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A STUDY OF THE INFORMATION AND COMMUNICATIONS TECHNOLOGY MATURITY OF THE NIGERIAN NAVY FORCE

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ABSTRACT

The rate of ICT growth in the Nigerian Navy Forces is still appallingly low. Given the aforementioned factor, assessing the Nigerian Navy Force's ICT maturity level is critical as this could offer helpful insight into how to successfully integrate ICT into the Nigerian Navy Force. This research work adopted the Small-size and Medium-size Enterprises ICT Maturity model in examining and measuring the optimal utilization of technology in Nigeria Navy Force. A questionnaire designed after ICT Maturity Model of SMEs containing forty-five research questions guided this project work. The questionnaires were afterward sorted and coded according to the responses from the 30 Senior Commissioned Officers, 30 Junior Commissioned Officer and 30 Non-Commissioned Officers that participated in this research survey using the indicator stage value in the coding process. The required ICT Maturity Indexes were extracted from the respective commands and were subsequently calculated using the Microsoft Excel Spreadsheet. Nigerian Navy Commands and unit were carefully selected and their ICT calculated to be significantly substantial with ICT maturity level at 0.58. This result analysis shows that ICT's innovations and capacities are yet to be effectually and efficiently exploited within the Nigerian Navy Force. The research offers helpful insight into how to successfully integrate and measure the utilization of ICT potentials in the Nigerian Navy Force for its training and operations. The knowledge acquired would also be very beneficial for planning, budgeting, and setting funding priorities that will be specifically focused on the requirements area.

Keywords: Nigerian Navy, ICT Maturity, ICT Quantized, Communications, Information and Communications Technology

INTRODUCTION

"The word information and communications technology (ICT) refers to a wide range of technological instruments and resources utilized for information creation, sharing of data, transmission of information, storing and exchange of information and data. The Computers, the Internet (websites, blogs, and emails), live broadcasting media (radio, television, and webcasting), recorded broadcast media (podcasting, audio and video players, and storage devices), and telephony (fixed or mobile, satellite, etc.) are some of the examples of these technological tools and resources of information and communications technology (ICT)" (UNESCO, 2019).

The advent of information and communications technology (ICT) has aided quicker and improved communication, better-quality information routes, fortified storing of information, aided information exploration from any locality in the sphere. The Nigerian Navy depends on the potential of ICT for its operations, logistics, administration, and routine tasks, but its ICT infrastructure and understanding are insufficient to support and offer a superior interconnectivity of security architectures which could only be attained through the capability, velocity, effectiveness of data transmission, processing of data, gathering, and safeguarding of vital information with the help of full utilization of technology.

However, Nigeria Navy must optimally maximize this innovative technology of ICT advancement in its training and operations. In spite of all its potentials, a problem (challenge) is that ICTs have not been fully and extensively utilize as a tool that advance the effectiveness of discharging constitutional roles and assigned tasks. Therefore, it is imperative that we assess the ICTs' maturity of the Navy Force, knowing the maturity level will aid to identify its current profile of ICT infrastructures and usage, and also, to define its objectives in integrating ICT in training and daily operation. The evaluation of ICT maturity degree will assist in establishing future benchmarks and objectives as part of their strategic planning and financial priorities. The motivation of this study is that the authority keeps budgeting and introducing ICTs intervention without actually knowing the current state of ICTs in Nigerian Navy Force.

This research will advance knowledge by helping the authority to make decisive intervention on what type of ICT systems is needed in a targeted area base on factual knowledge. Also, the problem of wastages will be reduced when the area of interventions is properly and knowledgeably exposed and targeted. And this can only be achieved when the authority understands the present state of ICT maturity in the Nigerian Navy Force and to make efficient use of their knowledge assets to advance future development.

"At the moment, the Nigerian Navy Force is divided into six commands, nine branches at the Naval Headquarters, and several independent units. The six commands consist of the Training, Doctrine & Logistics Commands with headquarters at Apapa and Oghara respectively, and the three operational commands, Western Naval Command, Central Naval Command, and Eastern Naval Command, with headquarters at Apapa, Yenagoa, and Calabar" (Navy Press, 1991). ICT maturity in Navy connote a reality wherein it attains a fully matured circumstance when operated using Information and Communications Technology in trainings and operations. MIS (Management Information System) components are frequently taken into account when assessing the ICT maturity of a business enterprises. Additionally, the usage of ICTs in security architecture can be significantly influenced by ICT policy. To streamline the figures assemblage procedure as well as to comprehend the ICT maturity level of the NN, the resulting archetypal is projected to measure ICT maturity, that is: ICT Policy Information, ICT Infrastructure

Information, ICT Application Information, and ICT Human Resource Information, *(*Pham, *2010).*

A mature ICT is a technology used over a prolonged period of time, and that most of its initial fault and inherent snags have been replaced/removed or reduced by an advance development or improved technology. ICT Maturity refers to the extent to which technology helps an organization become more effective, progressive, and also capable of fulfilling its mission, vision, and business objectives using technologies. The ICT Maturity Model, designed for associations and charities, is an evaluation instrument that facilitates this kind of understanding about technology and guides organizations from a "restrictive" to an "innovative" stage of maturity.

