Effect of Communication Flow Network and Managerial Decision Making in Anambra State Civil Service Commission

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Abstract: The study examines Communication flow network in Civil Service Commission to ascertain its effects on managerial decision-making. The sources of the data used for this research were primary and secondary data. A total of six hundred and eighty nine (689) employees of the Civil Service Commission, Anambra state were given questionnaires to fill, only five hundred and twenty six (526) of the respondents answered, completed and returned the questionnaire. The descriptive method was used to describe the data generated for the research. This was supported by tables showing questions, responses of Yes or No, percentages. The hypothesis was tested using goodness of fit and one sample t-test. From the findings, the researcher came to a final decision that Communication flow network is the life wire in an organization. This means communication is to a large extent very important to managerial decision-making in any organization.

Keywords: Communication, Decision-Making, Organization, Managerial, Network flow.

1. INTRODUCTION

Decision-making is an important principle of management. Managers have to agree on which goal to hunt, plans and approaches to set, the resources and how they will be acquired, but good decision making route depends solely on information that is gotten through "Communication flow network". Managers have to converse with their subordinates in order to get evidence needed for more appropriate decision-making. Good communication flow network with the internal and external environments allow managerial bodies in the organizations to make good decisions as well as gives insight on future events.

Every aspect of management requires adequate communication process from the top management level to the middle management to lower management level and to the customers, suppliers, stakeholders etc. for effective decision-making. Communication flow network process links various sub-systems or parts of a system or organization. Communication flow network is the glue that holds the various parts of the organization together. If the essence of management is

decision making, the central implication is that a relationship must exist between the flow of communication network or process within an organization and the managerial decision making process.

It is towards a study of this relationship that this research is conducted. The study is set in the State Civil Service Commission, Anambra State in the South east geo-political region of Nigeria.

Objective of the Study:
The objective of this study is to ascertain the effect of communication flow network and managerial decision-making in State Civil Service Commission, Anambra State.

Hypothesis:
Ho1   There is no relationship between organizational structure and effective communication flow network in an organization.
Ho2   The nature of communication network within an organization does not to a large extent influence managerial decision-making process.

2. REVIEW OF RELATED LITERATURE
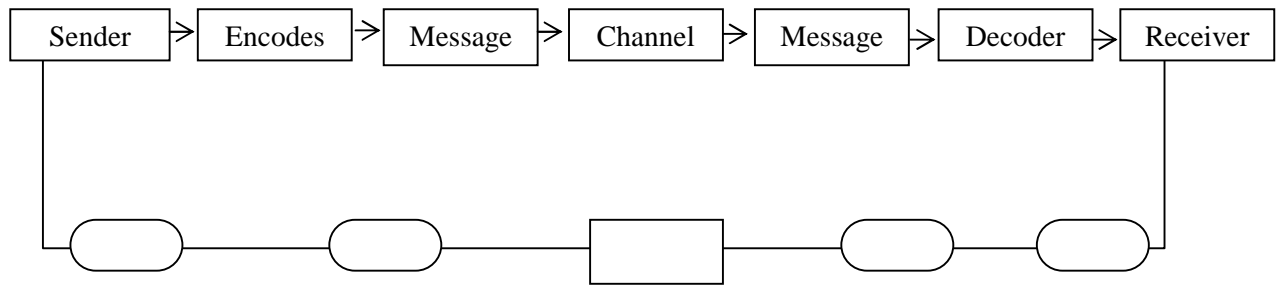**Communication**
The term "Communication" has many and varied meanings. Communication is a very important subject to any manager, since managing is getting things done through others and a task, which requires the manager to interconnect with other people. We often communicate unknowingly as others observe our actions and derive conclusions from them (Benne & Sheats, 1948; Bormann & Bormann, 1988; Cragan & Wright, 1991). Stoner et al (2000) defines communication as the process through which people attempt to share meaning via the transmission of symbolic messages. Flippo (1986) views communication as the act of imparting ideas and making oneself understood by others. Barnard (2005) defined communication as the means by which people are linked together in an organization to achieve a common purpose.
Importance of Communication includes:
* It provides a common thread for the management process of planning, organizing, leading and controlling.
* Communication skills enable managers to detect various talents among employees in an organization.
* Communication enables the workers to participate in management by making suggestions on matters that affect them and organization as a whole.

