
EVALUATION OF CLUSTER KNOWLEDGE MANAGEMENT STRATEGY ON COMMUNICATION IN UNIVERSITIES IN NORTH-WEST GEO-POLITICAL ZONE, NIGERIA

By

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ABSTRACT

The objective of this paper was to evaluate the application of cluster knowledge management strategy on communication in universities in North-West Geo-Political Zone, Nigeria. Research question and hypothesis were formulated according to the objective. Descriptive survey research design was used for the study, thirty (30) university management and one thousand and seventy faculty board members were the population of the study with thirty (30) and five hundred and thirty (530) samples respectively. A self-developed instrument (questionnaire) with five likert scale was used for data collection. The questionnaire was validated and reliability found at .58 index. The data was analysed using Mann-Whitney U-test statistical method. The finding indicates partial application of cluster knowledge management strategy on communication in the universities. On recommendation, a model was adapted as a guide for the application of the strategy.

INTRODUCTION

"Knowledge", being the basis for change, must therefore be shared among employees in organizations. According to Mezher (2005) in order to sustain organizational valuable assets, knowledge sharing must exist". In the past, the concept of knowledge management enjoyed an increasing popularity across disciplines, the world over. Management-scholars began to proclaim the possibility of knowledge management (KM) becoming the most universal management concept in history (Takeuchi, 2001). In 1999, the term, 'personal knowledge management', was introduced which means management of knowledge at the individual level (Wright, 2005). It was revealed that the application of KM has a positive impact on the performance of organizations (Boutis, 2002; Boutis & Serenko, 2007; Choo & Bontis, 2002). In managing university education, sharing among

administrators may be the best approach through which ideas, feelings and strategies could be shared and used for goals attainment.

Knowledge management could be seen as the systematic management of knowledge process; gathering, creating, organizing, storing, disseminating and the use of knowledge, (Nonaka, 1995). This has evidently proven that the need for knowledge management cannot be overemphasized, most especially in universities where teaching and researches are conducted consistently, which necessitates the need for knowledge generation and dissemination at all times. The management of skills and knowledge in organizations is the most essential function of administrators. Management of knowledge involves knowledge identification, capture, use (application), sharing, storage, reuse and integration. These put together

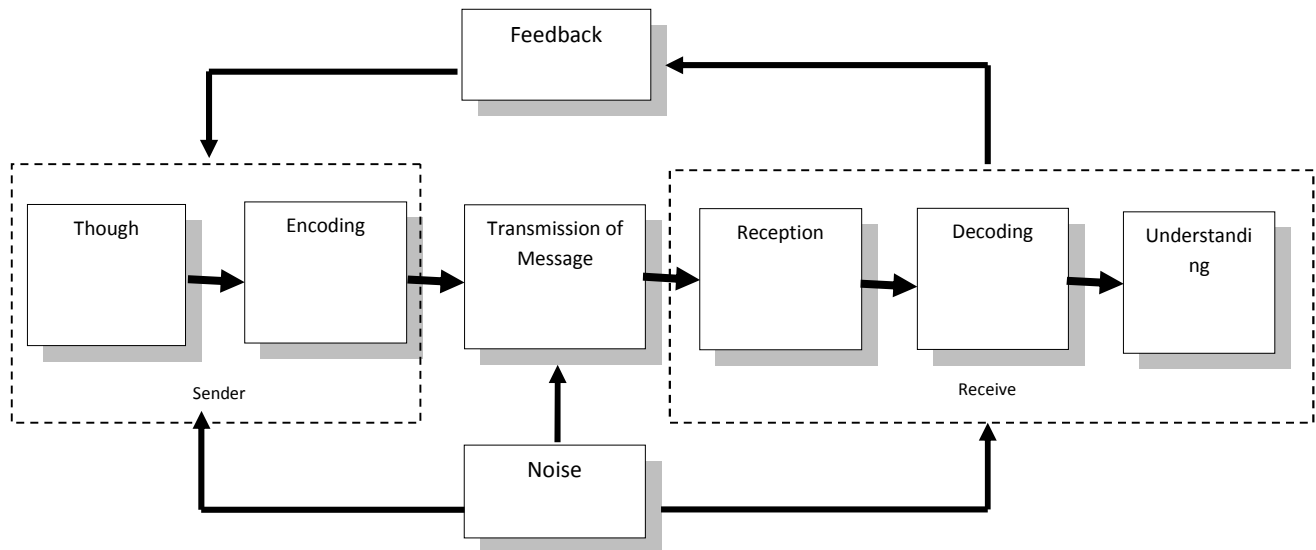
define the administrator’s functions in the area of personnel management for effective goal attainment. This entails having result-oriented approaches through harnessing personnel knowledge. The modern approach in management aims at minimizing wastages through optimum knowledge use.

