO	417	4.7
Passing and receiving information is a factor for achieving organizational goal	SA	5	30	150	
	A	4	23	92	
	U	3	26	78	
	D	2	21	42	
	SD	1	0	0	
	TOTAL	15	362	362	3.62

From Table 2 above, it can be observed that passing of information boost the morale of workers as unanimously agreed with mean score of 4.58. It is also agreed by the respondents that various new equipment for passing information has come into existence as a result of advancement on information technology with the mean score of 4.7. Finally, the mean score of 3.62 shows that passing of information is a significant factor for achieving organizational goal. The above analysis have therefore answered the first research question.

Table 3: Mean response on the Effect that Information Technology have on the Economy.

Questions		X1	X2	F	FX2	FX2/ F
				Variables		
The advent of information technology has created a significant business opportunities on the economy as a whole	SA	5	42	210		
	A	4	48	192		
	U	3	10	30		
	D	2	0	0		
	SD	1	0	0		
	Total	15	100	432	4.32	
Information technology recognized the gateway to plan technological and socio-economic transformation of a nation	SA	5	46	230		
	A	4	38	152		
	U	3	0	0		
	D	2	16	32		
	SD	1	0	0		
	Total	15	1OO	414	4.14	
Information technology is a driving force for economic growth	SA	5	31	155		
	A	4	28	112		
	U	3	27	81		
	D	2	14	28		
	SD	1	0	0		
	Total	15	100	376	3.76	

From Table 3 above, it can be seen that the advent of information technology has created a significant business opportunities on the economy as a whole with a mean score of 4.32. Also, while a mean score of 4.14 shows that information technology has recognized the gateway to plan technological and socio-economic transformation of a nation. Finally, a mean score of 3.76 shows that information technology is a driving force for economic growth in an organization.

Table 4: Mean Response for the Extent of progress Information Technology has made.

Variables

Questions		X1	X2	F	FX2	FX2/ F
The general and collective acceptance for change in communication has driven communication sector in to the world of networking and internet	SA	5	38	190		
	A	4	42	168		
	U	3	20	60		
	D	2	0	0		
	SD	1	0	0		
	Total	15	100	418	4.18	
Information technology enables the executive from different location to meet in both the sound and vision	SA	5	50	250		
	A	4	50	200		
	U	3	0	0		
	D	2	0	0		
	SD	1	0	0		
	Total	15	100	450	4.5	
Information technology offer immense opportunity for improvement on basic services	SA	5	42	210		
	A	4	49	196		
	U	3	9	27		
	D	2	0	0		
	SD	1	0	0		
	Total	15	100	433	4.33	

It can be observed from Table 4 above that acceptance for change has made the communication sector a world of networking with a mean score of 4.18 while a mean score of 4.5 shows that information technology has given rise to discussion from different locations through means of video or teleconferencing. Finally, a mean score of 4.33 shows that information technology made a remarkable progress in the society such as banking services and other areas of basic social services.

Table 5: Mean Response of the Factors that Determine the Effectiveness of Information Technology in Business Organization.

Variables Questions		X1	X2	F	FX2	FX2/ F
For effective communication, technology must recognize the existing hierarchy of information flow	SA	5	41	205		
	A	4	49	196		
	U	3	0	0		
	D	2	10	20		
	SD	1	0	0		
	Total	15	100	421	4.21	
Effective of any organization depend largely on its effective use of communication	SA	5	58	290		
	A	4	35	140		
	U	3	7	21		
	D	2	0	0		
	SD	1	0	0		
	Total	15	100	451	4.51	
It is through communication that workers understand their right, roles and objectives of the organization	SA	5	33	165		
	A	4	35	140		
	U	3	0	0		
	D	2	31	62		
	SD	1	1	1		
	Total	15	100	368	3.68	
Information technology has become an indispensable tool for assisting in managerial decisions in any business organization	SA	5	59	295		
	A	4	41	168		
	U	3	0	0		
	D	2	0	0		
	SD	1	0	0		
	Total	15	100	459	4.59	

From Table 5 above, it can be seen a mean score of 4.21 indicate that workers are motivated because the channel of authority is more dignified with the introduction of information technology, at the same time we discover that if communication is faulty, the organization will also be faulty. This is agreed with a mean score of 4.51. Finally, the table shows mean scores of 3.68 and 4.59 respectively which indicate results of good services provided using information technology in communication system, workers are encouraged and delivery of these services depends on their ability to recognize and make information technology an indispensable tool for communication, which will lead to effectiveness of business operation as well as supporting managers in decision making.

Conclusion and Recommendations

This paper has been able to establish that information technology is an indispensable tool for achieving organizational goal, but lack of resources for establishing the institutional capability for its acquisition is the bone of contention in the field. It also revealed that the use of information technology offers opportunity to improve the delivery of basic services such as sending and receiving information in the organization and in

dissemination of information in various sectors of the economy. It was found that information technology has transformed business office from the conventional area of paper filing system into the database system. This transformation has driven the operating environment to sustain competitive advantage considering quality to be the major strategy which is mainly obtained in financial institution. The paper recommends that both public and private organizations should endeavour to imbibe the new technology for good result in terms of communication, and improve service delivery irrespective of the cost implication; government should take advantage of current development in the field of information technology and build national capability in terms of infrastructure, institutional framework and manpower; technological changes in the communication sector should be encouraged and sustained; management and staff should be educated on the importance of information technology in the aspect of communication; and finally trainings such as seminars, workshops, conferences etc. should be organized to acquaint management and staff with the use of the new information technology equipment that is necessary for the achievement of organizational goal.

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Appendix
Communication Channels: Benefits and Limitations
The Table below outlined some of the Communication Outreaches, Benefits and their limitations.

Type of Outreach	Example Activities	Benefits	Limitations
Interpersonal communication	• School presentations • Conference or symposium	• Viewed as credible • Allows for 2-way discussion • Good for educational initiatives; helpful in teaching at-risk groups prevention behaviors	• Can be expensive • Requires time • Audience limited
Community outreach events	• Parades, runs, walks • Town hall meetings • Workplace campaigns	• May be familiar, trusted, and influential • Can be motivational • Can reach a large audience in one place • Helpful for raising awareness	• Requires a fair amount of coordination from several partners • Requires time
Newspaper	• Feature articles • Advertisements • Letters to the editor	• Can reach a broad audience rapidly • Can convey health information more thoroughly than radio or TV • Faster than magazine outreach	• Item needs to be newsworthy • Exposure is limited to one day • Article placement may vary
Radio	• News • Advertisements (public service announcements) • Talk shows	• May be the main form of media in some locales • Range of formats • Opportunity to direct messages toward target audience	• Need to make topic fit the format of the radio station • Difficult for intended audience to retain or pass on information

Television	• News • Advertisements (public service announcements) • Talk shows	• Can reach a wide range of audiences, depending on the locale • Visual and audio format is good for demonstrating prevention behaviors	• May not be available in some locales • May be expensive • Message can get lost in other commercial messages
Internet	• Web sites • Email list server • Social networking sites • Newsgroups	• Can reach a large number of people rapidly • Can be tailor for the intended audience • Can be updated quickly and provide health information in a graphically appealing way	• May not be available in some rabies endemic areas • Requires that target audience is connected and looking for the health information

Source: Ludlow and Panton (1992)