Communication Process
Communication takes place in the relationship between a sender and a receiver. Interpersonal communication process contains three elements. They are sender, message and receiver.

Source :(Rogers, 1976) Communication in Organizations

Figure 1: Communication Flow Network Process in an Organization

Sender: The sender is the source of the information to be communicated.
Encoding: Here, the sender tries to establish mutual relationship with the receiver by choosing symbols, which the receiver will understand.
Message: The message is a physical form into which the sender encodes the information. It must be in any form that can be understood by the receiver.
Channel: The channel is a mean of transmission. It can be through telephone, letter etc.
Receiver: This is a person who is communicated to by the sender. It may be an individual or many people.
Decoding: The receiver decodes the message by interpreting and translating it the way he will understand it.
Noise: Anything that disrupts information is noise. Noise hinders effective communication.
Feedback: This is the reaction of a receiver on a sender's message. It helps to determine how effective a communication process is.

Implications for Communication
The aim of communication is to increase the size of information arena. There are two processes through which it can be achieved. They are:
1. Through exposure of oneself to others.
2. Soliciting feedback from them.

To expose oneself to others, one must be open and trustworthy. Feedback requires one soliciting people's feelings about events, opinions and values. Communication is reciprocal. When one exposes oneself to others, others should also expose themselves to him.

3. RESEARCH METHODS
Participants:
The population of the study includes all employees of State Civil Service Commission, Anambra state, Nigeria without exemptions. We have 498 for females and 191 for males, totaling 689 (Human Resource Department, State Civil Service Commission, Awka 2017). A convenience sample consisting of employees from Anambra State Civil Service Commission was used in this study. Out of the six hundred and eighty nine (689) respondents given questionnaires to fill, only five hundred and twenty six (526) were completed and returned, representing 76.34% of the total sample size

Method of Data Analysis:
The descriptive method of data analysis was used to analyze data generated for the research. This was supported by tables showing questions, responses and percentages of Yes or No.

$$\text{Percentage} = \frac{\text{Number of Response}}{\text{Total Number of Respondents}} \times \frac{100}{1}$$

The data generated for this study was analyzed, using Goodness-of-fit statistical tool, and with other appropriate statistical techniques. The techniques included frequency and percentages. All analysis was done using Statistical Package for Social Science (SPSS) version 21 and Minitab software version 16.1. The hypothesis was tested as follows.
Hypothesis: Goodness-of-fit statistical tool and other relevant and appropriate statistical techniques were used to validate the hypothesis.

Decision Rule:
If the calculated result shows significant values, the null hypothesis is rejected, given room for the acceptability of the alternative hypothesis. But if the calculated results show a non-significant value, the null hypothesis will be accepted, while the alternative hypothesis will be rejected.

4   PRESENTATION AND ANALYSIS OF DATA

The presentation, analysis and interpretation of all the data collected are presented and analyzed. They are based on the objectives, research questions and hypotheses that guided the research. It further conducts a detailed analysis with the aid of suitable statistical technique of the data collected.

Background Information on the Respondents
Table1: Respondents on Gender Distribution

GENDER	FREQUENCY	PERCENTAGE (%)
Male	419	79.7%
Female	107	20.3%
Total	526	100

From the table above, it was observed that 419 (79.7%) respondents were male while 107(20.3%) respondents were females. This implies that the organization under study has a higher percentage of male workers to the female workers. It shows that equal representation of both genders is not observed.

Table 2: Respondents Age Distribution

Age	No of Respondents	% of Respondents
18 - 25	78	15%
26 – 35	113	22%
36 – 45	147	28%
46 – 55	128	24%
56 and above	60	11%
Total	526	100%

The above table reveals that 78 (15%) of the respondents fall between the age of 18 – 25, 113 (22%) respondents fall between 26 – 35 of age while 147 (28%) respondents falls between 36 – 45 years old. The remaining categories are 46 – 55 years which has 128 (24%) respondents and 56 and above which has 60 (11%) respondents.

Table 3: Respondents Marital Status

MARITAL STATUS	FREQUENCY	PERCENTAGE (%)
Married	394	74.9%
Single	132	25.1%
Total	526	100

In the above table, it reveals that 394 (74.9%) respondents are married while 132 (25.1%) of the respondents are single. It shows that the organization under study has higher number of married workers to that of single workers. This shows that there is no equal representation of both parties involved.

