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Suggested Studies On The Computer Industry
(Whether Active Or In Crisis)

By

Augustus C Lagman
SUGGESTED STUDIES ON THE COMPUTER INDUSTRY
(whether active or in crisis)

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This presentation shall start with a review of two computer installations in the Philippines. With such a review, I hope to be able to give you an idea of the extent of computer utilization in our country. While they may not be typical of installation sizes, they are, however, representative of the better utilized computers.

PHILIPPINE NATIONAL BANK

The Philippine National Bank (PNB) is a government-owned and controlled corporation. It is the depository bank of all government agencies. As such, it follows that it is the largest bank in the Philippines, in all forms of measurement -- resources, assets, loans, deposits, etc. It is also third largest in the ASEAN region, after Bangkok Bank and Bank Bumiputra Berhad in Malaysia.

The percent share of PNB of the total assets of all Philippine banks is 28%. The second highest is Bank of P.I. with 4%. PNB has 183 domestic branches, 44 of which are in Metro Manila.

It has 15 overseas offices and has correspondent relations with more than 600 banks all over the world.

PNB started computerizing their operations in 1966 with 10 branches connected online to one mainframe computer. Today, the bank has 4 mainframe CPUs - 1 with 4MB of memory, 1 with 2MB and 2 with 1MB each. The installation includes 20 disk drives with a total capacity of 6.8 gigabytes, 16 tape drives,
3 line printers - 2 at 2,600 LPM and 1 at 1,200 LPM, 53 video display units, and an assortment of other peripheral equipment.

A total of seventy-seven applications have been developed and under production. The more significant ones are:

Savings Online System
Demand Deposit Online System
Central Loan File
Trial Balance
General Ledger
Incoming Foreign Remittance
Stationery and Supplies Inventory
Aircraft Spare Parts Inventory
Payroll
Personnel
Provident Fund
GSIS Individual Deduction Ledger
GSIS Checks Processing

Thirty-seven of PNB's forty-four Metropolitan branches are connected online to their head office system as well as the first two Automated Teller Machines (ATM) in the country, which are presently dedicated to employee accounts. The bank plans to install 12 ATM's more this year to be located in various sites at about the same time that the service will be offered to the public.

To be sure, there are still many applications, yet undeveloped, that the bank is planning for, and which will touch the lives of a wider base of KL workers. It is, nonetheless, safe to assume that PNB has been, and still is, the forerunner in bank computerization projects.
MAKATI MEDICAL CENTER

The Makati Medical Center, the most well-known private hospital in the Philippines, is also one of the biggest with 500 beds for adults and children and 100 beds for newborns.

It started its computerization program in 1972 with a small minicomputer to handle the Billing system. Today, it has two medium-size minicomputers with 4 disk drives carrying a total of 160 MB, 2 printers, 16 video display units, four of which have slave printers and 12 printer terminals. There are plans of adding a 50 MB disk drive, a tape drive, a 600 LPM printer, 2 more VDUs and 2 more printer terminals.

To off-load the two minicomputers, there are also plans of installing three or four large microcomputers, networked with the two minis.

The applications which are now operational or soon-to-be operational are:

- Admitting
- Patients' Statistics
- Billing - In-patients and Out-patients
- Pharmacy - which includes Inventory Control
- Laboratory
- Accounts Receivables
- Cashiering
- Medical Records
- X-Ray
- Nursing Station System
- Payroll
- General Ledger
While the integrated billing system is quite extensive, the more interesting application is the Nursing Station System. Requests for services or goods are initiated at the nursing stations by doctors and nurses and automatically picked up by the cost centers involved. The results of these requests, say a laboratory test, may be inquired upon as soon as the test has been completed and the results encoded through the CRT located at the laboratory. Posting of the charges for the goods or services are also automatically done.

Future plans include the computerization of the Hospital Equipment Maintenance System, which, if Computerized Diagnosis were to be included, will just about make the MMC a fully computerized hospital.

With the two examples just discussed, it would normally be safe to assume that everything is rosy in the computer industry in the Philippines. Unfortunately, this is not so. In fact, if things don't change, the future plans of these two organizations may not materialize at all. While almost all the countries around us are posting record growth rates exceeding 60%, we are at the present time experiencing an almost zero growth.

Many are already aware of the main reason for our present crisis, so I shall make my comments on the matter very brief. As a result of the scarcity of dollars, most manufacturing companies are not able to import much-needed raw materials. Trading companies are in worse shape, as their industries are not even in the priority list. The bottom line is that almost all companies are in financial trouble, some just more serious than others.
The market for computers has, most certainly, shrunk. The few who can afford to buy find it difficult to get enough dollars to import the equipment. Even spare parts are starting to become a problem.

Industry experts predict that this situation may set the Philippine computer industry back by about five years, because while we are at a stand still, our neighbors are experiencing very bullish markets.

