Information Technology Usage in Nigeria

Isola Ajiferuke
University of Western Ontario, Canada

Wole Olatokun
University of Ibadan, Nigeria

INTRODUCTION

The term information technology (IT) came into common use in the late 1980s, supplanting earlier terms such as electronic data processing systems (EDP), management information systems (MIS), and office systems (IS). Oliver, E. C., Chapman, R. J. and French, C. S. (1990) defined IT as the technology which supports activities involving the creation, storage, manipulation and communication of information (principally computing, electronics and electronic communications) together with their related methods, management and applications. Such an all-embracing term is clearly open to a number of interpretations depending on in which context it is used. In some contexts, the term "information technology" means computers, ancillary equipment, software and firmware (hardware) and similar procedures, services (including support services) and related resources. Also, it includes any equipment or interconnected system or subsystem of equipment that is used in the automatic acquisition, storage, manipulation, management, movement, control, display, switching, interchange, transmission or reception of data or information.

The emergence, development and diffusion of information technology has changed the society dramatically into what is now sometimes called an information society. IT makes it possible to collect, process and transmit information much faster and much cheaper than before. The use of IT has had profound effects on the economy, production, services and the society as a whole, and its areas of application include education, health care, commerce, publishing, manufacturing, finance, and banking (Hanna, N., Guy, K. & Arnold, E,1995).

BACKGROUND

Even though the use of IT is spreading fast, most of the market remains geographically concentrated in the advanced industrialised countries, notably the United States, Western Europe and Japan. There are great differences between industrial and developing countries: Hanna, Guy and Arnold (1995) concluded that developing countries are poor in the infrastructure that is the key to IT diffusion. Lack of trained manpower, the high cost of telecommunications and document delivery, and the cost of information itself are other barriers developing countries are struggling with (Conceicão Calomon Arruda, 1997).

Apart from the problems identified above, the other major impediment to the successful adoption of IT in developing countries is the non-availability of a well-articulated information technology policy. According to Shila (1994), such policies are needed to:

(i) solve coordination problems in IT such as haphazard development or importation of systems without regard for nationwide concerns and priorities;
(ii) create a critical mass of expertise in the public sector;
(iii) raise general awareness about the social and economic consequences of IT;
(iv) increase the efficiency of government computerization; and
(v) launch specific projects that cut across agency lines in the fields of infrastructure development, standardization, human capital formation, and technology support for the private sector.

Shila's view is corroborated by Mulira (1995), who states that the purpose of having an appropriate national IT policy is to create an environment where economic and social benefits may be achieved; where utilization of resources may be optimized; where domestic technological capabilities may be encouraged; and where procurement decisions can be taken rationally. Hence, the objectives of this chapter are to review the IT usage in a typical developing country, Nigeria, and to evaluate the appropriateness of its recently formulated IT policy.

MAIN THRUST OF THE ARTICLE

The Federal Republic of Nigeria is situated on the West African coast, and shares common borders with the Benin Republic in the West, Niger to the North, Chad Republic

to the North-East, and Cameroon Republic to the East. Nigeria is the most populous country in Africa, with an estimated population of about 123 million people (Encyclopedia4u, 2000). The climate is wholly tropical, and even though more than 75% of the people live in rural areas, agriculture is not the mainstay of the Nigerian economy. The expansion in the oil sector in the 1970s and early 1980s has led to a considerable decline in agriculture.

IT usage in Nigeria cuts across the major sectors of the economy but with varying degrees of applications. The use of computers in manufacturing - with the exception of certain high-technology process industries in which the process computer is essentially a part of the process machinery (e.g. petroleum refining and the steel mill) - is only a recent phenomenon. It is in the area of coordination, or management, which the greatest advance has been made. In fact, computerization has been most widespread in the area of financial management, including payroll, accounts, general ledger, sales, and invoicing. More than 80 per cent of computer installations are used in this way. There are also many instances of companies that have not installed computers but have their accounts and payroll batch-processed on a bureau computer owned by a vendor or an agency.

In the banking and financial industry, computerization is still limited to ledgers, communication, and current account management (Ugwu, L.O., Oyebisi, T.O., Ilori, M.O., & Adagunodo, E.R., 2000; Idowu, P.A., Alu, A.O., & Adagunodo, E.R., 2002; Uche, 2003). There are no automated telling machines, nor are multi-branching facilities available. However, the service to the customer is improving in many respects, including "quick service" cash counters, and prompt and regular monthly statements of account. In general, the thrust of computerization in banks is in the direction of more automation and networking, but the rate of progress is limited by the ineffective telecommunications infrastructure in the country. Other service industries, such as advertising, also use IT mainly for word processing and accounting functions (Ehikhamenor, 2002; Odesanya and Ajiferuke, 2000; Adetayo, J.O., Sanni, S.A., & Ilori, M.O., 1999).

In the communications field, the Nigerian Telecommunications Limited (NITEL), the national carrier, is heavily computerized, with a huge installed capacity including mainframes, minis, and micros. These computers are located in four regional headquarters as well as in the national headquarters in Lagos. The machines are used for administrative purposes and for the management of the telephone network. At present, they function on a stand-alone basis, but it is known that NITEL is interested in interconnecting these machines in both local and wide area networks for greater efficiency and increased flexibility. The National Television Authority (NTA) is computerized, and so are the leading telecommunications outfits represented in Nigeria. However, the postal agencies are yet to adopt the use of IT in sorting mails.

Government departments are rapidly computerizing (Tiamiyu, 2000). As many as 13 federal ministries have computers; the Ministry of Defence alone has 9 installations. The Ministry of Works operates a computerized maintenance system. The Federal Office of Statistics, the national body responsible for the gathering and compilation of statistical data ranging from trade statistics to commodity prices and population data, is fully computerized. Among the state governments, it is usual to install a central computer facility in the Ministry of Finance for financial administration. In almost all the 25 federal universities there are well-staffed computing centres equipped with time-shared multi-user mainframe computers used for teaching and research (Ehikhamenor, 2003). In addition, several departments and faculties have their own computer facilities, consisting mainly of micros. Many university computing centres also provide computer services for the administrative departments, such as the bursary, the registry, and the library.

For the general public, only a few homes have computers but IT training centres and cybercafés are spread across Nigeria, especially in the major cities (Adomi, E.E., Okiy, R.B., & Ruteyan, J.O., 2003). These centres provide IT training as well as allow people to do word processing, send e-mails, and browse the Internet.

Overall, IT usage in Nigeria is widespread but the depth is very shallow. The reasons for these, which are similar to those in other developing countries, include: very low literacy level; extremely low density of telecommunications facilities and services; underdeveloped computing infrastructures and culture; government regulations; corruption in both public and private organizations; and lack of a coordinated national IT policy (Eze, 2002, Oyebisi & Agboola, 2003).

FUTURE TRENDS

To increase the depth and effective usage of IT in Nigeria in the future, solutions would have to be found to the problems identified above. Telecommunications is probably the first critical requirement because it provides the network through which various people, organizations and regions of Nigeria can be linked together, and to the rest of the world. Telecommunications facilitates not only Internet connectivity, but also interpersonal voice, radio and TV communications. However, investors in the sector must be ready to focus on investing in the short and medium terms, and recovering their investments in the long run. They must also be willing to popularize the telephone culture through appropriate pricing.