Table 4: Educational Qualification of Respondents

Educational Qualification	No of Respondents	Percentage
SSCE or its equivalent	43	8.1%
NCE/OND or its equivalent	78	14.9%
B.Sc/HND or its equivalent	324	61.6%
MBA/M.Sc and above	81	15.4%

Total	526	100%

The table above depicts the educational qualifications of the respondents. Those that possess SSCE or its equivalent are 43 (8.1%), 78 (14.9%) of the respondents possesses NCE/OND or its equivalent while324 (61.6%) possesses B.Sc/HND or its equivalent. Only 81 (15.4%) of the respondents possess MBA/M.Sc and above. The above table shows that most of the workers are higher institution graduates of different levels. This shows that workers in the organization under study has higher rate of first degree graduates and fewer O'level graduates. From the analysis, it can be said that the organization under study is in good hands i.e. large number of graduates as its workers.

Table 5: Category of Staff

Category of Staff	No of Respondents	Percentage
Junior staff	114	21.6%
Middle staff	286	54.4%
Senior staff	126	24%
Total	526	100%

On the category of staff, the above table indicates that 114 (21.6%) respondents are junior staff, 286 (54.4%) represent the middle staff, while 126 (24%) of the respondents are senior staff. The above table shows that the organization under study has higher number of middle staff and lower number of junior staff.

Presentation and Analysis of Data Based on Research Question
Table 6: Research Question 1
Ho1: There is no relationship between organizational structure and effective communication in an organization.

S/N	Questionnaire Items	Responses	No of Responses	Percentage %
1	Does decision-making involve all employees in your organization?	Yes	452	85.9
		No	74	14.1
		Total	526	100
2	Acceptable high quality information is not available and accessible to managers for decision making in your organization.	Yes	487	92.6
		No	39	7.4
		Total	526	100
3	Is communication the livewire in your organization?	Yes	393	74.7
		No	133	25.3

		Total	526	100
4	Is your organization people-oriented and also profit-oriented?	Yes	367	69.8
		No	159	30.2
		Total	526	100

The table above shows that 85.9% of respondents agreed that decision-making involves all employees, while 14.1% disagreed. The table shows that any 487 or 92.6% of the respondents affirmed that acceptable high quality information is not available and accessible to managers for decision making in their organization, while 39 or 7.4% objected to that.

However, 393 or 74.7% respondent agreed that communication is the livewire in their organization while 133 or 25.3% disagree with that.

Furthermore, 367 or 69.8% respondents agreed that organization is people-oriented and also profit-oriented while 159 or 30.2% disagree.

Test of Hypothesis One
Here, the researcher tests the formulated hypothesis using descriptive analysis and goodness-of-fit statistical tool to verify the validity of the hypothesis.

Table 7:   **Descriptive Statistics**

	N	Range	Minimum	Maximum	Sum	Mean		Std. Deviation	Variance
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic
YES	4	120	367	487	1699	424.75	27.326	54.653	2986.917
NO	4	120	39	159	405	101.25	27.326	54.653	2986.917
Valid N (listwise)	4								