On the other hand, this may be an opportunity, the best opportunity, perhaps, to undertake studies and analyses of the Philippine computer industry. For instance, because of the low activity last year, practitioners found the time to figure out how the Philippines lost its pole position in East Asia, (outside of Japan) in terms of computers installed. In the late 70's, the country slid from first, to no better than fourth today.

Analyses revealed the following problems:

1. The virtual "ban" on government acquisition of computers imposed in 1978, cut a very big slice off the market for computers. As everyone knows, the government is the biggest client of the industry, or for that matter, any industry. This "ban", being an official government position, also set the tone for a negative attitude towards computerization, affecting even the private sector.
2. In many countries, the educational sector is one of the biggest users of computers. This has not been so in the Philippines, for the simple reason that the budget for education has been dropping every year. The combined budget for education and manpower, has dropped from 56% share in 1985 to 12% in 1982.

3. The economy in the Philippines has been quite bad for many years and this condition has made businesses reluctant to invest in computer equipment, which to some of them, is only indirectly related to productivity.

4. The lack of data communications facilities has put a limit to the growth of many computer installations. We in the industry can't even make an educated guess as to when sufficient facilities will be made available to us.

5. The high duties and taxes naturally make computers a lot more expensive than they are in their place of manufacture or in countries where importation of computers is duty-free.

There are other problems, but those I have just mentioned, to my mind, are the more significant ones. More detailed researches on and studies of these problems will most likely prove this out.

Even as the situation looks hopeless in our country, there are some very encouraging developments. Since last year,
for instance, marked interest towards computers has been shown by many government ministers. Some of them, in fact, bought a few microcomputers for themselves and/or their immediate staff.

It was probably this interest that made it relatively easy for the Philippine Computer Society to have been granted some requests that it submitted to the government late last year.

These requests include the partial lifting of the "ban". Government agencies, as of a month ago, may already decide by themselves on the acquisition of computers, provided that the value of such acquisition(s) does not exceed P2 million ($143,000) per fiscal year.

Another request which has also been granted is the organization of a Technical Committee, under a Cabinet Sub-committee, which shall be composed of representatives from several government ministries and agencies which have direct interests in the computer industry and representatives from the private sector. This Technical Committee shall be tasked with the study and analysis of the computer industry in the Philippines and with the submission of its recommendations to the government, with respect to policies and guidelines that will set directions for the industry.

We view these recent moves by the government as major breakthroughs because to us, they are an official recognition by the government of the computer as an essential and vital productivity tool.
So, inspite of these turbulent times, we find that there are things that can be done, there are studies that can be embarked on, there are plans that can be developed and there are projects that can be undertaken.

This brings me to the second part of my presentation, which is -- what research should be organized in the ASEAN.

One study which should immediately be organized is how computer courses and computer-based courses can be introduced into the mass-based educational system.

The current situation in the Philippines is that there is no presence at all of these courses in the primary level; some -- perhaps, in a handful of schools -- in the secondary level; and in less than 5% of the schools, in the tertiary level.

In the coming school year, 1984-85, a 3-unit course entitled "Computers and Society" will be a mandatory subject for all colleges and universities. This course will not require any hands-on training as not many schools will be able to afford a computer. Those which can, however, will be encouraged to offer additional subjects on computers.

Corollary to this study might be one that will look into the possibility of locally manufacturing a real low-cost microcomputer which can satisfy the needs of a typical school. The manufacturing facility may be built through 100% local capital or in a joint venture with a foreign manufacturer.
Another study that can be organized is how existing FI workers can be trained on computers -- either to convert them to computer practitioners or to train them on how they can use computers to assist them in performing their specific tasks -- making accountants, better accountants through computers; engineers, better engineers through computers; managers, better managers through computers.

One topic which can be included in this particular study is the formulation of incentives that may be offered to companies which provide computer training for their employees. This can come in many forms -- tax shelters, reimbursement for expenses, dollar allocations to import additional computer equipment, etc.

If the education and training programs which will produce practitioners prove successful, what new industries can be developed to utilize the available skill? Would there be a demand for these skills outside the country?

These questions, as well as the problems stated earlier, should make for good topics for studies and researches. More will surely be generated during this week's session.

If this workshop should result in some research studies being conducted in the Philippines, I am almost certain that the Philippine Computer Society, in its desire to hurdle the present crisis and to see the continuing improvement of the profession and the industry, will whole-heartedly lend its hand to these efforts.
As I have mentioned earlier, there is the PCs study which can provide the preliminary data for any new studies. And then there are the suppliers which, as a result of the common difficulties being experienced, have started talking to each other and collaborating on common projects, and finally, there is the newly-created Technical Committee which will surely be able to facilitate matters for researchers.