# Communication Network Applications— An Observation of Electronic Mail System

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## INTRODUCTION

Electronic mail (E-mail) is a system which allows messages to be sent between computers. A message can be sent either to an individual or to any number of individuals who have access to the same network. In recent years, E-mail systems have been used increasingly to improve the timeliness, control and effectiveness of communication in organization. E-mail system has occupied a pivotal place in modern information technology. It has brought revolutionized change in organizational communication and is significantly replacing the traditional communication media. It has brought cognitive, affective and behavioral impact upon the members of organization. Mana-gerial functions like planning, organizing, controlling and decision making are supported by E-mail. Interdepartmental integration and coordination within the organization is greatly facilitated by computer-based communication system. In any organization, E-mail is an effective means of communicating with right person at the right time.

## BENEFITS

E-mail can be substituted for more time consuming types of organizational communication such as telephone calls, memos and letters. Although the number of letters and memos sent and received by E-mail users may decrease, the volume of information which can be handled may actually increase.[1] One of the benefits attributed to the use of an E-mail system is the expansions in the number of persons with whom E-mail users interact on regular basis.[2] Experienced computer personnel using an electronic messaging system felt that the system was appropriate for generating ideas, making decisions and resolving disagreements.[3] Electronic messaging was consi-dered appropriate for exchanging information, asking questions, staying in touch, and exchanging opinions by over 80% of the managers studied.[4] One of the costly aspects of communications as having to be in the office to maintain, face to face contact. Using E-mail, people can work at home or travel while maintaining needed contact with their peers, superiors and subordinates.[5] Superiors can keep better informed about issues and problems through internal electronic messages, which complement traditional communication media.

The use of E-mail has impacts on interpersonal and interdepartmental relationships. Communications between depart-ments and groups sharing common interests are eased.[6] Communities of interest connecting people in different geographic locations are founded electronic networks.[7] Users also experienced widening social connections and an increase in horizontal and vertical communi-cations within an organization.[8]

Researchers have developed categories of message content which take into account both operational and managerial level messages within the organization. A category system developed by Plain[9] included both the operational and managerial functions served by E-mail system. He suggested that message supported operational communication included all routing reports sent on a regular basis in a standard format.

The main advantage of E-mail over the telephone is that the recipient can deal with the message whenever he chooses without interrupting his chain of thought by a relatively unimportant telephone call. The study of Judkins[10] has shown that it takes twenty five minutes of undisturbed work to build up to a level of concentration suitable for high level knowledge work. If this is so, just receiving one telephone call an hour reduces a manager's productivity by half.

## LIMITATIONS

Any system which has benefits invariably has drawbacks. E-mail is no exception. Because sending message to all and sundry is so easy, their proliferation may become a problem. This may result in many general messages being ignored. Perhaps the most common argument against E-mail is that it eliminates interpersonal contact. This is important in building relationships, resolving conflicts, and building moral. Many executives in the organization prefer face to face contact to exchange ideas with their peers and to give direction to their subordinates. Electronic messaging depersonalizes human interactions. As experience with E-mail system grows users attitudes about what type of communications are appropriate on these networks change[11].

Access to E-mail system may lead to information overload, particularly at the top of the organization, because upward flowing message make it possible for subordinates to bridge authority links[12].

Lack of trust is another factor preventing the efficient use of E mail. If user do not trust the system or if they are not sure recipients will retrieve their incoming messages, they may back up their E-mail messages with memos or phone calls, thereby determining the economic justification of its use[13].

## CONCLUSIONS

E-mail reduced lag time in distributing information, created more flexible working hours and provided lateral linkages throughout the organization. Computer based communication systems effect existing media use, structural relationships, communication effectiveness, work efficiency and quality. E-mail is particularly important to support "organizing" activities such as scheduling events, asking and responding to questions and providing feedback to subordinates and peers.