The Descriptive analysis observed the statistical analysis of the data for Yes response and No response. The analysis revealed that the Yes Response has the range of 120, minimum of 367, maximum of 487, the sum of 1699, mean of 424.75, standard error of 27.32, standard deviation of 54.65 and standard variance of 2986.9. It also shows that the No Response has the range of 120, minimum of 39, maximum of 159, the sum of 405, mean of 101.25, standard error of 27.32, standard deviation of 54.65 and standard variance of 2986.9.
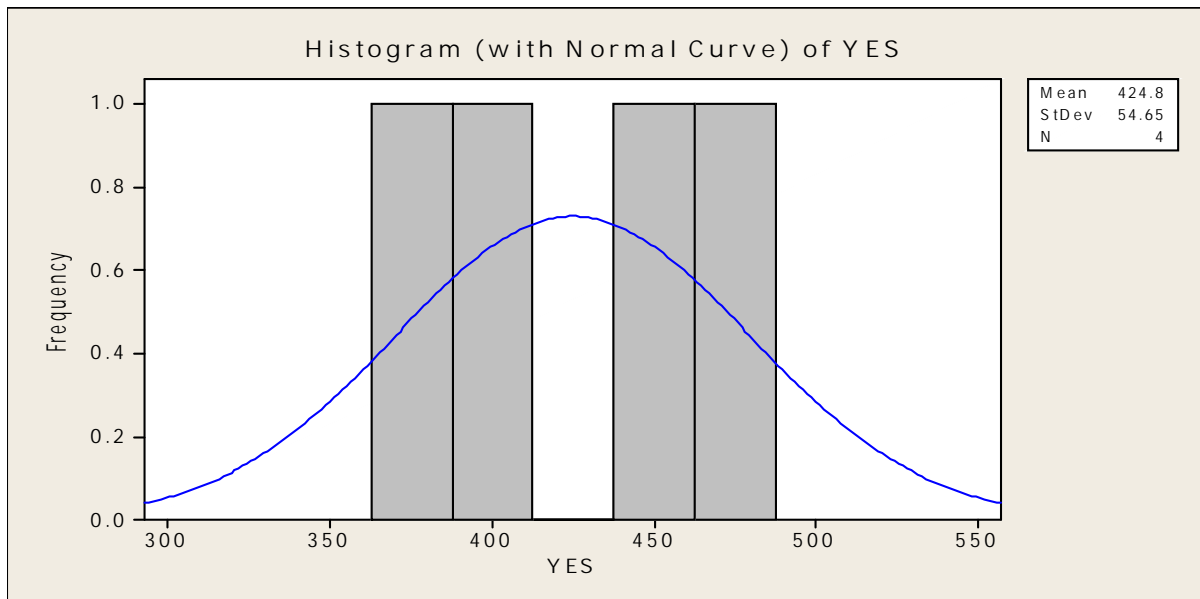
Figure 2: Histogram (with Normal Curve) of YES response for hypothesis one data

The descriptive statistics show the statistical summary of YES response for hypothesis one, it describes the details of the hypothesis statistically. It also shows the histogram chart of the data with its normality curve.

Figure 3: Histogram (with Normal Curve) of NO response for hypothesis one data

The descriptive statistics show the statistical summary of NO response for hypothesis one, it describes the details of the hypothesis statistically. It also shows the histogram chart of the data with its normality curve.
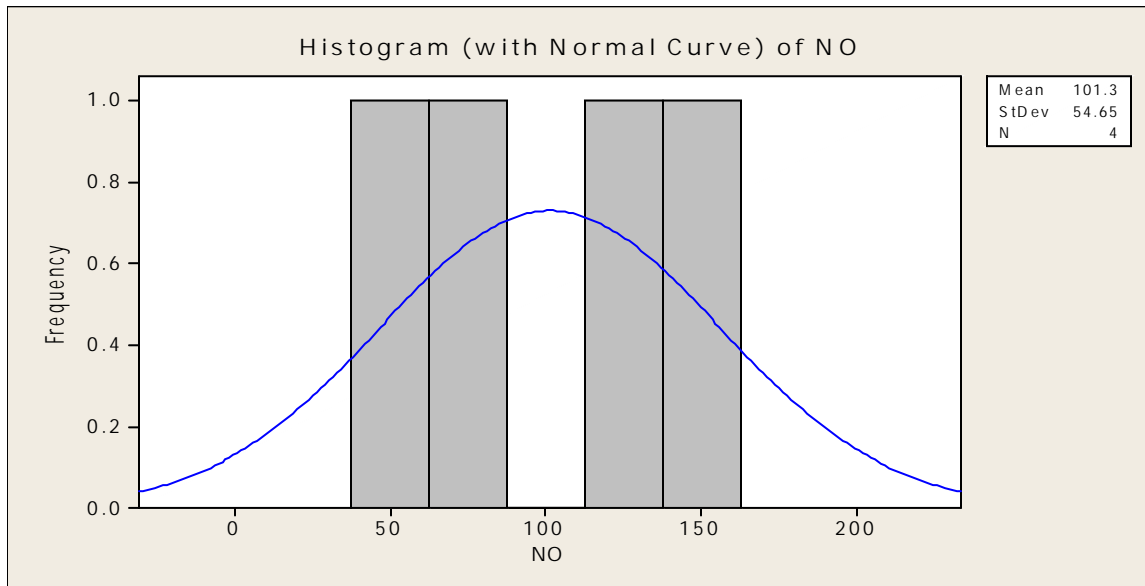
Goodness-of-Fit Test for Poisson Distribution

