

THE CHALLENGES OF MEASURING COMMUNITY ACCESS TO INFORMATION AND COMMUNICATION TECHNOLOGIES (ICT) IN PAPUA NEW GUINEA¹

by

Willie Lahari
Deputy National Statistician
Papua New Guinea

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This paper looks at the current status and challenges in measuring Information and Communication Technologies (ICT), particularly community access to ICTs in Papua New Guinea (PNG).

Current Status

The astounding growth of information and communication technologies (ICT) in socio-economic development of Papua New Guinea (PNG) and the emergence of the global information society is changing the way of life of every Papua New Guinean. And while the PNG government still cannot effectively provide an enabling economic environment for easy access to key basic services like schools and hospitals for the majority of her population, particularly the rural mass, the question of access to ICT services and facilities also joins this queue to be seriously addressed. Whilst policies in the form of the National Policy on Information and Communication (1994) is currently being reviewed, there is apparently little work done in terms of the implementation and integration of programs and activities relating to the ICT. As a result, the measurement and compilation of ICT indicators for monitoring and evaluation of ICT related policies in PNG has not even reached the data compilation stage, in fact, there are no official ICT statistics collected nor published in PNG.

Current practices and data sources

Attempts have only been made recently in informally observing the ICT facilities/services as part of the Annual Business Census (ABC) and the Business Liaison Survey (BLS) data collection operations for the purposes of national accounts. However, it has been difficult to obtain relevant data and at the time of writing, a UNDP/PNG Government ICT national workshop has also been convened to further discuss and cluster problems on ICT in PNG.

Attempts to investigate further into the ICT related data led into the some assessment of data availability from existing NSO data sources. Whilst there is no official ICT related statistics published, some data lie in administrative records of businesses and some government departments like the Ministry of Communication. Data on ICT activities can be found in the Annual Business Census (ABC) and the Business Liaison Survey (BLS) conducted by the National Statistical Office (NSO) for national accounts purposes and merchandise trade statistics compiled from imports and export data from the Internal Revenue Commission. Other forms of data like reports on ICT etc can also be obtained from the Ministry of Communication and Telecom. However, the data sources are not specific to ICT requirements and thus there are still data limitations on ICT.

¹ All errors and views expressed in this paper are those of the author and do not represent an official view of the National Statistical Office of Papua New Guinea nor the views of the Government of Papua New Guinea

ICT data in National Accounts

The Papua New Guinea Industry Classification (PNG IC) which is consistent with the International Classification System (ICS) classifies ICT related statistics in the following industries. The national accounts data is mainly sourced from the ABC. Table shows related issues relating to obtaining ICT data from national accounts.

Industry Description (PNG IC) – Common ICT Categories	Share of GDP (2002)	Issues
Wholesale and Retail	11.3	* Difficult to obtain data on sales/transactions of ICT related products/services—demand side
Transport, Storage and Communication - Transport & Storage - Communication	4.8 0.03 0.64	* Communication- about 5% of total Trans, Storage, Com Industry but could be more: Data on detailed homogeneous units still a problem
Finance, Insurance, Real Estate and Business Services - Business Services - Fin, Ins, R/Est	3.2 0.08 0.19	*Difficult to obtain specific data on ICT services; detailed homogenous activities particularly business services is still a problem.

The table shows that industry level data on the ICT sector is not comprehensive enough to adequately be represented. ICT sector would appear to be a relatively small industry as shown indirectly by the communication share to GDP and business services which is assumed to make up a big component of ICT activities.

ICT data in Merchandise Trade

To assess the scope of ICT related products and services from the imports and exports data on Merchandise Trade is also a problem in terms of obtaining the specific data on the range of ICT products and services. There is difficulty in obtaining quality and relevant data through the Trade System and Tariff system because the department of customs and internal revenue do not record accurately imports/exports at the detailed classification levels as most are concerned about duties and levies obtained. For example, ICT related products imported like computers are grouped under the category heading section 85 which relates to “Electrical machinery and equipment and parts thereof; sound recorders and reproducers, television image and sound recorders and reproducers, and parts and accessories of such articles” under the Standard International Trade Classification System (SITC) and again slightly differently under the harmonized Commodity classification. To obtain detailed ICT related items has been difficult.

