

Effects of new (ict)s in the algerian society

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Abstract:

What are the effects of new ICTs in the Algerian society? The objective of the research is to determine the existing regulatory framework for ICTs, VSAT and, how they are being used in the Algerian specific context.

The primary purpose of the research is to establish the status of ICTs, and VSAT usage in the said society.

The methods used included; firstly a desktop research, mainly, to obtain information on the socio-economic and regulatory situation, followed by data collection from a previous study, and finally quantitative and qualitative analysis.

In the theoretical side, I elucidated the effects of ICTs on the Algerian society, and I expressed the need to study the sociological approach for that purpose, following the steps of sociologists as the Algerian thinker Malek Bennabi. Practically speaking, we exposed the technopole of Sidi Abdallah (SA) which contains four technological parks; the cyber park (CP), the first technopark Ibnou-Sina (IS), the second technopark El Boustène (EB) and the final park of Sidi Bennour (SB).

الملخص:

ما أثر تكنولوجيا الكمبيوتر والاتصال الجديدة في المجتمع الجزائري؟ إن الهدف العام من هذه البحث هو التمكن من تحديد الشبكة العاملة في مجال تكنولوجيا الكمبيوتر والاتصال الجديدة، وتكنولوجيا اتصالات الأقمار الصناعية، وغيرها، وكيف يتم استعمالها في السياق النسقي الجزائري.

والغرض الأساس منه هو استجلاء مكانة وفائدة هذه التكنولوجيات في المجتمع المذكور.

تعتمد المنهجية القائمة في هذه الورقة على؛ البحث المكتبي أولاً وأساساً للحصول على خلفية المعلومات المجتمعية والاقتصادية وعلى الحالة النظامية في المجتمع المذكور.

تتلوه دراسة تلخص جمع معلومات عن عينة مدروسة في دراسة سابقة موسعة تقوم على دعم دولي، مشفوعةً بتحليلين كميّ وكيفي. في الجانب النظري وضحت آثار التكنولوجيات الجديدة على المجتمع الجزائري، ووضحت الحاجة إلى دراسة الموضوع من مقارنة سوسيولوجية، اقتفاء لآثار علماء الاجتماع ومنهم المفكر الجزائري مالك بن نبي. عن الجانب التطبيقي تحدثت عن المجمع التكنولوجي الكبير (سيدي عبد الله) الذي يحوي أربع مجمعات تكنولوجية فرعية؛ (المجمع الشبكي)، المجمع التكنولوجي الأول (ابن سينا)، المجمع التكنولوجي الثاني (البستان)، والمجمع التكنولوجي الأخير (سيدي بنور).

I. INTRODUCTION

The general overwhelming trend that is prevailing in Algeria is the important amount of actions undertaken by both public authorities and private actors and their valuable efforts in developing a general information background to informing the population on the importance, the progress, the improvements that new technologies are expected to put forward. The overall objective of the research is to determine the existing regulatory framework for ICTs, VSAT and, further, how they are being used in the Algerian specific context. The primary purpose of the research is to establish the status of ICTs, and VSAT usage in the said society.

II. RESEARCH METHODOLOGY

The methods used included; Desktop research, mainly, to obtain background information on the socio-economic and regulatory situation in the said society. Followed by a sample data collection from a previous study. Finally quantitative and qualitative analysis. For the purposes of the research a distinction was made between users and consumers. Users were defined as commercial companies making use of ICTs, and VSAT in some way. Consumers were defined as the end user and, for the purposes of this research, were the limited to cybercafés.