Table 8:   Goodness-of-fit Analysis

YES	Observed	Poisson Probability	Expected	Contribution to Chi-Sq
<=367	159	0.0384894	15.5882	1319.39
368 - 371	0	0.0204908	8.2988	8.30
372 - 375	0	0.0280895	11.3762	11.38
376 - 379	0	0.0368990	14.9441	14.94
380 - 383	0	0.0464694	18.8201	18.82
384 - 387	0	0.0561295	22.7324	22.73
388 - 391	0	0.0650539	26.3468	26.35
392 - 395	133	0.0723763	29.3124	366.78
396 - 399	0	0.0773286	31.3181	31.32
400 - 403	0	0.0793743	32.1466	32.15
404 - 407	0	0.0783047	31.7134	31.71
408 - 411	0	0.0742732	30.0807	30.08
412 - 415	0	0.0677609	27.4431	27.44
416 - 419	0	0.0594826	24.0905	24.09
420 - 423	0	0.0502603	20.3554	20.36
424 - 427	0	0.0408921	16.5613	16.56
428 - 431	0	0.0320470	12.9790	12.98
432 - 435	0	0.0242002	9.8011	9.80
436 - 439	0	0.0176149	7.1341	7.13
440 - 443	0	0.0123629	5.0070	5.01
444 - 447	0	0.0083691	3.3895	3.39
448 - 451	0	0.0054663	2.2139	2.21
>=452	113	0.0082651	3.3474	3591.97

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  N  N*  DF  Chi-Sq  P-Value
405   0  21  5634.89    0.000
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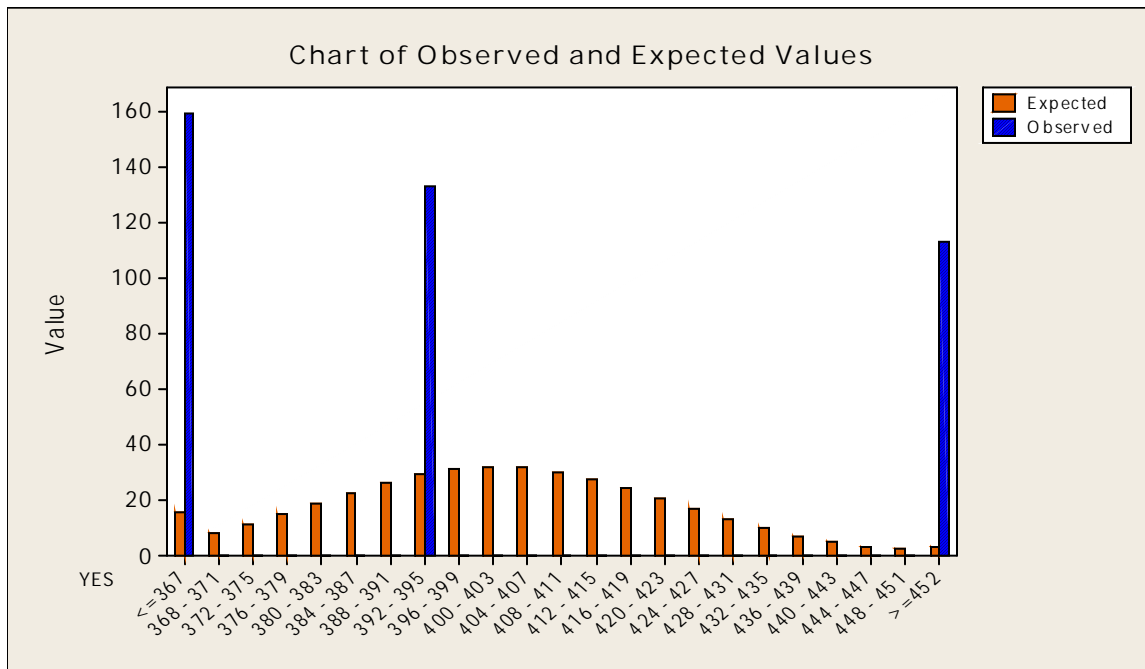
Figure 4: Chart of Observed and Expected Values