Several notable researchers have attempted to measure the maturity level of SMEs. (Pham, *2010)* measured the ICT maturity of service registered with the Nigeria Stock Exchange (NSE). They concluded that service firms in Nigeria industry are web based in ICT maturity with an index value of 0.76. This project work was only concerned with measuring the ICT maturity of limited profit-making businesses in Vietnamese.

The study of factors affecting the use of Information and Communication Technology (ICT) in the Nigerian Navy (NN) training by (Ogbonnaya, 2019). The study was concern with: (i) examined ICT infrastructure utilization in Navy Schools, (ii) ascertain the proficiency of instructors in using ICT infrastructure, (iii) determine the variables that are upsetting the usage of ICTs in NN training and offer techniques for using ICTs in NN training more successfully. The project work did not measure the ICT maturity of the NN but only concentrated on identifying the four (4) afore mentioned points stated.

The design of security systems for monitoring exams and proctors during external offline examinations in Nigeria by (Adoga, 2023). "The proposed system made used of ICT technology for biometric authentication system, automated attendance system, Closed-Circuit Television (CCTV) cameras for video recording". This system is designed to work even in remote areas with unstable internet. However, this is not a research work on maturity measurement on ICT but an ICT system for monitoring and granting access in a rural environment with a limited amount of internet. All the researched works mention above tried to measure the ICT maturity level of different enterprises, but their works were limited and focused on profits making SME while ignoring the non-profit sectors which are critical sectors of a country economy.

This research work is completely different from the work done by (Ogbonnaya, 2019). Thus, this work furthers the intent of Ogbonnaya by investigating and measuring the ICT maturity level of Nigerian Navy Force. It is therefore obvious that no work, to the best of my knowledge, has dedicated itself practically to investigating and measuring the ICT maturity of Nigerian Navy Force.

MATERIALS AND METHODS

The ICT maturity model is measurable, simple to use, enhanced to handle any sort of enterprises maturity calculation and can easily be aligned with modern enterprises. A three-part designed questionnaire is based on the SMEs' ICT Maturity Model. The introduction section, demographic information (firm name and type) section and respondent's positions are all included in the first page of the questionnaire. Second section consists of 46 pointer questions categorized into the following four main categories: Infrastructure (eleven survey questions), Application (thirteen survey questions), Human Resource (eleven survey questions) and Policy (eleven survey questions).

The questionnaire makes use of sample indicators as similar to the one used by (Pham, 2010; Olutayo & Ekuobase, 2021). Appendix A contains a sample questionnaire. 108 research questionnaires were distributed, twelve per command and unit. 81 research questionnaires were accurately completed and returned. The next was sorting and coding the research questionnaire per respondent using the indicator stage value as proposed by *(*Pham, *2010).* Field agents were directed to ensure that the twelve survey forms be circulated four apiece to Senior Commissioned Officer, Junior Commissioned Officer, and Non-Commissioned Officer in a command/unit. This is to lessen the likelihoods of pitfalls within the officers as observed for firms in the Chinese mainland, where each firm was given a single questionnaire. Administering four questionnaires per command and unit did not only reduce the outcome of biasness but also faded the effect of positional prejudice within the ranked officers of each command.

Measurement for ICT Maturity

The ICT maturity index (ICTMI) was calculated using the formula in equation (1) as proposed by, *(*Pham, *2010)* to the best of my knowledge, the *(*Pham, *2010)*, implementation model is the only quantitative means of implementing the ICT maturity model of NN.

