Analysis of ICT Competencies and Public Service Delivery: A Case of Pacific Institute of Leadership and Governance (PILAG)

Mr. Erwin Rayel
Mr. Benny Lip
Mr. Phil Kuso
Dr. Joyce Jazmin-Rayel

Presentation Outline

- Introduction
- Background of the Study
- Research Motivation/Research Aim/Research Questions
- Literature Review
- Research Methods
- Limitations of the Study
- Results
- Conclusion and Recommendation

Introduction

- Information and Communication Technologies (ICT) is defined as a diverse set of technological tools and resources used to transmit, store, create, share or exchange information (UNESCO). These technological tools and resources include computers, the Internet (websites, blogs and emails), live broadcasting technologies (radio, television and webcasting), recorded broadcasting technologies (podcasting, audio and video players, and storage devices) and telephony (fixed or mobile, satellite, visio/video-conferencing, etc.).

- Information Communication Technology (ICT) now plays a fundamental part in our day to day activities.

- In the public administration arena, the use of ICT to enhance and improve public service delivery and performance is embraced by many governments worldwide. ICT has the potential to transform the relationship between citizens and public services, and how public services are delivered – but only if it is clear what the ICT is being used for, and appropriate ICT is used to achieve its objectives (Jones & Williams, 2005)

Background of the Study

- In Papua New Guinea, the public sector is trying to meet the challenges by setting appropriate public sector policy frameworks, strategies and plans to enable a collaborative and holistic approach toward deploying and utilizing digital technologies to deliver public goods and services to businesses and the citizens (PNG Digital Government Plan 2023-2027)

- **Pacific Institute of Leadership and Governance (PILAG**) is a School Government that aims to develop and deliver quality training outcomes in partnership with other Government agencies and training partners with particular emphasis on improving the Public Sector performance at the Sub-National level.

- **PILAG** is now venturing on the use of technology in its operations particularly in delivering training programs to a wider based clientele through hybrid mode (face to face and online). This innovative approach requires high-level of ICT competency for trainers as facilitators and other support services staff. Through this research, PILAG will be able to determine the current strengths and weaknesses of its staff in terms of ICT Competency and devised intervention program in terms of training and development of staff in various areas of ICT.

Research Motivation

The use of Information and Communication Technology (ICT) has become increasingly important in the public sector, as it can improve the efficiency and effectiveness of government services. In Papua New Guinea (PNG), public servants are expected to have a certain level of ICT competency to carry out their duties effectively. However, there is a lack of research on the current level of ICT competency among public servants in the country.

Research Purpose/Research Questions

This study analyses the ICT competencies of public servants in PNG, using the Pacific Institute of Leadership and Governance (PILAG) as a case study.

Specifically, this study sought answers to the following questions:

RQ1: What is the level of competency of PILAG staff in terms of computer hardware and software, word processing, presentation, data bases and internet.

RQ2: What is the status of PILAG in terms of its ICT support services and ICT infrastructure?

RQ3: How does ICT affect public service delivery of PILAG?

RQ4: What are the challenges faced by PILAG when using ICT-enabled public services?

Research Implications

The results of this research have important implications for policymakers and training institutions in Papua New Guinea, as they provide insights into the current state of ICT competency among public servants and highlight areas for improvement.

Literature Review

- According to UNESCO (2008), ICT Competency refers to knowledge, skills, and ability to take advantage of ICT for the purpose of gathering, processing and presenting information in support of activities among different groups of peoples for working purposes.

- Avila, E., et al (2021) assessed the ICT competence of employees of Polytechnic University of the Philippines using basic computer operations, word processing, spreadsheet applications, internet operations and equipment manipulation. They found out that the employees are moderately skillful in those areas of ICT. This study made use of similar variables in analyzing ICT Competency of the PILAG employees

- E-governance has the potential to improve service delivery and customer satisfaction. According to Pathak et. al. (2005), the expectations of citizens in PNG from public services are quite high, but experience has often been negative and this has adversely affected customer satisfaction over the number of years. Further, they concluded that there is an urgent need in PNG to employ e-governance in all public agencies in view of prevailing problems of service quality.

