A Study on Communications and Information Technology in Libya over the Past Decades

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Abstract: *This paper explains the stages of development of communications and information technology in the Libyan cities and districts ofLibya the percentage of completion of the infrastructure and the performance of the use of communications and information technology between individuals and Libyan organizationsin Libya.*
Keywords-*Communications,information Technology, and decade.*

I.   Introduction

Featuring the times that we live isthe time wherecommunication is very important and the technology era what is involved in the application of modern in various fields of science and the most prominent manifestations of that era, the communications revolution, and the revolution in information technology.One of the defining features of this new era is the rapid pace of technological change. It ishappening so fast that people are even referring to it as a technological revolution. This revolution is unlike any previous one in history, and it will affect usall in ways we cannot even begin to imagine in the new world, it is not the big fish which eats the small fish it's the fast fish which eats the slow fish,today technological change happens like a Tsunami. Change can be frightening and the temptation is often to resist it. But change almost always provides opportunities - to learn new things, to rethink tired processes and to improve the way we work. A technology era   is involved in the application in various fields of science and the most prominent manifestations of that era, the communications revolution, and the information technology revolution tremendous development in communication technology has led to transform the world into something like a small village and linking disparate peoples together human It is able to monitor what is going on the other side of the globe video and audio at the moment of the event and the values of those revolutions have contributed to the emergence of a new concept of the age in which we live now it is the era of globalization.

1.1 Dharam Pal Singh, [2013]
Information Technology contribute a lot to fulfillment of business strategy Today's top leaders fully realize, the power of information technologytools for reaching businesstargets,Theutilization of IT tools help not only to fulfill defined company's goals but to optimize the work processes as well.ent (G2G) Libya is a developing counter. [1]

1.2 Amr Hamdy-[2007]
In Education in Libya, provides a general overview of current activities andissu ,es related to ICT use in education in the country.[2]

II. The Obi Active of Study

1 - To study the Present of communications and technology incites ofLibyan.
2 - To identify theproblemsof communications and information technology inLibya
The study was done on two cities ofLibya namely: -

2.1 Tripoli:
In its initial stages, there were few instances of online censorship in Libya. However, it was notlong until the regime of the late Muammar Qadhafi began to target opposition news websites,particularly after the lifting of UN sanctions in 2003 led to increased access to surveillance andfiltering equipment. Since the overthrow and death of Qadhafi in 2011, the country has witnesseda flurry of self-expression, resulting in an increase in news sites and massive growth in ace bookuse. However, the 2011 civil war and subsequent fighting has taken a heavy toll on the country'sinformation and communications technology (ICT) sector, damaging

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infrastructure and sideliningan earlier US$10 billion development plan that had been set to be complete by 2020.[3]The national crisis and lack of rule of law have had a devastating effect on internet freedom inLibya. Power and telecommunication services remain unstable across Libya, with increasinglyfrequent cuts due to high demand, infrastructure damage, and coercion by armed groups.[4]Libya witnessed repeated shutdowns to internet service due to vandalism and politicallymotivated attacks on telecommunications infrastructure.Two incidents illustrate the political use of ICT infrastructure to deny service to rivals. In July 2016,.[5]In a case of vandalism, large areas of southern Libya were cut off from their TT-provided mobileand internet connections in February 2017 after the theft of copper and other infrastructureequipment.[6] The so-called Islamic State (IS), which built a stronghold in the coastal town of Sirte, has alsodestroyed communications infrastructure before it was driven from the town in late 2016. InAugust 2015, IS reportedly damaged a cable in Sirte that effectively cut off internet, landline, ansome mobile phone communications linking eastern and western Libya,.[7]

2.2 Benghazi
Since July 2014, WiMax service has been unstable in many parts of the country,especially in Benghazi and other cities in the east, partly due to the destruction of WiMax towersduring fighting.[8]

Telecommunications services have been regularly disrupted, particularly in the eastern region of the country, since the beginning of fighting between rival militias. Benghazi was cut off from all telecommunications networks for almost two months (see Restrictions on Connectivity).

The country's polarized political scene has created an atmosphere of verbal harassment and threats, resulting in self-censorship, particularly among social media users (see Media, Diversity, and Content Manipulation).

Rule of law has eroded over the past year, resulting in an absence of legal protections for online users and widespread impunity for militias and vigilante groups (see Legal Environment).