Calculating the ICT maturity index (ICTMI) using the below stated formula:

$$ICTMI = \alpha I + \beta A + \gamma H + \theta P \quad (1)$$

$$0 \leq I, A, H, P, ICTMI \leq 1, \alpha + \beta + \gamma + \theta = 1, \text{ and}$$

$$I = \sum_{l=1}^{4} \left(\frac{\left(\sum_{k=1}^{nl} I_{Ik}\right)}{\frac{nl}{4}} \right),$$

$$A = \sum_{l=1}^{4} \left(\frac{\left(\sum_{k=1}^{ml} A_{Ik}\right)}{\frac{ml}{4}} \right) \quad (2)$$

$$H = \sum_{l=1}^{4} \left(\frac{\left(\sum_{k=1}^{pl} H_{Ik}\right)}{\frac{pl}{4}} \right),$$

$$P = \sum_{l=1}^{4} \left(\frac{\left(\sum_{k=1}^{ql} P_{Ik}\right)}{\frac{ql}{4}} \right)$$

where '$I_{lt'}$, '$A_{lt'}$, '$H_{lt'}$ and '$P_{lt'}$ are indicators value of l; '$n_{l'}$, '$m_{l'}$, '$p_{l'}$ and '$q_{l'}$ are number of respective indicators value of stage l; $1 \leqslant l \leqslant 4$. In particular, '$I$' implies sub-ICTMI of Infrastructure; 'A' implies sub-ICTMI of Application; 'H' implies sub-ICTMI of Human Resource and 'P' implies sub-ICTMI of Policy.

The weight values of 'I', 'A', 'H', 'P' are not given, then

$$\alpha = \beta = \gamma = \theta = 0.25 \quad (3)$$

The above means that 'I', 'A', 'H', 'P' of a business enterprise (sub-ICTMIs) are weighted equally.

The result of ICTMI were attached to 5 stages of ICT development road-map as proposed by *(*Pham, *2010)*, as follow: Inactive 0-1/5(0.0–0.2), Basic 1/5-2/5(0.2–0.4), Substantial 2/5-3/5(0.4–0.6), Web-based 3/5-4/5(0.6–0.8), Knowledge–oriented 4/5-1(0.8–1.0).

Table 1: Phases of ICT Maturity and Its Features

	Phase of Maturity	**Phase One**	**Phase Two**	**Phase Three**	**Phase Four**	**Phase Five**
	Development Tendency	Inactive State	Basic State	Substantial Level	Networking	Knowledge-base Oriented
ICTs Infrastructures	Connectivity & Flexibility	Mobile Set	Personal Computer and PC	Networking	Internet Connectivity	Wireless connectivity
ICTs Human Resources	Sophisticated & Invention	Untrained	Business Knowledge	Technological skills	Skills and Knowledge in MIS	Skillful learning
ICTs Application	Integrated applications	No Basic application	E-mail and Office application	E-commerce E-business MIS applications	Electronic-Commerce	Electronic-Business
ICTs Policy	Mobility & Flexibility	No policy	Standar-dize	Renovative	Collabora-tion	Subcontrac-ting

Table 1 consist of the 5 phases of ICT maturity which does not exclude any phase, but include all the 5 phases of the maturity. A business enterprise or an entity must go through all the 5 phases to attain full maturity or fully developed in ICT rating. Consequently, we can ascertain the ICT development state of a business enterprises by getting the needed information about the ICT of an SMEs by applying four major elements and equating with above stated classification

RESULTS AND DISCUSSIONS

Table 2 Shows command category, analysis of personnel in various command structure that participated in the research survey.

Table 3 shows how the indicators are coded according to the 5 phases of business enterprises
road map in Table 1; Phase One is Inactive; Phase Two is Basic, Phase Three is Substantial, Phase Four is Web-based, Phase Five is Knowledge-oriented.

Table 2: Summary of participants and command level Types

COMMANDS	**SENIOR COMMISSIONED OFFICER**	**JUNIOR COMMISSIONED OFFICER**	**NON COMMISSIONED OFFICER**	**TOTAL TYPE**	**% Type**
COMMAND 1	3	3	3	9	**11.111%**
COMMAND 2	3	3	3	9	**11.111%**
COMMAND 3	3	3	3	9	**11.111%**
COMMAND 4	3	3	3	9	**11.111%**
COMMAND 5	3	3	3	9	**11.111%**
COMMAND 6	3	3	3	9	**11.111%**
COMMAND 7	3	3	3	9	**11.111%**
COMMAND 8	3	3	3	9	**11.111%**
COMMAND 9	3	3	3	9	**11.111%**
TOTAL	**27**	**27**	**27**	**81**	**100%**
% Of Command level	**33.33%**	**33.33%**	**33.33%**	**100%**	

Table 2 specifies the percentage ratio of each command level, percentage type of each command levels, and total number of respondents that partook in the research questionnaire survey. The above table outline a reasonable spreading of personnel across the command's levels where non-commissioned officer have equivalent participation of 33.33%, while senior and junior commissioned officers are at 33.33 % respectively.

Table 3: Indicators of ICT Development.