III. TECHNOLOGY IDEOLOGIES AND MALEK BENNABI:

The main problematic question in Malek Bennabi's worksⁱ was: When we import machines or when we adopt models of development, do we do it in a neutral fashion, or do we import, at the same time, other forms of relations between men and their alike, and between them and the being?ⁱⁱ Malek Bennabi is a disciple of Islahism School. Islahism was essentially reformist, intellectualist, and non-violent. The movement was led by Islamic scholars whose patrician social backgrounds differed considerably from those of the Islamism wave today. Whereas Islahism rallies relatively small groups of religious scholars concerned with the moral values of their societies and intent on reforming them, Islamism is a social phenomenon resulting from modernity. Malek Bennabi sets out the double aims of third-world nationalist discourses in terms of a division between the material and spiritual levels. At the material level, the colonized nation, conceding the superiority of Western science, technology, economic and political systems, moves to appropriate these domains of modernity and progress. The spiritual domain enables this access to modernity by ensuring the cultural autonomy of the nation, and, what's more, its cultural superiority.

IV. ALGERIAN ICTs POLICY

The liberalization of Algeria's telecoms sector has been fixed for April of this year [2004]. The Minister of Posts, IT and Communications Amar Tou admitted that current transmission

capacity was weak and that the solution was the liberalisation of the sector. He admitted that though they had come to this conclusion a little late the total liberalisation of the sector was vital to the growth of fixed and mobile telephony in the country. The Ministry of Post, Information and Communication Technologies (PICT) has targeted 2004 for liberalisation of various sectors of the telecoms market. PICT is following a planned liberalisation process. Each step depends upon the previous one being completed: GSM VSAT GMPCS Rural Telephony then International Telephony Fixed line network. The planned liberalisation process arises out of the National ICT Policy formulation committee that began in 2000. The Ministry of PICT wishes to establish Algeria as an ICT hub in North Africa. It wishes to extend connectivity to all Algerians and sees GSM as the first step in this process. Because of the advantages that VSAT offers (most importantly that it is distance independent) it is seen as the second step in the planned liberalisation process.ⁱⁱⁱ

A. Regulatory Framework in Algeria

The Algerian regulator, *Autorité de la Poste et des Télécommunications* (ARPT) was formed in May 2000. It reports to parliament annually. It is funded through operators' contributions and does not receive any government funding. It does not report to any other organisations and the regulator is not legally obliged to consult or inform any other organisation prior to making decisions. The role of the regulator is to ensure that policy decisions of government are enforced. The ARPT is the regulator for both the Algerian Post Office

and the telecoms sector. The ARPT was created by government to manage the liberalisation and deregulation process initiated in 2000. The completion date is 2004. The ARPT is a relatively young organisation and still coming to terms with its duties. There is plainly a shortage of skilled staff with a significant portion of staff coming from the incumbent^{iv}. Algeria Telecom (AT). This creates a tendency to rely on data supplied by AT in making rulings. A recent example of this is local call price increase in June 2003. Local calls were increased by 355%, based on the argument by AT that the existing tariff structure was not covering its costs. The impact on the Internet users has been deleterious and the impact on the industry, and the economy more generally, is still being felt. The see-sawing between issuing VSAT licences, withdrawing the licence, allowing multiple VSAT users and suppliers and then potentially re-issuing two licences is indicative of the lack of regulatory experience and therefore ability to provide an enabling but stable environment.

In effect, the ARPT is on a steep learning curve. Greater consultation internationally and internally, plus development of human capital are vital components to its success. Government is committed to a fast liberalisation process, but without sufficient human resources the 2004 target is unlikely to be met.

B. Current situation in Algeria

Different technologies are required for different geographic areas. Algeria is more densely populated in the North. The southern parts of the country are dry with few inhabitants. It is not

economically viable to operate networks other than VSAT in the southern parts of Algeria. The northern parts of the country are mountainous and fixed wireless and fibre optic networks are difficult to install and maintain. VSAT, in both the ARPT and the Ministry of PICT's opinion, is the solution to these problems. Direct to Home (DTH) VSAT networks used for broadcasting purposes are widespread. There are no licence or registration (authorisation) requirements for DTH VSAT systems or receive-only VSAT systems. Two-way VSAT systems require authorisation. The motivation for duplex VSAT systems to have authorisation was provided by the military who were concerned that they would be used for 'terrorist' purposes, particularly in the south of Algeria. The result is that many cybercafés use receive-only VSAT for the downlink and dial-up for the backhaul.