Threats and attacks on activists and journalists increased, with some brutally murdered or kidnapped and others forced to flee Libya. At least six bloggers and activists were assassinated during the coverage period.[9]

The first newspaper was founded in Libya in 1827, is the newspaper Prospector Africa set up by a number of European consuls in Tripoli in French, and in 1866 founded the newspaper Tripoli by the governor Alatmana saluting issued in Tripoli and two cards first in Turkish and Altanih in Arabic.[10]

III. Communications and Information Technology Before 1989
Longer history of communications in Libya keyed on General Posts and Telecommunications Company, founded in 1984, before this date, the communication is limited to the traditional telephone service dividers, in addition to lightning service.

IV. Communications and Information Technology since 1984 and Even Before 2002
Based on a decision of the governor of the state at the time.[11]After TP will be given Gaddafi to power in a coup in the year 1969 kept Muammar Gaddafi, a tight grip on the media sector in Libya, using him a tool of propaganda in favor of the regime and was the official media are subject to the control of different Mast depending on the mood Alntam In 1971 developed media governmental organizations under the umbrella of the Ministry of Information issued Alsahvh law Oqurmaaqubh of tarnish the country's reputation to life imprisonment.

In 1979 was changed and the Ministry of the name of the media to become the General Secretariat for Information was renamed in 1988 to become the Ministry of Information and Culture In 2001, the regime has established an executive body called the General Foundation of the mass media. [12]

V. Communications and information Technology since 2002
002 is the date of the most important transformation in the sector so far, to take **m**. Mohammed Muammar Gaddafi, the eldest son of Muammar Gaddafi, Secretary of the Committee on the popularity of the company (director general), and although the novelty of his term, but the trend pursued by the sector management feature by someone who combines Hoacan, science as an academic engineer Altguenih- in the field, and the process, the need for reform to influence and great relationships.It was restructured sector, both internally and externally, to be included Libya Telecom and Technology Inc. orbit to the General Posts and Telecommunications Company, take a sector map in conformation is rapidly, and immediately after the annexation of the two companies, have seen their prices new cuts.

This period saw the annexation of the National Commission for Information and Documentation to the sector, and then re-separated again to return to the General People's Committee. And it began work on the

implementation of a new digital telephone dividers, rather than the previous typical dividers, and re-laying of new copper cables for the network, as well as the initiation of fiber optic cable to extend the plan to all Libyan cities in the long term.

In less than a year (since the moment of direct project), was launched Libyana mobile phone in early September 2004.[13]

Libya's telecommunications infrastructure is superior to those in most other African countries, says TMC, and services are available at some of the lowest prices on the continent.[14]

During this brief period significant achievements have built a wireless network connections to support mobile phone services.[15]

The national policy for ICT in education was launched in 2005 and is mainly managed by the Ministry of Education and the Ministry of Vocational Training with the participation and support of other parties such as the General Postal and Telecommunication Company and Libya Telecom and Technology.

The policy in general aims at enabling access to the ICT through the provision of computers and the Internet[16]

people using the Internet in Libya by the public in the late nineties of the century, And the number of residents arrived in July 2010 to 6,461,454 people The number of Internet users has reached in 2009 (whether regular or not

Regular to 353 900 inhabitants) [17]

Libya nineties suffered from delays in providing Internet service to individuals And there is no in Libya, e-government, as there are no procurement services across Internet as there is a lack of the use of credit cards banks. [18]

Libya became the first country in continental Africa to break the 100% mobile penetration barrier. Most of Libya's population has substituted their fixed-lines with mobile phones. 3G General Posts and Telecommunications Company is the state-owned organization responsible for overseeing telecommunication services in Libya.

The company is the main internet provider in Libya, and it cut internet connections between Libya and the rest of the world very shortly after the beginning of the protests against the Gaddafi regime that would result in the 2011 Libyan. Internet service was restored August 21, 2011. [19]

The Internet was introduced to Libya in 1998, initially as a purely government service unavailable to the general public. Two years later, in 2000, Internet connectivity was first made available to Libyan citizens4 and, by 2004, the number of Libyans with access to the Internet had grown dramatically. While the number of Internet users in Libya varies by source, Libya had more than 350,000 Internet users by 2009. 5 Compared to its neighbors Egypt and Tunisia, this number reflects a relatively low penetration rate. In 2010, for example, Egypt had an estimated Internet penetration rate of 21% and Tunisia 34%. Libya, in contrast, had only 5.5% penetration rates for fixed users. [20]

In 2009, seven different Internet service providers (ISPs) offered connectivity to these providers were "subordinated" to the Libyan Telecom and Technology Company (LTT), which was chaired by Gaddafi's son Mohamed Gaddafi. LTT maintained Libya's national Internet gateway through which all Internet communications entering or leaving the country passed. LTT, founded in 1997, was in turn owned by the state-owned General Post and Telecommunications Company (GPTC). GPTC also owned Libya's two mobile networks, almadar and Libyana. This provided the LAJ with access to a centralized mechanism from which to monitor and ultimately block the Libyan Internet. As the 2011 revolution began, according to the Wall Street Journal, the LAJ was actively seeking tools to supplement their monitoring apparatus with a more comprehensive filtering system.