Major Factors	**Set of Indicators**	**Stage Values**
ICT Infrastructure (I)	Fixed Telephones set	2-Basic
	Mobile Gadget	2-Basic
	Computers Devices	2-Basic
	Type of Internet Connectivity	4- Web-based
	Local Area Network (LAN) Devices	3-Subtatian
	Internet Bandwidth Devices	4- Web-based
	Secure Internet Server and Hosting	4- Web-based
	System Backup and System Security	4- Web-based
	Wide Area Network (WAN) Devices	3- Substantial
	Wi-Fi Devices and Wireless Internet	5- KO
	I-mode access and WAP Devices	5- KO

• **ICT Application (A)**	Standard Software Application	2-Basic
	Getting Information via the Internet	4- Web-based
	Existence of Website	4- Web-based
	Internet services used	4- Web-based
	online payment system	4- Web-based
	Understanding E-marketing	5- KO
	IM/Electronic-mail	2-Basic
	ICT Networking for Social Activities	5- KO
	Video and Voice Conferences	5- KO
	Intranet/ Extranet Services	3- Substantial
	Management Information Systems	3- Substantial
	CRM/ ERP/ SCM	3- Substantial
	Knowledge Base System	5- KO
• **ICT Human Resource (H)**	ICT training	3- Substantial
	Officer using a computer	2-Basic 2
	Internet usage by Officers	4- Web-based
	Royalty payment & receipt	5- KO
	Patent Payment/license application	5- KO
	Command expenditure on R&D	5- KO
	Capacity for innovative Ideals	5- KO
	Number of specified IT officer	3- Substantial
	Separate IT department	4- Web-based
	Officer with Self-learning skill	5- KO
	Capacity for expertise reuse	5- KO
• **ICT Policy (P)**	Investment for ICT usage	3- Substantial
	Excellence Strategy	2-Basic
	Discretional Strategy	4- Web-based
	External Governing Policy	2-Basic
	Safety Strategy	4- Web-based
	Command Piracy Policy	5- KO
	Upgrade ICT hardware/ software	3- Substantial
	Valuation efficiency	5- KO
	Policies in security strategy	5- KO
	ICT usage for KM	5- KO

Table 4, displays the values of the ICTMI, Quantized ICTMI and the Sub-ICTMI of the 9 commands structure in the order of their occurrences in Table 2, applying equations (1), (2), (3); in aligning the ICT maturity levels to the calculated ICTMIs indexes, and the results were quantized by 0.25. The commands and units' structure are denoted as C_i, $i = 1(i)\ 9$.

The ICT maturity index (ICTMI) of each command was calculated based on the average functions of (Infrastructure, Application, Human Resources and Policy).

The below stated formula was used to calculate the ICTMI, Quantized ICTMI and the Sub-ICTMI using Microsoft Excel Spreadsheet:

$$ICTMI = \alpha I + \beta A + \gamma H + \theta P. \quad (4)$$

Where $\alpha = \beta = \gamma = \theta = 0.25$ are equally weighted and $0 \leqslant I, A, H, P, ICTMI \leqslant 1$

$$\text{Sub-ICTMI} = I = \sum_{l=1}^{4} \left(\frac{\left(\sum_{k=1}^{nl} I_{lk}\right)}{\frac{nl}{4}} \right) \text{ used to calculate for 'A','H', 'P'} \quad (5)$$

The summation coding of each command questionnaires was calculated using the indicators stage value of Inactive 0-1/5(0.0–0.2), Basic 1/5-2/5(0.2–0.4), Substantial 2/5-3/5(0.4–0.6), Web-based 3/5-4/5(0.6–0.8), Knowledge–oriented 4/5-1(0.8–1.0) according to the responses of each respondent that partook in the survey questions.

The Summation of the Sub-ICTMI values were then divided by 4 (the 4 major factor of SMEs) for each command to get the ICTMI values.

The ICTMI values of each command was quantized by 0.25 (using Equal weighting value). The results of this calculation can be seen in Table 4, depicting values for I, A, H, P, and ICTMI

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Table 4: Shows results of the Commands, values of I, A, H, P, ICTMI and quantized ICTMI as calculated using equation (1), (2) and (3)

commands	C1	C2	C3	C4	C5
I	0.660301	0.655093	0.663194	0.359375	0.569444
A	0.75	0.794271	0.791956	0.604167	0.616609
H	0.387731	0.369792	0.427083	0.364583	0.390625
P	0.652778	0.625	0.730903	0.734375	0.461806

ICTMI	2.45081	2.444155	2.613137	2.0625	2.038484
Quantized	**0.612703**	**0.611039**	**0.653284**	**0.515625**	**0.509621**

ICTMI stand for Information and Communications Technology Maturity Indexes; I stand for Infrastructures; A stand for Applications; H stand for Human Resources; P stand for Policies.

