

Roles and Responsibilities of Managers in expanding and Developing ICT

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In knowledge-based economy of 21st century, any institution should clearly figure out that information and communications are the strategic inputs that help last their lifecycle in competitive and opportunist business dynamics. Information should be accessed and disseminated from and to target areas that reward invaluable returns easily via Information communication technology (ICT). From organizational perspective, ICT infers to development of decision making broadcast, telecommunication, and internet infrastructure with supportive soft wares. The decision making areas target on routine and ad hoc business functions. This paper highlights three core posts; how does the status quo look like? (Managerial roles and practices) What must be done at different managerial levels? (Responsibility), How valuable is ICT for market leadership? (Contribution)

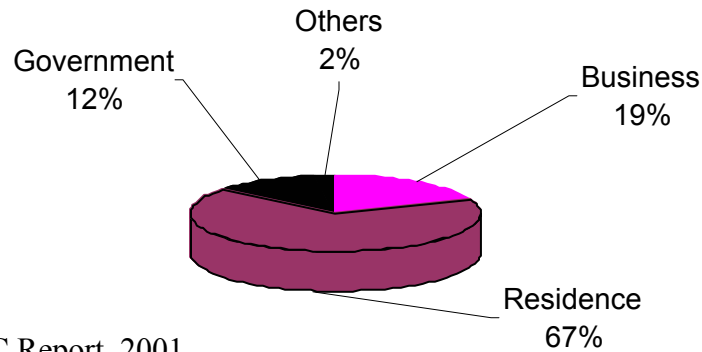
I. Managerial Roles and Practices on ICT development (Ethiopian Context)

ICT is open to any individual to receive and disseminate business information through the aforementioned infrastructure, though special criteria are defined for subscription. At organizational level, ICT plays a major role for the success of institutional vision, mission, and value. Any legally personalized entity is impinged on by macro ICT indicators such telephone, internet, and broadband infrastructure. Major public and private companies, such as Airlines Industry (Ethiopia Airlines and other), Banking Industry (Commercial Bank of Ethiopia, Wegagen bank, Dashen Bank), Oil industry (Shell, Total, Exxon-Mobil [the ex- Mobil]), IBM, are activist of ICT in larger scale.

The aforementioned companies turn their system into updated intranet, extranet, and/ or internet connected entity from slow and prone to error automation. After passing through due consultation, Ethiopian airlines has alone invested USD11 million for system upgrading and Exxon-Mobil had invested USD1 million before 1996. Such huge investment had really helped both firms to process more order at a time which makes customer satisfy and avoid queue.

Unlike telephony investment, every company earmarks millions of dollars and thousands of birr for software development and its running cost (monthly recurrent payment), respectively. Even when we look at telephone subscription, the sum percentage of public and private enterprises did not exceed residents' subscription. In 2000/01, government and private organizations subscribe totals 31 % while private alone score 67%. Even within types of subscriptions, the fixed telephone growth is by far lower than subscription for mobile phone.

Figure 1.1: Classification of telephone subscribers' lines (2000/01)



Source: ETC Report, 2001

Note: Others include embassies, international organizations and NGOs.

The areas where intranet, internet, extranet connection are opted with keen selection criteria. Even after approval of internet access to all employees, some companies have reversed their permission due to high running cost and employees' abuse.

The other point is broadcast technology which infers to communication by radio and television. The good example we can quote here is Addis Chamber Voice that disseminates business information to those with products. The dissemination has contacted many foreign and domestic businessman/woman. Such initiation has helped develop business partnership for those who do not have internet access for e-commerce.

Compared with meager computer and TV sets ownership as shown on table 1.1, radio stock is somewhat large to use for business purpose.

Table 1.1: Stock of computers, TV sets and Radio

	Total Number	% of Population (Households)
Computers	75,000*	0.12
TV sets	367,000*	2.8
Radio	11689631**	18.41

* *ITU world telecommunication development report 2002.*

The data is for the year 2001.

** *Tassew Woldehanna and Tekie Alemu, Poverty Profile in Ethiopia 1999/00, Welfare monitoring unit, MOFED, Jan.31, 2002. The data refer to the 1999/00 national survey of the Central Statistical Authority*

What tactical, operational, and strategic managerial roles can be pinpointed here under such circumstances? How influential a level is, manager at that position is expected to discharge tri-roles: information and decision-making which is dependent on the accuracy and effectiveness of ICT.

Informational Roles: A manager receives or disseminates business information from and to logistic, finance, production, marketing, procurement division. Commercial bank applies a program language COBOL and customizes it according to its demand while Dashen bank purchased outright, MICRO BANKER, a software program which assists front bankers to facilitate banking service. Exxon-Mobil installed ACCPAC, a software program which facilitates order processing (customer service, logistic and accounting system management). In addition, the oil company has invested in LAN and internal internet communication to send memos and messages that don't need approval. Anybody can realize how smooth and effective working environment is when ICT is effectively implemented. This works out of course if there is no power interruption or system failure. With application of ICT, information can be accessed anytime within a specified area. The authorized person can tell a customer historical order quantity, due amount, date of issuance, balance amount, and so on. The client can be physically present at the company layout or communicate via telephone. The information exchange can be of any kind; order entry or information enquiry.