Although theregime appears to have deployed a number of highly specific blocks of individual websites prior to the.

The number of social media users in Libya at the beginning of the 2011 revolution was similarly small compared to neighboring Tunisia and Egypt. Facebook penetration in Libya was at either 2.8% or 4.6%, depending on estimates, 8 slightly lower than neighboring Egypt (5.1% 6.8%), and substantially lower than Tunisia (15.8% / 20.5%). Twitter similarly reached less than 1% of the Libyan population in April 2011.9 The relatively low penetration rate for Internet service is in contrast to both the penetration rates of Libyan state-controlled television (95%) 10 and Al Jazeera (55%). 11 these numbers highlight a mathematical fact: information posted online in Libya could only directly reach a tiny fraction of its population.[21]

Was founded in 2012 and is the first and largest company in the Middle East and Africa in the field of services and systems, Internet protocol telephony saluting offers a variety of systems and solutions in this area. The manufacturing collaboration with the size Z of global communications companies, Tmatl quality Alatsal through regular phone and the lowest prices. It features Libya VoIP for international communications

Termination free unlimited international calls between branches of the company Inside and outside Libya VoIP for international communications and information transfer.[22]

Since 2012, the judiciary has become increasingly independent. In 2012, the Supreme Court of Libya declared a law that criminalized a variety of political speech unconstitutional, in what was considered a landmark decision as the first time the judiciary had ruled to defend free speech. More recently, however, state bodies remain subject to pressure from a variety of armed militias.

In February 2014, the GNC amended Article 195 of the penal code to outlaw any criticism of the 2011 "February 17 Revolution" or its officials, as well as members of the GNC, using similar language that outlawed criticism ofQadhafisAl-FatehRevolution.

The breakdown of the rule of law and growing influence of militias has resulted in a worrying uptick in threats and violence against journalists.[23]

VI. Key Developments

In May 2013 Protestors stormed the headquarters of the Libya Telecom and Technology, making political demands and forcing engineers to cut off internet access to large parts of the country (see Obstacles to Access).Online threats and violent attacks on journalists increased.[24]

1. Libya's civil war has crippled the country's economy and disrupted its telecommunications sector. Considerable telecom infrastructure has been destroyed or stolen in Tripoli and Tobruk , there is no consensus as to how to rebuild infrastructure on a national scale despite attempts to reach a political solution in December 2015.
2. - As a result of these difficulties, and heightened insecurity, prices for internet connections and SIM cards have increased dramatically, while telecom services have been regularly disrupted, particularly in the eastern region of the country. Benghazi was cut off from all telecom networks for a number of months in 2015.
3. - Saw GDP fall dramatically in recent years and looks set to continue into 2017, has stymied the ability of telcos to invest in infrastructure.[25]
4. - Internet penetration has traditionally been very low in Libya. According to figures from theInternational Telecommunication Union, internet penetration improved by one percentage pointfrom 2015 to 2016, reaching 20.27 percent of Libyans. This rise may be correlated to better 3G coverage, the introduction of 4G LTE in March 2017, and lower prices.[26]

V. Recommendations

Given the importance of the role envisaged for the sector of information and communication technology in shaping a sustainable future, and that it must take the world

Arab role in this area, and in order to achieve this end, we propose the following

1-That Libya is preparing a national strategy for information and communication technology

2-The Organization begins in Libya to work on developing an index to measure the progress of societies takes other dimensions is currently being used,ICT and be one input.

3-Ready for radical changes will occur on the ways of life in the world, in the near future

As a result of the role that ICT stalbh in these transformations, especially that countries and regions began to conduct studies on the transformation

Anticipated and prepared to deal with it flexibly, so it must be that Libya is in the heart of the event rather than waiting for resultsJust

4-Increasing trend towards literacy in dealing ICT technologies, is expected t

Become illiteracy in the future definition of the extent of the individual's ability to deal with ICT technologies and not just literacy and writing

VI. Conclusion

Libya is still politically unstable and suffers from near-division between eastern and western Libya. This affects the society as a whole and increases illiteracy gap. The Libyan government must implement infrastructure maintenance and development projects and support information technology to keep abreast of development. Technology in the near future

In addition, e-government usage is important formain systems of the country (health care, educationcivil and private sector).

In order to improve the country's state particularlyafter the "Civil War", Libyan E-government should improveall web sites of the government as well to educategovernment employees.

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