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## Onward Novell's Satyen H.Parikh says :

# 'Bangaldesh's IT Awareness is Phenomenal'

Mr. Satyen H. Parikh, the 32 year old Onward Novell Software (India) Pvt. Ltd's 1994 Employee of the Year Award winning Associate Vice-President was in Dhaka to prmote Novell products in Bangladesh.

During his very hectic short trip he spared some slack time to share his experience on Bangladesh's IT scenario with **Computer Jagat** in Applied Computer Technologies Limited's (ACT) New Eskaton office.

We straight reproduce his views on various aspects discussed.

**On Bangladesh's Progress of IT Awareness :**

I visited Bangladesh two years back and now I find more meaningful IT awareness. In 1993 Nepal had around 7000 PCs, they have not progressed very much from that point, while Bangladesh advanced quite rapidly hardware wise.

Customers are now very eager to understand what would the technology going to do for them, instead of just getting swayed by them, saying -- 'OK, it is a new technology so we will adopt it.' That is the positive change that occurred.

This time I met about 50 customers who specified their requirements, which was not the case last time. It is a positive sign and indicate that they are using the IT technology. Two years down, we are going to look at the much more phenomenal growth in the Bangladesh market.

The quest for enhanced version bears the testimony that they are not buying a particular technology for the sake of buying just because it is funded by an organization. The MIS managers and local IT consultants are the trail blazers and they are exploitng the potentials of advanced technology and giving away for every body's benifit. So people are today talking about Network Operating System, talking about Microsoft NT etc.

**On Microsoft NT :**

The customers who have used the beta copies found to be lacking lot more features. A local user who got a copy of NT because it was funded, complained that the system used to crush and there is no logical reason why it would happen. The technology is not fully tested. Furthermore, Microsoft does not have any sort of presence here to extend necessary technical support, providing information and distribution of the product itself, which are very crucial for products like NT. The features that NT offered today was offered by Novell two years back. There is nothing unique about it. Ultimately customers shall always go for a bug free product. They want to test out the features and benifits of a product.

**On Onward Novell India :**

The Delhi based Onward Technology Group is a Public Limited Company in India. The sell banking solution, system integration and third party Network and Enterprise Network based solutions which are not specifically Novell based. It also have CAD, CAM & CIE solutions There are over 20 companies in the Group of which Onward Novell is one.

*Mr. Satyen Parikh*

Software export division is now the most important division of the Group, as we are putting much emphasis on software export. Onward Novell covers India, Nepal, Srilanka, Bangladesh, Bhutan and Maldives. We have only one reseller in both SriLanka and Nepal.

**On Indian IT Bodies :**

We have very strong computer manufacturers, vendors body, micro users forum and software association. They gear-up the whole industry. The outcome of their systematic promotion of IT industry is the current budget which was termed by many as computer centric budget. Indian growing computers industry finally got government recognition.

A strong Vendors' Association in Bangladesh should give a representation to the in government that if you are to increase your infrastructure, if you are to increase your productivity, IT is the only way out.

Bangladeshi Vendors should start manufacturing their own hardware brands jointly with leading foreign computer manufacturers, taking into consideration the specific needs of the local end users.

**On availability of IT manpower and Novell's Education Program :**

You need effective training program, you need effective IT education skill for the people. Due to lack of this you do not get adequate and apt IT manpower. You need people who just understand the technology if not many software exparts.

We like to introduce a Education Grant program under which we will offer highly subsidized rates for the educational institutions, The products are Novell NetWare and UnixWare.

We have also plan to set-up a Novell Authorised Education Center in Bangladesh. The center would essentially meet the Novell's rigorous education standards.

This would in fact help people to develop as an alternate career path being a professional. They can advance a career in the computer field more specifically in the networking.

In the Education Center the customers can train their own in-house people, and suport their installations. Also vendors can get their engineers trained, so they could support the installation better.

We shall also train students who could take the training and develop themselves as professionals in the IT industry.

The successful candidates shall get a degree of Certified Network Engineer (CNE). In India we have such Education and Training Centers in Bombay, Delhi and Bangalore. Drake International an independent Company of USA conduct such education programs at more than 800 centers worldwide through Certified Netware Instructors.