Table 4: Shows results of the Commands, values of I, A, H, P, ICTMI and quantized ICTMI as calculated using equation (1), (2) and (3)

commands	C6	C7	C8	C9	Average
I	0.550926	0.682292	0.655671	0.623264	**0.602173**
A	0.569444	0.814236	0.733796	0.664352	**0.704315**
H	0.373843	0.368056	0.393519	0.354167	**0.381044**
P	0.623264	0.689236	0.638889	0.666667	**0.646991**
ICTMI	2.117477	2.553819	2.421875	2.308449	**2.334523**
Quantized	**0.529369**	**0.638455**	**0.605469**	**0.577112**	**0.583631**

ICTMI stand for Information and Communications Technology Maturity Indexes; I stand for Infrastructures; A stand for Applications; H stand for Human Resources; P stand for Policies.

Table 5: ICTMI values Command Structures

C1	C2	C3	C4	C5
2.45081	2.444155	2.613137	2.0625	2.038484
C6	C7	C8	C9	**Average**
2.117477	2.553819	2.421875	2.308449	**2.334522**

Table 6: The Quantized ICTMI values Command Structure

C1	**0.612703**
C2	0.611039
C3	0.653284
C4	0.515625
C5	0.509621
C6	0.529369
C7	0.638455
C8	0.605469
C9	0.577112
Average	**0.583630**

Table 4 and 6 shows that the average ICT maturity of NN Command Structure is 0.583630 which by, *(*Pham, *2010)*, stratification is significantly substantial. Therefore, we are able to assert that the NN Command Structure's ICT maturity is approximately 0.58, which is, significantly substantial.

Discussion

Results Summary

Table 7: Summarized Quantized ICTMI of NN Command Structure

ID	COMM-AND CODES	INFRA.	APPL.	HR.	POLICY	ICTMI	QUAN TIZED	LEVEL
1	C1	0.660301	0.75	0.387731	0.652778	2.45081	0.612703	WEB BASED
2	C2	0.655093	0.794271	0.369792	0.625	2.444155	0.611039	WEB BASED
3	C3	0.663184	0.791956	0.427083	0.730903	2.613137	0.653284	WEB BASED
4	C4	0.359375	0.604167	0.364583	0.734375	2.0625	0.515625	SUBST ANTIAL
5	C5	0.569444	0.616609	0.390625	0.461806	2.038484	0.509621	SUBST ANTIAL
6	C6	0.550926	0.569444	0.373843	0.623264	2.117477	0.529369	SUBST ANTIAL
7	C7	0.682292	0.814236	0.368056	0.689236	2.553819	0.638455	WEB BASED
8	C8	0.655671	0.733796	0.393519	0.638889	2.421875	0.605469	WEB BASED
9	C9	0.623264	0.664352	0.354167	0.6666	2.308449	0.577112	SUBST

Average	**0.602173**	**0.704315**	**0.381044**	**0.646991**	**2.334522**	**0.583630**	ANTIAL SUBST ANTIAL

The quantized ICTMI in Table 4 was calculated using the equal weighting of 0.25 (α= β= γ= θ= 0.25) with an average value of 0.583630.

