

A Paper Presentation On

**PRACTICAL APPLICATIONS OF
TELECOMMUNICATIONS**

By

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1. INTRODUCTION.

The Oxford dictionary definition of Telecommunications is *“the technology of sending signals, images and messages over long distances by radio, telephone, television, satellite, etc”*.

For us at the NCC, our operational definition of telecommunications is *“any form of transmission, broadcast or reception of signs, signals, texts, images, sound or data by wire, optical means, microwave or other electromagnetic means”*.

From the foregoing definitions it is easy to deduce that in the modern world, telecommunications must be a vital element in the infrastructure of nations and economies. Indeed, no modern economy can be sustained today without an integral telecommunications infrastructure.

From time immemorial, information and communications have always formed the basis for human existence. This fact has driven man to continuously seek ways to improve the processing of information and communicating such information to one another irrespective of distance and on real-time basis.

2. PRACTICAL APPLICATIONS OF TELECOM

In this 21st century the world has witnessed an upsurge in the use of telecommunications and information technology in nearly all aspects of human endeavour. Access to telecommunications is therefore essential to the development of a nation's social and economic life.

In the new world order that is driven by knowledge and exchange of information and ideas, surviving in the information age therefore depends on access to national and global information networks.

(a) Economic/Industrial

The most dramatic impact of telecommunications have undoubtedly been economic. It is now accepted that the productivity and competitiveness of all economic sectors and their capacity to innovate in terms of products, services and processes increasingly depend on communications networks.

Telecommunications networks are making it possible for developing countries to participate in the world economy in ways that simply were not possible in the past – by enabling them to take advantage of their intellectual and cultural resources.

Computer networking has taken over localised computing all over the world to allow for resources and information sharing. The interconnection of computers has brought about greater efficiency and better information management.

Clearly, technology is driving the new global economy. People, businesses and whole communities without ready access to information technologies are left behind in the fast paced world. International investors demand efficient and reliable access

to information, and new businesses will not locate in places where telecom access is readily and speedily available.

(b) *Health Care.*

The development of teleconferencing facilities and multi-media capabilities of telecommunications systems, which has made it possible to combine audio and video facilities, has been of immense benefit especially in healthcare delivery. By this revolution, the limitations imposed by spatial distances between medical specialists, medical centers and patients have been minimised.

It has become a common phenomenon for Surgeons in one part of the country, or in any part of the world for that matter, to consult with other specialist while performing operations, while such operations can also be monitored by other Surgeons in any part of the world.

(c) *Education.*

Perhaps one of the most important applications of telecom in the education sector is in the area of Distance Learning. A number of educational institutions are not only able to run courses concurrently, but lectures can also be received simultaneously, as they are being delivered, in different lecture rooms that are located in places far away from the actual point of delivery.

The Internet has also become a Universal Library, where books, journals, articles and other materials can be sourced right within the confines of individual's homes in any part of the Globe.

While authors are finding cheaper means of publishing and reaching out to wider audiences, thereby making more money, users – students, lecturers, etc, are afforded the benefits of constant and easy access to updated information on different subjects.

(d) *Transportation.*

Transportation, as a medium of establishing contact between people and of exchanging goods, is another major beneficiary of developments in telecommunications. Be it in air, sea or land transportation, telecommunications facilities have been developed to facilitate these businesses. The commercial airline industry will certainly grind to a halt without telecommunications facilities. Monitoring of travel schedules and bookings are heavily dependent on telecommunications.

(e) *Rural Development.*

The place of telecommunications in the development of rural communities is generally appreciated. In recent times, concerted efforts are being made on improving access to telecommunications services in the rural areas, hence the various Rural Telecommunications and Universal Service obligations and initiatives.

From the foregoing, and according to a recent report on rural Telecommunications and Universal Service Obligations, the uses and practical application of telecommunications can be deduced from some of the following benefits of rural telecommunications:

- (i) Improvement of the living conditions of the people in the rural areas by allowing them to communicate easily amongst themselves and with relatives, friends and business associates living elsewhere.
- (ii) Easier and faster access to up-to-date market and price information thereby assisting farmers and rural-based traders in their businesses.
- (iii) More rural businesses and better employment opportunities that can greatly reduce the problem of rural-to-urban migration.
- (iv) Better access to agricultural extension services such as prompt information on improved seeds, availability of fertilizers, weather forecasting and pest control.
- (v) Improved health services including remote diagnosis and treatment advice.
- (vi) More efficient handling of civil emergencies and natural disasters.
- (vii) Wider access to education resources, especially through distance learning.
- (viii) Easier access to government and wider awareness of government programmes and activities.
- (ix) Enhanced security of lives and properties.
- (x) Increased patrolling and monitoring of border villages and towns.

(f) *Disaster Warning Systems.*

It will never be possible to eliminate or even substantially reduce the vulnerability of large numbers of population to natural disasters such as floods, earthquakes, severe storms, etc. Consequently, the only feasible option is the dissemination of early warnings of approaching disasters.

Warning of potential disasters are very dependent on effective communications systems and networks. Long-range forecasts are based on monitoring satellite observations. The next smaller scale is radar information that provides essential data on location and movement of severe storm.

It has been abundantly demonstrated that more lives can be saved by Warning Systems than by other disaster mitigation measures. The refinement of warning and forecasting systems depends on improvements in data access and communications. Efficient early Warning Systems depend very heavily on sophisticated and efficient telecommunications networks.

In addition to the above, and with similar technological capabilities, telecommunications is also applied in the following areas of social and economic life of nations:

- ***Industrial Development,***
- ***International Trade,***
- ***Security,***
- ***Social,***
- ***Knowledge and Information Sharing,***
- ***Space Exploration, and***
- ***Warfare.***

3. CONCLUSION

Within the context of what has been discussed in this paper, it is imperative that telecommunications not only has applications for all human activity, but actually moderate them. People who do not have ready access to telecommunications and information technology systems are finding themselves isolated with few opportunities and dimming prospects.

However, for purposes of emphasis, it should be mentioned that technology, more than any other index, drives the use and application of telecommunication.

Thank you.