C. Universal Service Obligations:

Both GSM and the incumbent operator (Algerie Telecom) have universal service obligations. The Universal Service Fund (Fonds du Service Universel) was set up at the beginning of 2003. Operators are required to contribute 3% of turnover per year. The fund pays out monies to those operators that extend their networks to villages and communities with less than 2000 inhabitants. The list of villages and communities that qualify for USF assistance is yet to be compiled. There have been no payments out of the Universal Service Fund to date. Payments are scheduled to begin in 2004.^v

D. Voice over Internet Protocol:

With the current regulatory regime under review, the ARPT has been reluctant to issue any licences. According to current legislation, the provision of Voice over IP (VoIP) must be licenced. To get around this conundrum, the ARPT has issued a number of experimental licences. Of the ISP's interviewed, all had received the experimental licences without any difficulty. Specifically, the VoIP licences are called "test" licences. There is a general expectation that with the new licensing regime in 2004, these test licences will be withdrawn.

E. Distinction between C and Ku bands:

In the said case study; the Ku band coverage of Algeria is excellent because of its proximity to Europe. The applicable distinction in Algeria's case is between receive-only VSAT and duplex VSAT. Because of the current regulatory regime, users (both corporate and individual) tend to choose receive-only. The documentation needed to acquire authorisation is simple but the bureaucracy behind the authorisation process prevents VSAT's wide-scale adoption. This means that for Internet access, the preferred method of connecting is through receive-only VSAT and then backhaul through dial up.

V. TECHNOPOLE OF SIDI ABDALLAH (SA):

The technopole of Sidi Abdallah is situated at 18, 64 miles western south of Algiers. This site covers a surface of 1870 hectares through the municipalities of Mahelma and Rahmania^{vi}. It comprises

three technology parks, which will be able to accommodate firms specialized in advanced technologies, and an industrial park: Cyber Park, Technopark Ibnou-Sina, Technopark El Boustène, Park of Sidi Bennour. The World Bank has started in 2002 an ICT Development Support Project in cooperation with the Ministry of Post and Telecommunications with the aim of creating an enabling environment and improve access to efficient and affordable ICT services, facilitate private sector development growth in ICT sector; improve the competitiveness of local ICT companies; and foster the efficiency of government in delivery of services. Among these aims the project intends to support also the development of new ICT companies through the so-called "Net-enterprise" development program. The programme envisages support to the set-up of the Cyber Park and an incubation facility, "Technobridge Incubator" with the technology park to support ICT R&D initiatives and/or start-up companies with innovative projects; to set a seed capital R&D grants mechanism to support IT start-ups and innovative SMEs and providing institutional development support to the 'Institut National des Telecommunications (INT)' and to the 'Ecole Centrale des Postes et Telecommunications' to renew its curricula and courses on ICT management and cyber entrepreneurship.

A. Cyber Park (CP)

Similar to many countries in Europe, America and Asia, which have favored the development of new technologies in information and communications, Algeria has decided to set-up a technological Cyber

Parc of 232, 28 acres in Sidi Abdallah close to university and research centers. Focus sectors; ICT, Media & Communications

B. Technopark Ibnou-Sina (IS)

This park covers a surface of 133, 44 acres and its special aim is to host local and international large enterprises. It is situated on an ideal site easy to access from the highway Algiers-Zeralda, which will be prolonged by the main way, which links the southern part of the highway with the towns of Blida and Boufarik. Focus sectors; Biotechnology (pharmaceutics), Health Care & Medicine, ICT, Tourism, Engineering.