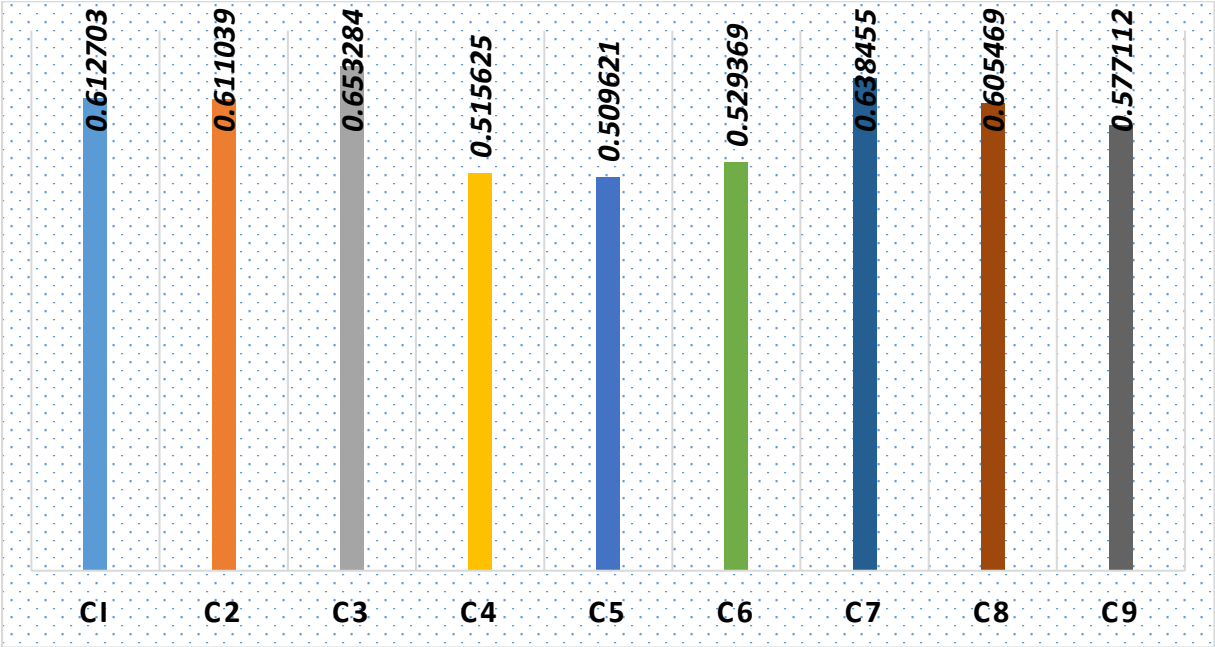

Figure 2: The Average Quantized of Commands Chart.

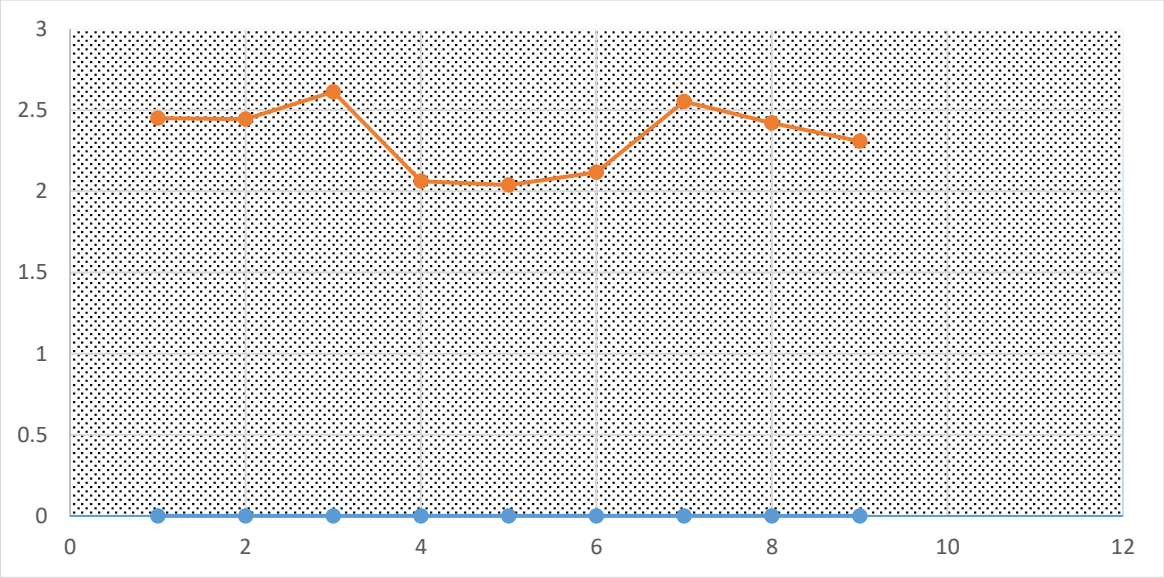

Figure 3: ICTMI of each Commands Chart.
Note: The number 1 to 9 is denoted as C_i, i = 1(i) 9

The average ICT maturity of Navy Force Command Structure is 0.583630 with equal weight which by *(*Pham, *2010)* stratification is significantly substantial. Therefore, we are able to assert that the Navy Force Command Structure's ICT maturity is approximately 0.58, which is, significantly substantial. The average of the selected commands of Navy Force ICT maturity was taken as the ICT maturity index of Nigerian Navy Force.

Table 3 displays the diversity of the responders across the Navy commands and command type as well as the number of personnel that partook in the survey. All the commands and units have equal respondent of 11.111% and 33.33% across officers.

Figure 2 above shows that Infrastructure is 0.6021, Application is 0.704315, Human Resources is 0.3810 and Policy is 0.6469. It could be stated that Human Resources is the lowest among the four ICT factors shown.