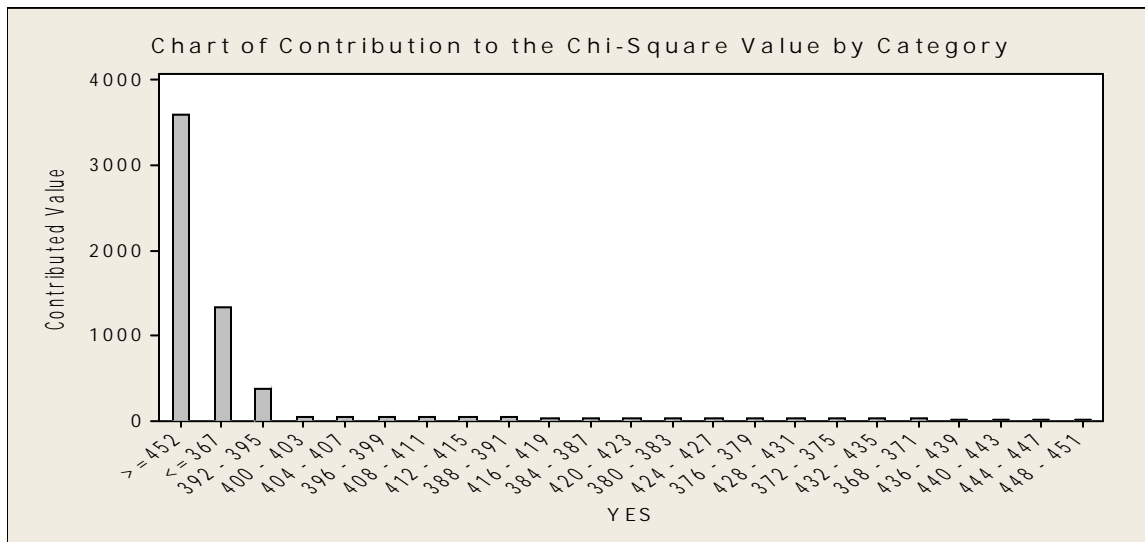**Figure 5: Chart of Contribution to the Chi-square Value by Category**

Decision rule:
From the analysis, the P-value which is the significance value is 0.000 which is less than the 0.01 significance level; therefore we reject the null hypothesis and accept the alternative which says that, "there is a relationship between organizational structure and effective communication in an organization".

Table 9: Research question 2

Ho2: The nature of communication network within an organization does not to a large extent influence managerial decision-making process.

S/N	Questionnaire Items	Responses	No of Responses	Percentage%
1	Do you believe that good communication flow in your organization leads to good management decision-making process?	Yes	375	71.3
		No	151	28.7
		Total	526	100
2	Do low level managers have influence on the organization managerial decisions?	Yes	402	76.4
		No	124	23.6
		Total	526	100
3	If you were to have better quality information by communicating with the employee or employer effectively, would your decision be more effective?	Yes	387	73.6
		No	139	26.4
		Total	526	100
4	Do you think that a managerial decision is regarded as being effective, when it is acceptable to the people or you who will implement it?	Yes	422	80.2
		No	104	19.8
		Total	526	100

The above table shows that 71.3% of respondents agreed that good communication flow in their organization leads to good management decision-making process, while 28.7% disagreed. The table shows that any 76.4% of the respondents affirmed that low level managers have influence on the organization managerial decisions, while 23.6% objected to that. However, 73.6% respondent agreed that to have better quality information by communicating with the employee or employer effectively, a decision would be more effective while 26.4% disagree with that. Furthermore, 80.2% respondents agreed that a managerial decision is regarded as being effective, when it is acceptable to the people or you who will implement it while 19.8% disagree.

Test of Hypothesis Two

The researcher tests the formulated hypothesis also using descriptive analysis, one sample t-test and goodness-of-fit statistical tool to verify the validity of the hypothesis.

Table 10: Descriptive Statistics for Hypothesis Two

	N	Range	Minimum	Maximum	Sum	Mean		Std. Deviation	Variance
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic
YES	4	47	375	422	1586	396.50	10.137	20.273	411.000
NO	4	47	104	151	518	129.50	10.137	20.273	411.000
Valid N (listwise)	4								

The Descriptive analysis observed the statistical analysis of the data for Yes response and No response. The analysis revealed that the Yes Response has the range of 47, minimum of 375, maximum of 422, the sum of 1586, mean of 396.50, standard error of 10.13, standard deviation of 20.27 and standard variance of 411. It also shows that the No Response has the range of 47, minimum of 104, maximum of 151, the sum of 518, mean of 129.50, standard error of 10.13, standard deviation of 20.27 and standard variance of 411.