Enjoying all these advantages, managers should communicate the success story to immediate supervisor or CEO so that further ICT development can be planned. For instance, Dashen Bank now is in preliminary study to adopt FLEXCUBE after identifying problems faced and unexploited opportunities owing to the current system. Ethiopian Airlines had a complete Information System plan to communicate with customers, agents, and suppliers setting a timeframe of 2000 + sign.

Decision making roles: The information collated through internet, intranet, or extranet is going to be part of the decision making process. No decision can be made without data availability and accuracy. Bearing in mind the role that ICT plays in the decision making process, the question that should be raised ought not to be whether ICT is relevant or not but which body needs the access at most for business decision making. Managers should decide from such perspective. At Central supermarket or any retail shop, traders believe that there should be an authorized person for data entry, deletion, modification, or approval.

Even those for non-profit institutions which strive for partial or full cost recovery need ICT as they are involved in marketing their vegetables or artifacts.

Information division is defined as separately with no link to other departments, though information is the key component for their decision making. The decision making role through ICT played by division head or executive officers is murky as ICT was thought as expensive investment with little return. Some organizations defined full-blown organization structure that favors ICT involvement with every department decision. Figure 1.3 clearly depicts MIS department is interlinked in decision making with divisions.

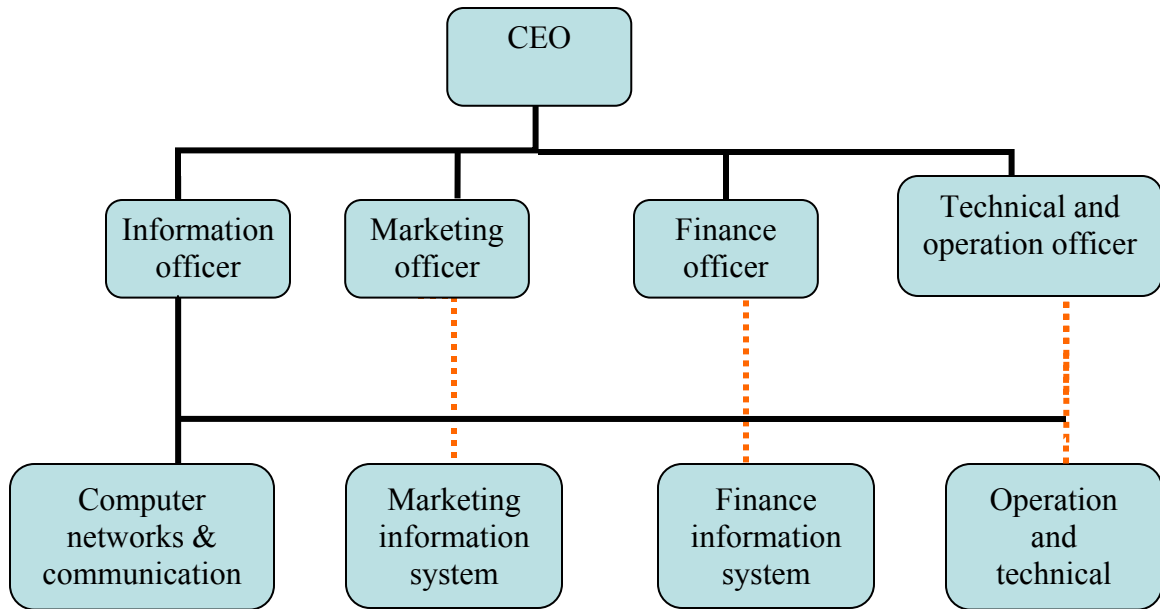


Figure 1.3 Hyper involvement of information system

A structure that invites hyper involvement of information officer fosters ICT as it makes other bodies of the total system react. Any can not move without being interactive to ICT

II. Managerial Responsibility

Responsibility, as I understand, is the willingness to carry a burden. It might be in any profession and patterns of life. Managers at different level do have the power and legitimacy to speak about the relevance and benefits of ICT. In short, they are vested to discharge the following managerial responsibility for the expansion and development of ICT.

A. Information access, application of new infrastructure, and Training

Information system produces feedback about input, processing, output, and storage through ICT. There are also authorized personnel to manage all or part of the system analysis. This individuals or groups should get the necessary access to new ICT infrastructure like the developed nations do. In latter, when there are new releases, companies fight to apply the new mechanism after it helps the firm to solve problems or pursue opportunity. Information access about ICT is mandatory and authorized personnel should work closely to implement new facilities.

B. Implementation and Supervision

Even after implementation, employees might not apply ICT in efficient and effective manner. Then supervision works best, it might phase by phase. Introduce the first technique. Wait till workers specialize. Then, apply the next. This technique might have a problem of bypassing new releases and keeping the organization to outdatedness. So, managers implement all technology at once and pursue or suffer. Managers should opt to trade off one of the two alternatives. Supervision is must in both case but differently based on SWOT (strength, weakness, opportunity, and threat) analysis.