Overall, we assert from the following researches that human resource has been the lowest of the four ICT major factor in measuring SME maturity. For SMEs to become knowledge

oriented, from the fundamentals to the advanced level, human resources are very vital and important.

Table 4 shows the average ICT maturity of each command levels. We can adduce that Commands CI, C2, C3, C7 and C8 are web based. While Commands C4, C5, C6 and C9 are significantly substantial.

This project work recognized that the Navy Force has an estimated ICT maturity index of 0.58, indicating that the Nigerian Navy Force is significantly substantial and demonstrated that the ability of the human resource is the least targeted, followed by infrastructure. From the preceding chapter it shows that the infrastructures (hardware's), applications (software's) and policies know-hows of the Nigerian Navy Force are more innovative than the personnel proficiency expected to efficiently implement them. We can acknowledge from the preceding chapters and other related researches that ICT policies affects ICT Human Resources, ICT Applications and ICT Infrastructures. Therefore, ICT policies ought to be given priority for enhancing ICT maturity level while the remaining 3 features; ICT human resources, ICT applications and ICT infrastructures must be enhanced concurrently.

Five foremost challenges limiting the usage of ICT in Nigerian Navy operation were acknowledged. (1) Lack or shortage of well-equipped and furnished ICT centers, (2) evident of pitiable power supply, (3) poor policy on ICT intervention, (4) poor officer's knowledge on ICT and (5) lack of experience and skill personnel. These difficulties are not limited to Nigerian Navy alone (Kaino, 2004) identifies futile government policies as one of challenges to implementing and using ICTs effectively in underdeveloped nations. Similarly, there are empirical indication that unreliable energy sources and lack of ICT availability are the main elements influencing the efficient and effective application of ICT in training and education in the Nigerian environment.

Six (6) major strategies were identified during the course of this project work to improve the efficient application of ICT to NN operations. (1) infusion of detailed policy of ICT into the syllabus of naval training courses, (2) workshop/training for instructor officers, (3) introduction of trainees to modern services, (4) periodic refresher courses for instructors and officers, (5) intervention of adequate ICT infrastructure and (6) availability of a sufficient and efficient internet services. (Fakeye, 2010), asserts that instructors' proficiency in using ICT for training is essential and cannot be overstated. Empirical study carried out by (VichitaVathanophas et al. 2008), according to research on how Thai naval officers utilize ICT, prior experience, relevance of their jobs, and commitment appear to affect how they perceive the use of ICT in training, which should be identical for the NN personnel if they must meet global standard.

CONCLUSION

A crucial metric for investment policy and company performance – ICT maturity index, has been estimated. The Nigerian Navy Force's ICT maturity index was calculated to be roughly 0.58. The figure imply that Navy Force is substantially significant in ICT maturity. Administrators of policy, personnel and professionals in information technology (IT) now possess a comprehensive comprehension and are well positioned towards a justifiable ICT intervention and an improved ICT based for training and operational service delivery in Nigeria. This research article can be extended to all commands and units across the country, in order to holistically and accurately estimate ICT intervention in Nigerian Navy Force. From the viewpoints of the respondents in this study, ICTs have the capacities and the capabilities to support the personnel in meeting up with up-to-date military practices. There are underlining fact of authority purchasing and investing in technological infrastructure which most times are allowed to rust away without serving the purposes of the huge investment budgeted. Training, researches and development are the bedrock of any technological advancement in achieving optimal utilization. The Navy Force will need to show keen interest in modern and sophisticated technological drive. Researches and training of human capital that will make full usage of this technologies in order increase the maturity indexes must be topmost priority.

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APPENDIX A

INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) MATURITY ASSESSMENT QUESTIONAIRE.

GENERAL INSTRUCTIONS

Please answer the questions by drawing a circle around an appropriate number or alphabet in the space provided.
Please use the code where appropriate:
Yes definitely (Y); Yes, but not Significantly (S); No, but Probably within the next 5 years (P); No (N).
Unless specifically instructed otherwise, please answer all questions, one answer per item.