It is worthy of note that information management has been accepted as an important aspect that yields positive result in the administration of organizations for several decades. However, scholars have developed and approved an approach similar to the one mentioned above. This approach includes, “Knowledge technology” “knowledge analysis” and “Knowledge planning”. Knowledge management (KM) goes beyond these approaches because it involves identifying who knows what within an organization. This certainly

may require proper placement, training, and use of knowledge. According to Filemon (2008) KM is a process of performing an audit of intellectual assets, focusing on the organizational unique resources and their crucial function. He added that the primary essence of knowledge management is to make organizational knowledge more productive and produce benefits that are significantly greater than those envisioned.

Communication Process

Communication processes are channels that message(s) are passed to beneficiaries in organizations. These processes involve people, tools, and symbols as major actors for communication effectiveness. Heinz, et al (2005) explains the process of communication in Figure 1.



Source: Adopted from Heinz, et al (2005)

Figure 1: A Communication Process Model

Figure 1 could be explained in the following steps for a better understanding.

1. **Sender of the Message:** This is the source of the message and where communication begins. The source owns the idea, thus intending to

send to the receiver. The message could be spoken or changed into written or symbol(s).

2. **Use of a Channel to Transmit the Message:** The sender normally selects the most appropriate channel for the message sending.

These channels could include oral or written through memorandum, computer, telephone, telegram, e-mail, television and many other means. However, the message sender ought to use the relevant channel depending on the appropriateness to the message receiver (decoder).

3. **Receiver of the Message:** This implies the decoder (receiver of the message), who interprets and translates the message into meaningful information. Translating the message by the receiver must agree in meaning with that of the sender, otherwise communication has not taken place. Therefore, sender of any message must consider the receiver's level of knowledge in the communication.

Knowledge Cluster Strategy Process in Organizations

The term knowledge cluster implies coming together in a new way to create, innovate, and disseminate new knowledge. This could be among different individuals, teams and organizations. The whole aim is for better communication, collaboration, learning and shared knowledge through cluster (APO, 2010).

This strategy enables members of an organization gain access to and share knowledge among them. In school system, a network can be generated through internet or any other local network to communicate and share knowledge among the members of the organization. This certainly will promote sharing, access and feedback among members for better uniformed network activities.

APO (2010) finds the following as steps for knowledge cluster:

- Step I:** Become aware of the knowledge cluster that exist in your industry or sector (school or institution) and join

them to a cluster. In administrative situation, the leadership makes people know about the existence of the system.

- Step II:** Become competent in participating in web-based collaborative knowledge working.

- Step III:** Understand and become active in the knowledge cluster by applying the principles of working in a community of practice. Building a trust relationship with other players is essential for successful knowledge cluster.

- Step IV:** Consider knowledge cluster as a key strategic resource and competitive tool within your business strategy.

Knowledge cluster brings organization members together for a purpose. In the area of communication, knowledge cluster could be used to bring staff together, under a general umbrella of sub-group(s) for a purpose. The cluster in this aspect could be through the use of internetworked computers in communication. Communication is believed to aid and share knowledge. It is also assumed to create an avenue for innovation and increase in productivity. Establishment of knowledge cluster in communication could reduce time wastage and reduce money spending among the clustered members.

With the current efforts in information and communication technology, the world has become a global village. Training of organizational staff on the use of computers has become imperative. Becoming a component participant in cluster system, one must be computer literate. Institutions with computer literate staff shall benefit more, using knowledge cluster in communication. Therefore, institutions and non-governmental organization should put more efforts in educating staff on areas of (ICT).

The importance of communication in knowledge management can never be ever emphasized. The pillars of knowledge management are in the areas of developing distinctive synergy and consolidation of knowledge in an organization. It is worthy of note that knowledge management is not ICT but the two has link since the two work together almost all the time (Nonaka, 1991). Communication could play a significant role in the area of knowledge distinction among staff in any organization. No matter the nature of Knowledge, if communication channel is not effective, certainly goal attainment will be mirage. Communication through the use of knowledge management and I.C.T. can improve administrative skills thereby, improving productivity and goals attainment in organizations. I.C.T may be employed by an administrator to communicate directives to subordinate and also receive information by an administrator to communicate directives to subordinate and also receives order from the superior officers without time wastage. In fact through the use of knowledge management communication gadgets, managers will be able to get information necessary for the improvement of staff knowledge, skills and be up to date with modern discoveries in the area of communication in administration.