ICT data in Population Census/Surveys

There is very limited data on ICT collected from the Population Censuses in 1980, 1990 and the recent 2000 Census. Other surveys like the Demographic and Health Survey also do not collect much ICT related information. The table below shows the common ICT indicators by census/survey data sources and whether such indicators can be obtained or are included from these sources.

Type of common ICT indicators

Indicator	Included in Population Censuses?	Included in other NSO surveys?	Included from other admin. records?*
Electricity	No	No	60,000 Subscribers
Radio	No	No	31.8 per 100 people
Television	No	No	7.2 per 100 people
Telephone - only fixed - only mobile - fixed and mobile	No	No	85,000 Subscribers 200,000 285,000
Computer	No	No	na
Internet Access	No	No	na
Pay TV	No	No	na

* Estimate only by PNG Mobile P/L, Telekom, PNG Power P/L in October 2004 and estimates from PNG Human Development report, 1998.

The table also shows that ICT services are not popular and that there is hardly any reliable information on the number of internet access, computers in PNG. At the time of writing this report, requests made to our 5 Internet service providers (IPs) to provide internet access data was not successful.

Access to Public Internet Access Centers (PIAC)

Information represented here are estimates based on recent informal observations on ICT activities gathered during the BLS and ABC operations, and from discussions with Ministry of communications. These statistics are not official statistics but are estimates gathered for the purposes of this discussion only.

Estimated Number and percent of population with having access to a Public Internet Access Centre (PIAC)

Localities By no. of inhabitants	No. of localities	Population	Governmental		Private		Total		Percentage	
			Localities	Pop	local	Pop	Local	Pop	Local	Pop
Total	20	5.2m	na	na	20	20,000	20	20,000	100	0.4
Urban (10,000 – 49,000)	20	0.7m	na	na	20	20,000	20	20,000	100	2.9
Rural	-	-	-	-	-	-	-	-	-	-

The table shows that PIAC access is very low and operated mainly by private businesses. Only about 0.4 percent of the population, particularly those in urban areas only have access to PIAC. There are apparently no public internet access centers in the rural areas of PNG where 87% of the population live and depend mainly on subsistence activities.

Estimated Number of PIACs by Type of PIAC and use of PIAC

PIACs by Type				Users by Type			
Total	DCC	Other	Edu Ctr	Total	DCC	Other	Edu Ctr

20	15	5	-	20,000	18,000	2,000	-
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There are really no education centers for public access but there are smaller labs, libraries in schools, universities that are used for specific educational purposes however there has been no count of these facilities. The other categories refer mainly to shops corners that put a one or two computers for internet use by the public which have about 2,000 visitors on average.

Estimated Usage and Infrastructure

USAGE AND INFRASTRUCTURE INDICATORS						
Potential. Pop (1)	Target Pop for DCC Services (2)	Actual Usage (3)	Average DCC Usage Rate (4)	DCC Density in Rural Areas (5)	DCC Density in Urban Areas (6)	No. of Computers in DCCs.
4.3m	4.28m	0.01	2,000 hrs	-	0.028	100

The potential population to reach is about 4.3 million of which slightly more than 85% of them live in the rural areas. The average usage rate is about 1 hour given the slow PCs available and so the average number of opening hours is 10 hours a day so a rate of 2,000. The DCC density in urban areas is 0.028 which is extremely low while the rural areas need to be reached. There is an average of 6-7 computers in the DCCs in urban areas.

Challenges for PNG

The ICT industry is rapidly changing but the government is slow in making attempts to measure ICT in PNG. The challenge for the PNG now is the collection of reliable and quality ICT data in line with the international standards and definition and at the same time considering the nature of access to ICT definitions in the PNG context.

Whilst the overall range and quality of official ICT statistics falls well short of what is comprehensive and relevant in statistical terms, the issue of the demand and supply of ICT services/products and the access to these services still needs to be officially understood and accepted by the PNG government.

The challenge to measure what are the core and non-core set of ICT access indicators and the range of comparable access indicators is still an issue. The issues of qualitative ICT data is limited and whether there is possibility to allow for monetary measures as indirect/direct measures for addressing access indicators relating to ICT/PIAC also needs to be looked at as well as the possibility of producing a comprehensive ICT access composite index. In PNG, we also need to look into the definition of PIAC and how we categorize a family home where close relatives and friends come to access to internet.

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