Research Methods

- Quantitative Method of Research
- Descriptive Statistics (Frequency, Percentage, Rank, Likert Scale, Mean)
- Level of Competency is measured through a 4 point Likert scale with the following verbal interpretation:
  - 1 Not competent
  - 2 Basic
  - 3 Proficient
  - 4 Advanced
- Respondents were PILAG employees performing office works
  - ➢Top management
  - ➢Middle Management
  - ➢Rank and File
- Primary and secondary sources of data
- 80 questionnaires were distributed but only 67 were considered valid.

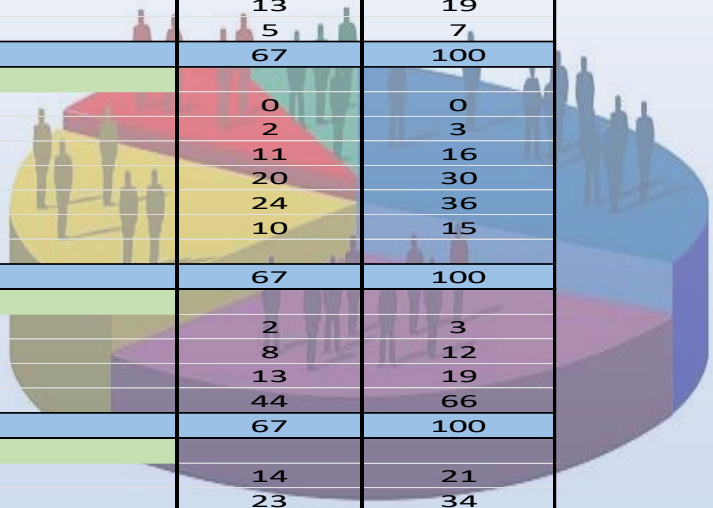
Limitations of the Study

- This study is limited to PILAG Staff based in Port Moresby
- Collection of data was limited to the use of survey questionnaire.
- The variables used to measure the level of competency is limited to the ICT tools and equipment.
- Future researchers who are interested to engage in similar study are encouraged to fill gap this research has created especially addressing the limitations.

Presentation and Analysis of Data

Demographic Profile

Indicators	Frequency	Percentage
Gender		
• Male	38	57
• Female	29	43
Total	67	100
Age		
• Under 25	0	0
• 25 – 34	29	43
• 35 – 44	20	30
• 45 – 54	13	19
• 55 and above	5	7
Total	67	100
Educational Attainment		
• Primary	0	0
• Secondary	2	3
• Certificate	11	16
• Diploma	20	30
• Bachelor's Degree	24	36
• Master's Degree	10	15
• Doctorate Degree		
Total	67	100
Position in the organization		
• Top Management	2	3
• Middle Management	8	12
• Line Supervisor	13	19
• Rank and File	44	66
Total	67	100
How long have you been in that position		
• Less than a year	14	21
• 1 – 3 years	23	34
• 4 – 6 years	11	16
• 7 – 9 years	11	16
• 10 – 12 years	5	7
• 13 – 15 years	2	3
• 16 years and above	1	1
Total	67	100



Majority of the respondents are male and belong to the rank and file group. The employees have diverse age group, educational attainment and number of years working with PILAG

Presentation and Analysis of Data

ICT Competency

Indicators	Frequency	Percentage	Interpretation
Computer Hardware and Software			
• I have no knowledge or experience with computer hardware or software	**2**	**3**	**Not competent**
• I have basic knowledge of computer hardware and software	**20**	**30**	**Basic**
• I am able to use common software application such as Microsoft Word and Excel.	**31**	**46**	**Proficient**
• I am able to troubleshoot basic computer hardware and software issues	**14**	**21**	**Advanced**
Total	**67**	**100**	
Word Processing			
• I have no knowledge or experience with word processing	**2**	**3**	**Not competent**
• I have basic knowledge of word processing applications	**10**	**15**	**Basic**
• I am able to create and edit documents using word processing applications	**35**	**52**	**Proficient**
• I am able to use advanced features of word processing applications such as mail merge and templates	**20**	**30**	**Advanced**
Total	**67**	**100**	
Spreadsheets/Excel Applications			
• I have no knowledge or experience with spreadsheets	**5**	**7**	**Not competent**
• I have basic knowledge of spreadsheets applications	**35**	**52**	**Basic**
• I am able to create and edit spreadsheets using basic functions and formulas	**17**	**25**	**Proficient**
• I am able to use advanced features of spreadsheets applications such as pivot tables and macros	**10**	**15**	**Advanced**
Total	**67**	**100**	