Most communication channels in the university system are done in files, circulars and notice boards. This at times delay messages and some are passed late. This results to ineffectiveness as time determines actions in communications. In some cases human nature delays communication flow for reasons such as political or financial. More often vital information are delayed because it is being done manually. Absence of effective communication mechanism reduces quick action, hence reduces productivity at work. In fact, most communication barriers are experienced through a manual communication channels.

The rate at which managers still use old approach to organizational management is alarming. Recent

research finding shows that today's world of work is substantially more volatile, uncertain, and complex. The finding also revealed that the best way to defy complexity of work environment is creativity (IBM, 2010). Similarly, the research finding shows that educational planners and managers lay more emphasis and priority on project out-put than the process through which the process passes. This could be seen in inadequate physical work place or environment, which includes cubicles, work space, meeting rooms, tea rooms and other equipment that facilities staff creativity and innovativeness at work place.

Objective of the Study

The specific objective of this study was to: Examine the application of cluster knowledge management strategy on communication in universities in North-West Geo-Political Zone, Nigeria;

Research Question

The sole research question that guided the research was:

What is the difference in the opinions of university management and faculty board members in the application of cluster knowledge management strategy on communication in universities in North-West Geo-Political Zone, Nigeria?

Hypothesis

In other to answer the above stated question a null hypothesis was formulated. Thus, There is no significant difference in the opinions of university management and faculty board members on the application of cluster knowledge management strategy on communication in universities in North-West Geo-Political Zone, Nigeria.

RESEARCH METHODOLOGY

This research was a descriptive study and therefore survey research design was used. Survey design enables collection of data from large and small sample for interpretation (Whitney 1942 and Denga and Ali, 1989). The population of the study included management staff of universities and faculty board

members of the sampled universities in North-West Geo-Political Zone, Nigeria. From the fourteen (14) Federal and States universities in the zone, six (6) universities were sampled randomly, the sample was in agreement with the view of Nworgu (1991) who suggested 20% sample of population but with modification. Tablesland 2 show details.

Table 1: Population and Sample of University Management Staff for the Study.

S/N	University	Category of Respondents	Population	Sample
1	Ahmadu Bello University, Zaria.	University Management	05	05
2	Bayero University, Kano	University Management	05	05
3	Kano State University of Science and Technology, Wudil.	University Management	05	05
4	Kebbi State University of Science and Technology, Aliero.	University Management	05	05
5	Umaru Musa Yar'adua University, Katsina	University Management	05	05
6	UsmanuDanfodiyo University, Sokoto.	University Management	05	05
		Total	30	30

Source: Respective Federal and State Universities in North-West Geo-Political Zone (2013).

Table 1 shows selected universities, category of respondents, populations and samples of the management staff for the study. The table indicates that

the populations of management staff were thirty and the thirty was sampled for the study. Table 2 is on population and sample of faculty board members (Lecturers).

Table 2: Population and Sample of Faculty Board Members for the Study

S/N	University	Faculty	Population	Sample
1	Ahmadu Bello University, Zaria.	Education	138	65
		Law	90	45
		Engineering	120	60
2	Bayero University, Kano	Law	40	20
		Social Science	90	45
		Medicine	60	30
3	Kano State University of Science and Technology, Wudil.	Engineering	40	20
		Medicine	25	13

S/N	University	Faculty	Population	Sample
		Agriculture	21	10
4	Kebbi State University of Science and Technology, Aliero.	Engineering	35	18
		Medicine	30	15
		Agriculture	20	10
5	Umaru Musa Yar'adua University, Katsina	Education	45	23
		Law	30	15
		Administration	35	18
6	Usmanu Danfodiyo University, Sokoto.	Law	50	25
		Education	90	45
		Administration	105	53
		Total	1,070	530

Source: Respective Federal and State Universities in North-West Geo-Political Zone (2013).

Table 2 shows the selected university, faculty, population and sample of the faculty board members (Lecturers) for the study. The population for faculty board members was one thousand and seventy (1,070) with a sample five hundred and thirty (530).

A self-developed questionnaire was used for data collection. The instrument was structured using the

five Likert scale. The instrument was validated by expert in education, pilot tested with reliability 0.58 alpha index, which shows reliability. The data was analysed using non parametric statistic test method of Mann-Whitney U-test. This method gives ordinal rank measurement (Jerry and Jack, 1996).