C. Updating and Openness to innovation(Establishment of R and D)

Local companies are way back concerning research and development (R& D). No firm has established a division under such title. This is the most important issue to quote. It is quite possible to look out in government institution out of date ICT apparatus and software. Managers should fight through persuasion of CEOs and concerned body to acquire up to date and easy to apply ICT. The other fact to create relationship with locally or expatriate ICT companies to customize software and ICT apparatus. In the recent exhibition displayed at Addis Ababa Exhibition Center, I have realized there are firms which specialize in software development regardless of what the institution indulges with. So, why not Ethiopian managers take advantage of such firms? This is left to their pragmatic view. I know the next question that is raised is the companies are too costly. Then manage your budget.

D. Appropriate Budgeting

Almost all Ethiopian companies, public or private, share chronic syndrome: inappropriate budgetary planning. There are either deficits or surplus at the fiscal year end. In the former case, it is going to be disastrous. While in the latter case, managers should plan how to manage the extra amount in expanding and be exploits of ICT. Financial,

E. Acquire Airtime, be partaker of wireless communication media, or get registered

In utilizing airtime, the only alternative in government monopolized media is to buy airtime like chamber of commerce did. This is one way of informing employees with new technologies or others ICT introductions. The other option is acquiring high frequency communication media especially for those managers/subordinates who work at remote areas and even institutions which establish branches afar at sites with no basic communication infrastructures. Currently the Ethiopian government announces dead lines for the registration of broadcasting. So, why sitting cross handed? Get registered and be part of it.

III. Valuing ICT

Worldwide, Firms are exploiting opportunities of ICT. The remark given below might help managers of the Ethiopian telecommunication corporation and other private and public firms to run after the exponentially growing sector. Managers, too, regardless of their level can participate in taking advantage of ICT for their survival and prosperity after interpreting the advice in their company context. Especially, it is good to see some instances in the pretext of what the global ICT growth looks like,telecommunication offer to other countries company, how to manage ICT, and ICT's pervasiveness.

The use of information and communication technologies is growing dramatically, exponentially in some cases. In the near future, probably in the year 2000, the volume of traffic carried over the Internet using the TCP/IP protocol will surpass the volume of traffic using the public switched telephone network (PSTN). Already, it is estimated that around 250 million people are using the Internet. The volume of business that will be transacted over the Internet will surpass \$ 1.3 trillion by the year 2003. It is predicted that in the coming 5-10 years, most telecommunications, including telephony, fax, interactive television, streaming multimedia including video-conferencing and electronic data exchange will grow in volume and will transit over the Internet. Internet bandwidth is expected to grow by about 50-100 times over the next 7 years.

The only communication technology that is growing faster than the Internet is the growth in the number of users of cellular telephones. At present, it is estimated that there are about 300 million mobile phones users worldwide and that this will grow to about 1 billion in the year 2005. However cell phone growth is also contributing to overall growth in access to the Internet. Here as well, convergence is operating. According to the Yankee Group and Ovum, by the year 2005, the estimated number of smart phone users worldwide will range between 50 to 200 million. Smart phones are cell phones equipped with micro browsers. About 3 million users today have access to the Internet using their cell phone.

ICT is an effective indicator of the difference between developed and developing nations. More than ever, governments, industry, academia, and international organizations have a social responsibility to their citizens in reallocating resources to dedicate them to science and technology in order to mobilize market forces and secure a better short and long-term success for the new generations of the XXI century.

A key factor in the success in this endeavor is the instigation of effective procedures for searching, processing, and distributing information in a minimal amount of time. Strategic alliances (consortia) among academia, industry, government agencies, and international organizations are essential. These must promote project identification, partnering and funding to diversify and expand the capabilities of business ventures. If done correctly, these alliances will improve the Ethiopian profile by increasing the quantity and quality of publications, production of science, and participation and organization of international forums.

Telecommunication, for example, enables giant media companies to manufacture and spread worldwide mass culture, erasing local boundaries and sensibilities, also giving a new dimension to privacy. Currently, 80% of e-commerce transactions are in favor of the developed nations. 77% of all those transactions are books, food, and PCs. Clearly, the wealthy are benefiting from this inequality. An advantage of ICT is that isolated, like-minded individuals are forming communities to pursue their common interests and to build new cultural islands outside mass culture.

This can be clearly observed in the areas of medicine, education, commerce, the environment, economics, finance, engineering, and security, among other sectors. For instance, ICT is critical in the following areas:

- Academic activities: Education and Research & Development.
- Economics, commerce, finance, banking, and venture capital.
- Linking national and international networks (Internet,)
- Linking private networks (Intranets, Extranets).
- Collaborative technologies, from electronic mail to videoconferencing.
- Health: telemedicine, remote access to distant areas.
- Education: distance education, digital and virtual libraries, virtual universities, new technologies.
- Scientific investigation: climate, energy, and biomedical investigation.
- National Security: high performance global communications, dissemination of information.
- Environment: early warning, prediction, alarms and responses.
- Government: provide services and information to citizens and social sectors of production.
- Emergencies: response to natural disasters, crisis administration.
- Design and Manufacturing: production and design engineering

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