Presentation and Analysis of Data

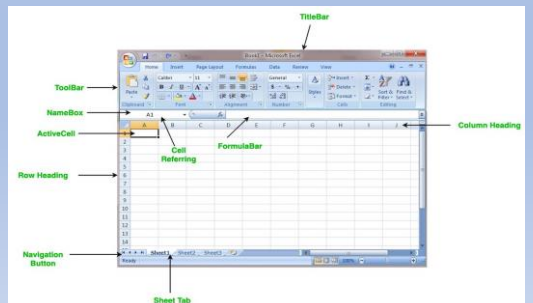
ICT Competency

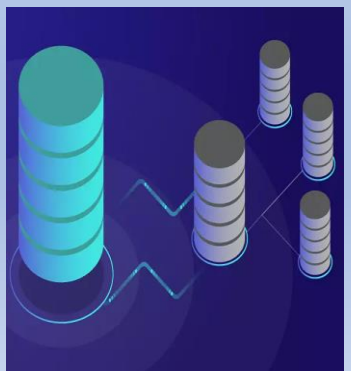
Indicators	Frequency	Percentage	Interpretation
Presentation/Powerpoint			
• I have no knowledge or experience with organizing slide presentation	4	6	Not Competent
• I have basic knowledge of organizing presentation	25	37	Basic
• I am able to create slide presentation using basic transitions and animations	23	34	Proficient
· I am able to use advanced features of slideshow transitions and animations	15	22	Advanced
Total	67	100	
Databases			
• I have no knowledge or experience with databases	31	46	Not competent
• I have basic knowledge of database applications	16	24	Basic
• I am able to create and edit simple databases	9	13	Proficient
• I am able to use advanced features of database applications such as queries and forms	11	16	Advanced
Total	67	100	
Internet Operations			
• I have no knowledge or experience with the internet	1	1	Not competent
• I have basic knowledge of internet applications	5	7	Basic
• I am able to browse the internet and use search engines	17	25	Proficient
• I am able to use internet applications such as email and social media	44	66	Advanced
Total	67	100	

Presentation and Analysis of Data

ICT Competency

ICT Competency Areas	Mean	Interpretation
Computer Hardware and Software	2.85	Proficient
Word Processing	3.09	Proficient
Spreadsheets Applications	2.48	Basic
Presentation/PowerPoint	2.73	Proficient
Databases	2.00	Basic
Internet Operations	3.55	Advanced
Average Mean	2.78	Proficient





Presentation and Analysis of Data

Training and Support

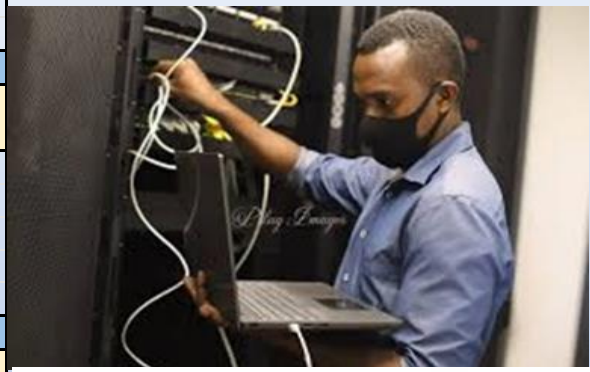
Indicators	Frequency	Percentage
Have you received any formal ICT training in the past 12 months?		
• Yes	25	37
• No	42	63
Total	67	100
If yes, what type of ICT training have you received?	Frequency	Rank
• Spreadsheets	12	1
• Internet	9	2
• Word processing	8	3
• Computer Hardware and software	6	4
• Databases	5	5
How often do you access ICT support services from your job?	Frequency	Percentage
• Daily	43	64
• Weekly	6	9
• Monthly	7	10
• Rarely	9	13
• Never	2	3
Total	**67**	**100**
How satisfied are you with the ICT support services provided by your department or agency?	Frequency	Percentage
• Very satisfied	10	15
• Satisfied	15	22
• Neutral	28	42
• Dissatisfied	13	19
• Very Dissatisfied	1	1
Total	**67**	**100**