DATA PRESENTATION AND ANALYSIS

Table 3: Opinions of Respondents on the Application of Cluster Knowledge Management Strategy on Communication in Universities in North-West, Nigeria

S/N	Item Statements	Category of Respondents	Opinions of Respondents										Total	
			SA		AG		UN		DA		SD			
			Freq	%	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%
1	Most administrative communications in different departments /units are done through networked computers	Management Staff	03	12.0	03	12.0	02	8.0	08	32.0	09	36.0	25	100
		Lecturers	154	32.4	122	25.7	51	10.7	68	14.3	80	16.8	475	100
2	Most administrative communications are coded for future references	Management Staff	00	00	02	8.0	03	12.0	08	32.0	12	48.0	25	100
		Lecturers	29	6.1	37	7.8	64	13.5	160	33.7	185	38.9	475	100
3	Most administrative staffs are trained on the use of computers in modern communication.	Management Staff	08	32.0	08	32.0	02	8.0	02	8.0	05	20.0	25	100
		Lecturers	168	35.4	140	29.5	53	11.2	46	9.7	68	14.8	475	100
4	Most administrative decisions are communicated within and outside the university through soft-ware	Management Staff	01	4.0	07	28.0	06	24.0	06	24.0	05	20.0	25	100
		Lecturers	32	6.7	29	6.1	68	14.3	165	34.7	181	38.1	475	100
5	Organizational web site is used to communicate meetings within and outside the university	Management Staff	00	00	04	16.0	06	24.0	08	32.0	07	28.0	25	100
		Lecturers	30	6.3	28	5.9	66	13.9	158	33.3	198	41.7	475	100
6	Committee members are coded on website for easy communication in the University.	Management Staff	02	8.0	03	12.0	05	20.0	08	32.0	07	28.0	25	100
		Lecturers	30	6.3	28	5.9	77	16.2	151	31.8	189	39.8	475	100
7	Computer literacy is a criterion for promotion in the universities.	Management Staff	09	36.0	08	32.0	01	4.0	05	20.0	02	8.0	25	100
		Lecturers	151	31.8	124	26.1	43	9.1	81	17.1	76	16.0	475	100
8	Website is being used to communicate	Management Staff	07	28.0	05	20.0	03	12.0	06	24.0	04	16.0	25	100

S/N	Item Statements	Category of Respondents	Opinions of Respondents										Total	
			SA		AG		UN		DA		SD			
			Freq	%	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%
	with university community and out on its operations.	Lecturers	113	23	113	23.8	69	14.5	91	19.2	89	18.7	475	100
9	Knowledge and information are shared through the university web site.	Management Staff	01	4.0	01	4.0	05	20.0	09	36.0	09	36.0	25	100
		Lecturers	32	6.7	31	6.5	62	13.1	161	33.9	189	39.8	475	100
10	Most offices in the university are networked with internet for better communication in and outside.	Management Staff	04	16.0	02	8.0	05	20.0	07	28.0	07	28.0	25	100
		Lecturers	51	10.7	37	7.8	74	15.6	153	32.2	160	33.7	475	100

Table 3 shows opinions of respondents on the application of cluster knowledge management strategy on communication in universities in North-West universities, Nigeria. The opinions in item statements 2, 4, 5, 6, 9 and 10 showed disagreement. While only few of the opinions agreed, this could be seen in item statement 1, 3, 7, and 8. From the table, items 2, 4, and 10 showed disagreement

Hypothesis Testing

The Hypothesis states that there is no significant difference is the opinion of university management and lecturers on the application of cluster knowledge management strategy on communication in universities in North-West Geo-Political Zone, Nigeria. Details of Mann-Whitney analysis were captured in table 4.

Table 4: Mann-Whitney U Test Summaries on the Opinions of Management Staff and Lecturers on the Application of Cluster Knowledge management Strategy on Communication in Universities in North-West Geo-Political Zone, Nigeria

Variables	N	Mean Rank	Mann-Whitney U-Test	Prob.	Decision
Management Staff	25	293.80	4855.5	.123	N.S
Lecturers	475	250.35			
Total	500	544.15			

P>0.05

Table 4 shows that P value of Mann-Whitney U test, (P 0.123) is greater than 0.05 at 5 percent significant level. This implies that the null hypothesis which states that there is no significant difference in the opinion of management staff and lecturers on the application of cluster knowledge management strategy on communication in universities in North-West Geo-Political Zone, Nigeria is hereby retrained. The acceptance of the hypothesis could be attributed to the strategy of cluster knowledge management on communication been a new approach in the world. Thus, its practice has not yet been used especially in the public universities in Nigeria. However, the practice has a lot of advantages some of which are reduce time and energy wastages and also reduce human error related to message delivery.