T-Test Analysis

Table 11: **One-Sample Statistics**

	N	Mean	Std. Deviation	Std. Error Mean
YES	4	396.50	20.273	10.137
NO	4	129.50	20.273	10.137

From the above analysis, YES response has the mean of 396.50and standard deviation of 20.27 while the NO response has the mean of 129.50 and standard deviation of 20.27.

Table 12: **One-Sample Test**

	Test Value = 0					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
YES	39.116	3	.000	396.500	364.24	428.76
NO	12.776	3	.001	129.500	97.24	161.76

From the above analysis, it could be inferred that the asymptotic significance of 0.000 and 0.001 respectively are less than the level of significance employed for this hypothesis testing which is 0.01.

Goodness-of-Fit Test for Poisson Distribution

Table 13:   Goodness-of-fit Analysis for Hypothesis Two

YES	Observed	Poisson Probability	Expected	Contribution to Chi-Sq
<=375	151	0.174386	90.3321	40.75
376	0	0.013474	6.9794	6.98
377	0	0.014086	7.2963	7.30
378	0	0.014686	7.6075	7.61
379	0	0.015272	7.9109	7.91
380	0	0.015840	8.2049	8.20
381	0	0.016385	8.4874	8.49
382	0	0.016905	8.7567	8.76
383	0	0.017396	9.0109	9.01
384	0	0.017854	9.2484	9.25
385	0	0.018277	9.4675	9.47

386	0	0.018661	9.6666	9.67
387	139	0.019005	9.8445	1694.47
388	0	0.019305	9.9997	10.00
389	0	0.019559	10.1314	10.13
390	0	0.019765	10.2384	10.24
391	0	0.019923	10.3201	10.32
392	0	0.020031	10.3759	10.38
393	0	0.020088	10.4054	10.41
394	0	0.020094	10.4086	10.41
395	0	0.020049	10.3854	10.39
396	0	0.019954	10.3361	10.34
397	0	0.019809	10.2611	10.26
398	0	0.019616	10.1611	10.16
399	0	0.019376	10.0368	10.04
400	0	0.019091	9.8892	9.89
401	0	0.018764	9.7195	9.72
402	124	0.018396	9.5290	1375.13
403	0	0.017990	9.3190	9.32
404	0	0.017550	9.0911	9.09
405	0	0.017079	8.8469	8.85
406	0	0.016579	8.5880	8.59
407	0	0.016055	8.3162	8.32
408	0	0.015508	8.0333	8.03
409	0	0.014944	7.7410	7.74
410	0	0.014365	7.4412	7.44
411	0	0.013775	7.1356	7.14
412	0	0.013177	6.8259	6.83
413	0	0.012575	6.5139	6.51
414	0	0.011971	6.2011	6.20
415	0	0.011369	5.8891	5.89
416	0	0.010771	5.5793	5.58
417	0	0.010180	5.2732	5.27
418	0	0.009598	4.9719	4.97
419	0	0.009028	4.6767	4.68
420	0	0.008472	4.3885	4.39
421	0	0.007931	4.1083	4.11
>=422	104	0.085036	44.0489	81.59

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  N  N*  DF   Chi-Sq  P-Value
518   0  46  3556.18    0.000
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Figure 6: Chart of Observed and Expected Values

Figure 7: Chart of Contribution to the Chi-Square Value by Category

Decision Rule

From the above two analyses i.e. the one sample t-test and Goodness-of-fit techniques, it was observed that both have a significant value less than the significant level for the testing which is 0.01. Therefore, we reject the null hypothesis and accept the alternative hypothesis which states that, "the nature of communication flow network within an organization does to a large extent influence managerial decision-making process".

5.   CONCLUSION

From the data collected on the subject matter of the research work, observations have been made as regards to the structural questionnaire presented to them. Based on the findings of the study, many respondents were of the view that good communication flow in an organization leads to good management decision-making process.

However, from the findings, many respondents were of the opinion that a managerial decision is regarded as being effective, when it is acceptable to the people who will implement it. More so, many respondents were of the opinion that to have better quality information by communicating with the employee or employer effectively, would make their decision more effective.

In conclusion, from the findings, the study hereby reveals that communication is the livewire in an organization. This means communication flow network is to a large extent very important to managerial decision-making in an organization.

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