Bangladesh can enjoy the status of a testing center if in future its telecommunication develops, which enables the Drake International to download their test questions.

**On Objective of Novell in Bangladesh**

With the help of two distributors we like to create the necessary

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Md. Mokbul Hossain

# ATM— REVOLUTION FOR BANGLADESH BANKING SECTOR

**ELECTRONIC FUND TRANSFER (EFT)**

Any transaction essentially was an authorized fund transfer between the bank and customer. In all the transactions, paper was required : the check, savings passbook, receipt or other records. Thus, because of strict regulations regarding investments and other financial transactions, bank wanted to process paper representing deposits and withdrawals as quickly as possible. In addition, as banks increased in size, the volume of paper to be handled became a problem.

In response to the paper problem, a number of Electronic Fund Transfer System (EFTS) became available. EFT is the electronic movement of funds (cash, letter of credit, securities, etc.) from one account to another without the use of paper authorization. This transaction may be between individuals, corporations or financial institutions. Electronic Fund Transfer System include the following :

- ATM
- Direct Deposit
- Credit Authorization / Debit Authorization
- POS (Point of Sale) Debits
- Direct POS Debits
- Telephone / PC Bill paying

**DIRECT DEPOSIT :**

Direct deposits fund such as payroll or government checks sent to your financial institution by your employer or other organizations via a magnetic tape. This service is the most widely used EFT services in the industry today. It saves both time and money for all parties involved.

**CREDIT / DEBIT AUTHORIZATION :**

Credit/ Debit authorization enables retail stores to obtain credit approved on purchases quickly through the use of authorization terminals. If credit is approved, funds are made available for the customer to make purchases. Each time the customer makes a purchase the funds are immediately "debited" from their account.

**POINT OF SALE**

A Point of Sale (POS) debit is purchase made with stand-alone device and a debit card. The customer swipes his card through the device and enters his PIN (Personal Identification Number). The requested amount is then "debited" from his transaction account (usually the customer's checking account). If the device used is connected to the Electronic Cash Register, the debit is completed at the time of the transaction.

**TELEPHONE / PC BILL PAYING :**

Bill payer allows a customer to pay his bill by phone or through his PC at home. After the customer has authorized the bills to be paid, the customer's account is debited and the store, utility or loan is credited.

**ATM :**

Automated Teller Machines (ATM) are also a form of EFT. ATMs can be defined as tellers designed for unattended customer use. ATMs transfer and accept deposits, accept payments and withdrawals, all the customer's convenience.

**TYPES OF ATMs**

ATMs are installed to offer customer convenience. One aspect of convenience is location. To offer such convenience, ATMs are placed where customers work, shop and play. To accommodate such convenient locations, there are three basic types of ATMs.

A. Through-the-Wall (TTW) and Walk-up
B. In-Lobby
C. Drive-up

**A. Through-The-Wall (TTW)**

TTW ATMs offered customers the convenience of 24 hours banking.

**B. IN-LOBBY**

The In-Lobby ATM's provided banks with the opportunity to locate ATM's off premises such as in airports, place of business, departmental store, etc. Some institutions put this in-lobby ATM in Bank of decrease the lines at manual teller.


*Fig 1 : Through-The-Wall ATM.*

*Fig-2 : In-Lobby ATM.*

**C. DRIVE UP**

The ATM industry realized that the US and other countries were turning into drive-up societies (i.e. fast food, dry cleaning etc.) In response, AT&T Global Information Solutions (Former NCR) and other vendors redesigned their TTW units to be used as drive-up units.

**FULL FUNCTION / CASH DISPENSARY**

The ATM hardware can be configured into two categories :

1. Full function.
2. Cash Dispense only.

Full function offers all the services that are available on an ATM today. These services include the following:

- Withdrawals
- Deposits
- Payments
- Inquiries
- Statement Printing
- Account Transfers

The current trend is toward full-service ATMs. The reasons for this trend is that the Card holders utilize the extra service that are available, balances inquiry, deposits.