MAJOR FINDING

There was partial application of cluster knowledge management strategy on communication in universities North-West Geo-Political Zone, Nigeria.

DISCUSSION OF FINDINGS

The finding of research question shows partial application/practices of cluster knowledge management strategy on communication in the studied universities. Details could be seen in table 3. The findings which indicate that item statement such as training of staff on computer skills exist in the universities and most offices in the universities are networked with internet. On the other hand, the result indicates that communication is mostly not done through internet within the university and administrative communication are not coded for future use. This result indicates that to some extent the universities under studies were making efforts toward paperless communication process as most

organizations do. But to what extent is this effort? The result indicates low. The implication of this is failure of the universities to have an average level in training of staff and students make the university low in producing quality graduates who can compete with others within and outside Nigeria.

In fact, the little area of the application was not known as knowledge cluster in knowledge management by the staff in the university. This could be related to availability of some of the communication facilities in the universities. This also may be related to the effort of Nigerian Communications Commission (NCC) in equipping and networking most universities with internet. In fact an effort has been made for wireless network services for students to access information. It was argued that university of Ilorin was ranked best in Nigeria for its uniqueness in information and communication technology facility and usage. This could be what enabled the university to interact and share knowledge with sister universities within and outside Nigeria, thus, ranked first in Nigerian universities. Pradorn et al (2013) found that knowledge sharing (through communication) is the key success factor in the management of organizations. They added that the use of cluster assist in harnessing tacit and explicit knowledge among members of an organization.

Related to system theory, powerful nations of the world today became what they are after co-relating with big and smaller nations. In other words, Nigerian universities ought to relate and share information with others within and abroad so as to get more strength with wider coverage in knowledge. Thus, the use of open system generates/develops universities beyond local competition but to international knowledge -based university.

Meanwhile, availability of communication facilities develops an organization, while on the opposite degenerates it. Chika and Marchine (2011) found that inadequate training of staff on information and communication technology degenerate staff performance in terms of quality. This means that

information and communication are vital factors for staff job performance. Thus, all staff activities are based on instructions, and instructions are given through communication. Therefore, communication is vital for goal achievement in organizations. Hadiza and Zarah (2011) argued that ICT in the 21st century in education are indispensable tools that for every individual to be relevant in the century must have this skill. They added that teachers at all levels should be compelled to acquire ICT knowledge within specific period of time. This assertion advocates for the ICT knowledge, impliedly call for knowledge through which individuals in an organization can be able to communicate and be communicated to through modern technology.

In addition to the finding of this research, other researches show obstacles which hindered the use of communication technology to communicate in organizations, thus unless these obstacles are controlled or overcome, this utilization of the technology would continue to be a mirage in Nigeria. Fatimah (2012) found among other challenges faced in ICT utilization as poor electricity (Supply), financial constraints, inadequate appropriate skills and cost. These are challenges which can be overcome with political will and determination by government and head of institutions. In a related analysis Joy and Shamija (2012) found that constraints for ICT include government inadequate determination to provide funds for the supply ICT facilities and at the end affect the quality of teaching and learning activities in the schools.

As a way forward Joy et al (2012) opines that the use of ICT for communication in organization could have some of the following benefits: enhance and facilitates the collection, processing, storage, retrieval and transmission of information needed for the organization to achieve goals. The researcher adapted by a way of recommendation a model on the application knowledge cluster on communication in the universities (See Figure 2). The figure consists of six steps. In the belief of the researcher the figure could