1. What is the name of the organization on whose behalf you are answering this questionnaire

2. What is the type of organization being assessed?

Nigeria Navy	

3. Please specify the level of management being assessed?

Operations	
Logistics	
ICT	

SECTION1 ICT INFRASTRUCTURE INFORMATION

1.1 Number of fixed telephones. (a) 1-10 (b) 11-15 (c) 51-100 (d) 101-200 (e) over 200
1.2 Number of business mobile devices (a) 1-10 (b) 11-15 (c) 51-100 (d) 101-200 (e) over 200
1.3 Number of computers (a) 1-10 (b) 11-15 (c) 51-100 (d) 101-200 (e) over 200
1.4 Type of Internet access. (a) No Internet (b) Dial up (c) ADSL (d) ISDN (e) cable modem (f) Leased line (g) Satellite (h) Others……

1.5 Have Local Area Network (LAN). Y; S; P; N
1.6 Internet bandwith (mbps). (a) Unknown (b) <8mbps (c) <16mbps (d) <32mbps (e) >=32mbps
1.7 Secure Internet Server Hosting. Y; S; P; N
1.8 Security & Backup System. Y; S; P; N
1.9 Wide Area Network (WAN). Y; S; P; N
1.10 Wireless LAN/Wifi Internet. Y; S; P; N
1.11 Company information/services could be accessed through WAP/i-Mode access Y; S; P; N

SECTION2 ICT APPLICATION INFORMATION

2.1. Standard application software. (a) Not Use (b) Office Software (c) CAD/CAM (d) Database (e) Others……..

2.2 Using Internet for getting information. Y; S; P; N

2.3 Website presence…… Y; S; P; N

2.4 Internet Services which is used or provided (a) No Service (b) Searching (c)Ordering (d) Purchasing(e)Marketing & Sales (f) Customer support (g) Intra-communications (h) Inter-communication (i) Others……..

2.5 Online Payment system. Y; S; P; N

2.6 Customer understanding e-Marketing. Y; S; P; N

2.7 E-Mail/IM for communication Y; S; P; N

2.8 Forum/ Social Network for cooperate use Y; S; P; N

2.9 **Remote Meeting/Voice Conference** **Y; S; P; N**

2.10 **Using services through intranet/Extranet Y; S; P; N**

2.11 **Management Information Systems. (a) No use (b) Finance Accounting (c) Human Resource Management (d) Document Management (e) Assets Management (f) Inventory Management (g) Decision Support System (DSS).**

2.12 **Integrated Information System provided (a) SCM (b) ERP (c) CRM (d) Others……..**

2.13 **Knowledge Systems (a) Business Intelligent (b) Knowledge Base/KMS (c) Expert Systems (d) Others…**

SECTION 3 ICT HUMAN RESOURCE INFORMATION

3.1 **ICT training (a) Usually (b) Sometime (c) Rarely (d) Never**

3.2 **Number of employees using a computer. (a) 1-10 (b) 11-50 (c) 51-100 (d) 101-200 (e) over 200**

3.3 **Number of employees using the Internet (a) 1-10 (b) 11-50 (c) 51-100 (d) 101-200 (e) over 200**

3.4 **Royalty payment & receipt. (a) No (b) The total amount is (NGN)……**

3.5 **Patent/license application. (a) No (b) Number of application is …….**

3.6 **Capacity for innovation. Y; S; P; N**

3.7 **Number of IT specified employee. (a) 1-10 (b) 11-50 (c) 51-100 (d) 101-200 (e) over 200**

3.8 **Separate IT department with Asst. Director/Director. Y; S; P; N**

3.9 **Number of Business specified employee (a) 1-10 (b) 11-50 (c) 51-100 (d) 101-200 (e) over 200**

3.10 **Employees with self-learning skill (a) 1-10 (b) 11-50 (c) 51-100 (d) 101-200 (e) over 200**

3.11 **Capacity for Expertise Reuse. Y; S; P; N**

SECTION 4 ICT POLICY INFORMATION

4.1 **ICT Investment budget/development budget (NGN/year): (a)5% (b)5%-15% (c)16%-30% (d)over 30%**

4.2 **Quality policy. (a) No quality policy (b) ISO (c)CMMI (d) Others……**

4.3 **Privacy policy Y; S; P; N**

4.4 **Regulatory quality. (a) Good (b) Fair (c) Not Good (d) Bad**

4.5 **Security policy. Y; S; P; N**

4.6 **Piracy policy Y; S; P; N**

4.7 **Upgrade ICT hardware/software. (a) Annually (b) 2-year period (c) 3-year period (d) No policy**

4.8 **Assessment effectiveness (a) Good (b) Fair (c) Not Good (d) Bad**

4.9 **ICT policy in company strategy. Y; S; P; N**

4.10 **In your organization, the following information management tools and services have been Institutionalized:**

1	**Inventory of information entities**	**Y;**	**S;**	**P;**	**N**
2	**Information management system**	**Y;**	**S;**	**P;**	**N**
3	**Databases**	**Y;**	**S;**	**P;**	**N**
4	**Information service/Library**	**Y;**	**S;**	**P;**	**N**

4.11 **Knowledge Management based on ICT use is a priority: Y; S; P; N**

Contact Name/ Position……..