Some institutions put a Full Function ATM and Cash Dispenser Only machine side-by-side. The reason of this specific type of installation is to decrease the que in fornt of the ATM.

**ATM HISTORY**

In 1967 Barclays' Bank in England

*Fig 3 : Drive up ATM.*

installed the world's first cash dispensing machine. In 1969 Docutel installed the first ATM in the U.S at Chemical Bank in New York. By 1978, 1936 units of ATMs were installed in the U.S.

In the 70's financial institutions looked at ATM's as marketing gimmicks. ATMs allowed customers the convenience of 24-hours banking.

From 1973-83 ATMs grew to 48,118 units with the largest year for deliveries being 1983. This growth rate can be attributed to the growth of NETWORKS and the idea of SHARING ATMs. These Networks allows customers to access their funds from variety of locations 24-hours a day, seven days a week.

Large institutions or groups of institutions formed these networks to afford the cost of their ATM Systems. By joining a network, smaller institutions were able to offer multiple ATMs to their customers rather than just the one or two that they could afford. Larger institutions were able to generate revenue by sharing their ATMs. If another institution's customer used the owning institutions' ATM, the owning institutions received a fee.

**ATM BASICS**

**ATM Card :** To access an ATM System, The customer uses a plastic card encoded with an individualized secret code called the Personal Identification Number (PIN). The PIN number provides both the customer and the financial institution security from theft or fraud. Without knowing the PIN number, you cannot access an account.

On the back of each plastic ATM Card there is a stripe. When a customer inserts his card into the ATM the ATM reads the information contained on the magnetic stripe. Each Stripe may have up to three lines of data encoded on it. These lines are called 'tracks'. The three tracks are organized as follows :

**TRACK I :** Track was originally designed by the International Air Transport Association (IATA) for ticket buying and travel information. It is read only. Track and can not be updated.

**TRACK II :** Track-II is known as the on-line only track. It is a read only track containing the customer's account number and PIN offset. An offset number is used to encrypt and validate a customer PIN.

**TRACK-III :** Track-III is a read and write track. The track can be used in an on-line ATM system or an off-line only system. This track contains information on customers withdrawal limits and is checked to determine if the customer is within the withdrawal limit.

*(To be continued)*



## Bangaldesh's IT Awareness

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infrastructure and the responsibility of Novell India is going to ensure that the information flow to both the distributors in such a manner that they can further participate in seminars, give product presentation with same level of Novell standard and expertise.

**On the strengths of two Bangladeshi distributors.**

ACT has created a credibility and image as a networking company so people with any networking problem will always call ACT. Another advantage of ACT is that it is a hardware independent Company working in Multi-Vendor networking environment. Their opinion about a specific networking system will be unbiased and more technology oriented.

Parallaly DESKTOP, being a Compaq reseller, has a phenomenal aggression into the market place. With that kind of aggression, what will happen is the standard solution which are available to-day from the Novell, the information which is going to be created and the CNEs which DESKTOP will be having, they would cover the side for all the Compaqs which they would continue selling so that customers of Compaq could benifit with DESKTOP being distributor of Novell.

The necessary aggression which is required in the market today would be provided by both these distributors. So, both having that niche market segments, would give an additional thrust in the market place, the customers will have option to select either of them.

We are sure that both the distributors are capable enough to ensure that Novell is not a dead end product and NetWare is not Lotus. It require highest degree of professional attention as pre-sales and post-sales support.

**On Novell Market Share :**

Novell Inc. markets its products worldwide themselves. Only in India and Japan they opted for a joint venture. In Nepal all banks are using Novell operating system. In SriLanka Novell's market share is 90% and in Bangladesh 95%. In Asia Novell has an overall market-hold of 80% and worldwide it is 95%.

The UnixWare which offers much advanced features over its close rival SCO is priced aggressively at a list price of US $ 1695 with unlimited users license. In India 850 UnixWare 2.0 were sold in last nine months.

**[Azam Mahmood]**