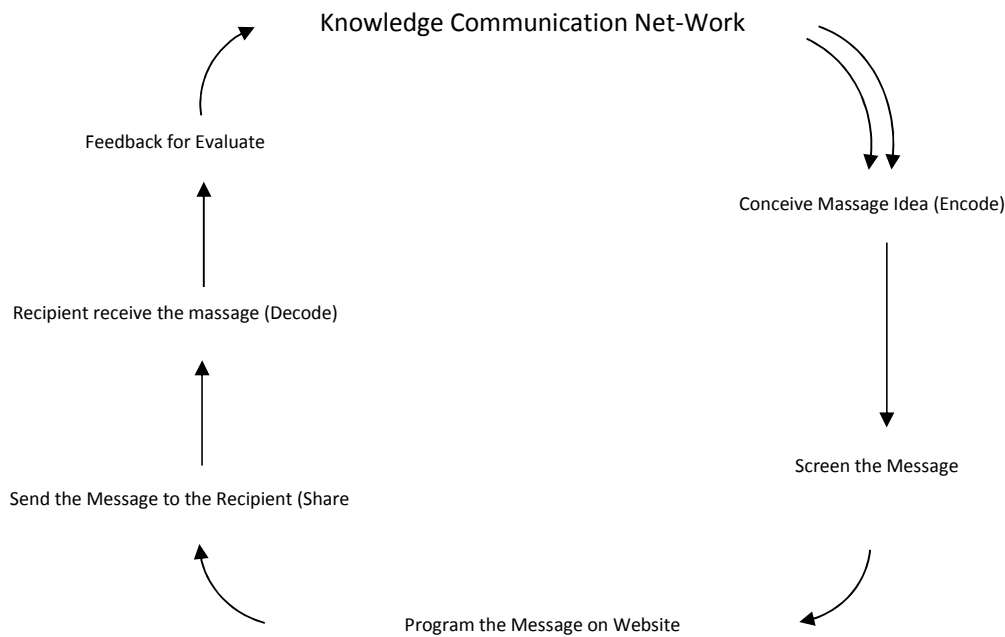
assist to move forward through the use of the model in communication.

CONCLUSION

However, the application of these strategies certainly will assist in providing positive change in the management practices in the universities. In the area of decision making the strategy could ease decisions by way of reducing time and energy wastages; it could also improve in democratic decisions processes devoid of fear of intimidations. In the area of planning, collaborative physical workspace strategy was believed to improve planning activities in the universities. This is expected to bring about modern approaches to planning with the view to aligning with the global practice in a university.

RECOMMENDATIONS

In relation to the findings on the partial application of cluster knowledge management strategy on communication in universities in North-West Geo-Political Zone. The researcher adapted and recommends that communication gadget needs additional provision on those already provided. Also there is the need for additional training and re-training of staff on ICT and other packages on software communications. Thus, figure 2 was recommended with the view to improving the application of knowledge cluster strategy on communications.



Source:A.M. Jumare, (2014).

Fig. 2: Model on the Application of Cluster Knowledge Management Strategy on Communication in Universities in North-West Geo-Political Zone, Nigeria

Figure 2 is on knowledge communication network process which could be explained as follows:

1. **Knowledge Communication Net-Work:** This is the name and title of the process. The process aim at creating a good channel in communication process, with the view to increasing and

developing knowledge sharing through communication among staff in organization, especially in the universities. The importance of communication can hardly be quantified, thus, communication create wealth and prestige for organization. Knowledge communication network present a process, through which university members could be net worked on computers and hand set phones. Thereby support information sharing on the aspects of work among both academic and non-academic staff. For non-academic information related to job description, meeting times/schedules, schedules/times for program, meeting minutes and host of others could be communicated to university committee members, departmental and faculty members and even to larger society depending on needs. More so, the same could be applicable to academic staff via sharing of research findings, meeting schedules and other related information as the case may be.

2. **Conceive Message Idea (Encode):** This implies the sender of the message having what to send at hand, thus the sender has defined/prepared the message. It is worthy of note that any message must be in agreement with the purpose /goal of the organization.
3. **Screen the Message:** The message needs to be thoroughly checked. This will help correct errors and ambiguity of content. Screening of message reduces waste of time, energy and wrong actions in organizations. A good way of message screening could be checking the message by two or more persons.
4. **Program the Message on Web Site:** At this level the screened message is programmed and hosted at the internet. The site ought to be for the organizational use only, thus should have security for the protection of distortion. The message could also be saved for future references in the organization.

5. **Send the Message to the Beneficiaries (Share information).** The next step is passing the message to the beneficiaries who are members to the organization. At this level information is shared, thus knowledge or vital messages passed.
6. **Recipient Receive the Message (Decode):** At this level of the process organizational members receive the message. The recipient could receive the message through computers or mobile handsets. It is at this level communication ends. However, one may enquire, has communication take place? Step seven gives the answer.
7. **Feedback for Evaluation:** At this stage the above question could be answered. Feedback for message could be response. Some responses could be through action by members of the organization or send back, acknowledgement for message received while some program in the internet shows delivery message to show received by the encoder.

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