C. Technopark El Boustène (EB)

The Technopark El Boustène is located inside the "Zone of Activities of Boustène", 10 minutes from Dely-Brahim, Algiers, (close to the route to Douéra and Souaidia). It is extended over a surface of ca. 111, 20 acres. Focus sectors; ICT, Electronics, Biotechnology (pharmaceutics)

D. Park of Sidi Bennour (SB)

This park covers a surface of 126, 02 acres and will specifically focus on services and agro-industries. It is situated south of Mahelma and it is envisaged that this zone will accommodate small and medium enterprises and will complement industrial activities developed in the parks of Blida, Ben Tamou, Beni Mered. Focus sectors; Agro Food.

VI. TELECOMS AND TECHNOLOGY FORECAST:**A. Mobiles in Algeria:**

The high cost of conventional “wired” infrastructure was a barrier to ICT access and social change in Algeria. By contrast, less cumbersome wireless technologies, such as WiFi and WiMax, can deliver tested low-cost telecommunications to complement conventional networks. They are also particularly effective in places where no infrastructure exists, helping communities to “leapfrog” generations of existing technology. To make “bridging the digital divide” a reality required an appropriate integration of investment in both wired and wireless infrastructures, and a joint effort by governmental, profit, and private sectors.^{vii} There has been considerable progress in the mobile telecommunications sector, in recent years. Both the mobile and the fixed-line markets are expected to continue to expand rapidly. Algeria has chosen to go digital by planning to wire the whole country.^{viii}

Rapid expansion of the market has occurred as a result of the opening up of almost all areas of the industry to private investors since the telecoms reform law of 2000. There is also likely to be considerable expansion of the information technology (IT) sector, which may enable Algeria to climb up the Economist Intelligence Units e-readiness rankings. In 2007, Algeria was ranked 66th, down three places from 2006, behind Egypt (58th) and the UAE (33rd). The markets potential can be gauged by the rapid rate of growth in mobile-phone subscriptions since Egypt’s Orascom Telecom launched its

Djezzy service in early 2002. At the time, the state-owned Algerie Telecom (AT), which held the country's only mobile-phone license, had barely 100,000 subscribers. By the end of 2006 mobile-phone penetration was approaching 62% of the population, according to figures issued by the 'Autorité de regulation de la poste et des telecommunications (ARPT)', the sector's regulator. According to the ARPT, at end-December 2006 there were 21m mobile-phone subscribers (an increase from 13.7m at end-2005), of whom 10.5m were subscribers to Djezzy, 7.5m to Mobilis (owned by AT), 3m to Nedjma (owned by Kuwait's Wataniya Telecom), which entered the market in 2004. By end-April 2007 there were 22.9m registered mobile subscribers, representing a penetration rate of 67.8%. We forecast that mobile subscribers will reach 36.5m at end-2011.

(Orascom) is making a contribution to improving international call services in Algeria by investing in a submarine cable between Marseilles and Algiers. Orascom won a 15-year renewable license to build and operate a fixed-line network in Algeria in 2005, in a 50:50 partnership with the state-owned Telecom Egypt that allows the consortium to compete in the supply of local, national and international services. Under the name the 'Consortium Algerien des telecommunications (CAT)', the partnership launched a new fixed-line service in late February 2005. It is now the second fixed-line operator in Algeria. Services are being marketed under the name Lacom, and initially were only on offer in the capital, Algiers. At end-2006 services had been extended to five wilaya (the regional

subdivisions). Lacom will eventually be expanded to cover the entire country. In total, CAT expects to invest around US\$1bn in fixed-line services. The license will also allow the partnership to develop high-speed data and other specialized services, as well as meeting the large unfulfilled demand for basic residential telephony. The license includes a two-year exclusivity period to operate both national and international fixed-line network services. In early 2006 the ARPT legalized the provision of VoIP and initially granted licenses to 11 providers to offer VoIP services, but by end-2006 only six local operators were actively providing services: EEPAD, SLC, WEBCOM, Webphone Network, ICOSNET and LASTNET.