Majority of the PILAG employees have not received any ICT formal training in the past 12 months. However, for those who attended, Spreadsheets ranks first. 64% have a daily access to support services from their job. 42 % are neutral or undecided on their level of satisfaction on the ICT support services provided by the institute. In fact, employees have different level of satisfaction on this aspect since satisfaction is subjective and depends on the individual experiences.

Presentation and Analysis of Data

ICT Infrastructure

Indicators		
Do you have access to a personal computer or laptop for your job?	**Frequency**	**Percentage**
• Yes	59	88
• No	8	12
Total	67	100
If yes, how often do you use your personal computer for your job?	**Frequency**	**Percentage**
• Daily	46	69
• Weekly	13	19
• Monthly	0	0
• Rarely	1	1
• Never	7	10
Total	67	100
Is there a central server?	**Frequency**	**Percentage**
• Yes	59	88
• No	8	12
Total	67	100
If yes, what is it used for?	**Frequency**	**Rank**
• Centralized network management	33	1
• Data storage	31	2
• Security	21	3
• I do not know	20	4
• Content and software storage	19	5
• Proxy server	12	6
• Data cache	10	7



For the ICT Infrastructure, 88% of the respondents have access to computer or laptop. 69% of them are using computer/laptop on a daily basis. 88% of them are aware on the existence of a central server in PILAG. Centralized network management ranks first among the perceived functions of central server by the employees.

Importance of ICT in Public Service Delivery

Indicators	Mean	Interpretation
I am aware of the ICT-enabled public services offered by my organization	3.55	Agree
It is important for organization to make use of technology in delivering public services	4.52	Strong agree
It is important to my organization to invest in ICT for public service delivery	4.39	Agree
It is important for my organization as public service provider to offer multiple channels for accessing public services (e.g. in-person, phone, online)?	4.36	Agree
It is important for my organization as a public service provider to ensure the security and privacy of citizen's data in the use of ICT for public service delivery	4.40	Agree
I am satisfied with the current level of ICT integration in the delivery public services in my organization	3.70	Agree
The use of ICT improved the accessibility of public services provided by my organization	4.21	Agree
The use of the ICT improved the efficiency and effectiveness of public service delivery of my organization	4.18	Agree
The use of ICT has improved transparency and accountability in public service delivery of my organization	4.39	Agree
It is important for my organization to offer training and support for citizens ICT-enabled public services	3.90	Agree
I am satisfied with the response time and customer service of my organization	3.78	Agree
Average Mean	**3.77**	**Agree**

- PILAG employees strongly agree that ICT is crucial in delivering public services.
- They agree that the use of ICT has improved the efficiency, effectiveness, transparency and accountability in public service delivery of PILAG.
- They also express satisfaction with the current level of ICT integration in the delivery of public services of PILAG

Challenges when using ICT-enabled public services?

Indicators	Frequency	Rank
• Technical issues with the system	30	1
• Lack of access to ICT infrastructure	19	2
• Slow internet connection	15	3
• Lack of ICT skills	13	4
• Lack of trust in the security of personal information	12	5
• Difficulty in navigating the system	11	6

Conclusion and Recommendation

- The overall ICT competence of PILAG employees is **proficient**. Their strength is in the area of Internet Operations. Database is the ICT area PILAG staff need to be trained to become more competent. Word Processing and Power Point Presentation are ICT areas where staff can still improve their level competency.
- Most of the PILAG staff have not received ICT training for the past 12 months and this may have contributed to their moderate satisfaction with the ICT support services provided by their organization.
- PILAG employees recognize the importance of ICT in the delivery of public services and acknowledge ICT as contributory factor to their improved performance.
- Technical issue with the system is the major challenge faced by the staff when using ICT-enabled public services.
- **The study recommends the development of targeted training programs, the provision of adequate ICT resources, and the implementation of policies to support the integration of ICT into public sector operations.**




THANK YOU!