Most of these authorized VoIP providers have started to offer prepaid types of services in the market. However, two key Internet service providers (ISPs), EEPAD and SLC, are offering post-paid services as well. For instance, SLC recently invested in Wimax (the Worldwide Interoperability for Microwave Access) and an IP (Internet Protocol) backbone to gain an edge over other operators. Despite the slow initial uptake, it is highly likely that the VoIP services will pose a substantial challenge to both fixed-line and mobile operators, given that their international charges are around six times higher than those offered via VoIP. Internet use has grown rapidly in recent years, reaching 5.92 users per 100 people at end-2005, according to the ARPT, compared with only 1.6 per 100 people in 2002. This puts Algeria just behind Egypt (7.18 users per 100 people) in terms of

Internet penetration, although it still lags well behind Tunisia (9.46 per 100) and Morocco (22 per 100).

Broadband (asymmetric digital subscriber line, or ADSL) access to the Internet became available in 2003, and there are now some 200,000 subscribers.^{ix} The government has stated that it intends to invest heavily in IT infrastructure over the next couple of years, with the target of having one personal computer per family by 2010, and to expand the optical fiber network, which now stretches over 35,000 km. The investment plan includes the construction and equipment of a dedicated cyber-village at Sidi Abdullah. In a move to boost Internet penetration in Algeria, the government has announced that it will issue third-generation (3G) licenses in 2007. 3G technology would allow areas with low fixed-line penetration to benefit from high-speed Internet access. So far, however, no further details of the 3G license have been forthcoming. There is a strong demand for broadband services, and current operators have geared up to provide high-speed Internet services.

B. Huawei in Algeria the EV-DO Successful Launch

Algerian Telecommunication market is one of the fastest growing markets in the region, and Algeria Telecom is leading this exceptional growth.^x

Huawei^{xi}, a leader in providing next-generation telecommunications networks for operators around the world, has celebrated in Algiers on May 25th, 2007, jointly with its Algerian partner, Algeria Telecom, the largest provider of network services in

Algeria, the official launch of CDMA 2000 1xEV-DO network. As part of its modernization plans, Algeria Telecom is focusing on the development of its broadband access network. Huawei's LiteFME solution has been highly recognized by Algeria Telecom as the appropriate option that would fit with the company forward looking strategy. With LiteFME solution, Algeria Telecom's PSTN, CDMA WLL network and ADSL network can be converged, which deliver the wired and wireless subscribers of Algeria Telecom the services without any difference, including CRBT(Color Ring Back tone), EV-DO data service, pre-paid portal for EV-DO service, video phone in fixed network and Integrated Centrex, which is a PBX-like service for enterprise users. Before, Centrex service can be only realized in the fixed network or in CDMA WLL network. Now with Huawei's LiteFME solution, the Centrex can span wired and wireless network to compose integrated Centrex network.

The CDMA network upgrade from 1X to EV-DO smoothly came to reflect the commitment that Algeria Telecom devotes to its customers, as this new technology will provide low-cost, wireless broadband access solution to Algeria Telecom's users. In Q1 of this year, Algeria Telecom launched three new services, 'ADSL Assila Pack Pro 3000', 'ADSL Assila Pack Pro 4000' and 'ADSL Assila Pack Pro 8000' for its business customers with speeds up to 8 Mbps. As the partner of choice for Algeria Telecom, Huawei is also working on the trial project of EV-DO Rev.A, which can effectively reduce the customers' OPEX, CAPEX and user churn while increasing service

revenue. The ceremony has been attended by senior executives from Algeria Telecom and Huawei Technologies and has witnessed the announcement of the winners of Algeria Telecom 2006 Excellence Award, which recognizes the top achievers and contributors to the success of Algeria Telecom. Huawei is highly committed to the development of the Telecom Industry in Algeria, and is working hand in hand with Algeria Telecom to bring latest telecommunication solutions and technologies to the Algerian Market.xii

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