

SUGGESTED IT APPLICATION FOR MOROCCAN GOVERNMENT

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INTRODUCTION

Nowadays, Information Technology applications take on a primordial importance within the society. Thus, they should be considered as a strategic sector contributing to the economic and social development. Moreover, they have largely contributed to the globalization of economy and internationalization of exchanges.

Since March 1998, the Moroccan government gave birth to a new entity called “ *Secretary of State delegate to the Prime Minister in charge of Post, Information and Communication Technology*”. Taking in account the Moroccan economic situation and the lateness accumulated in the different activity sectors, the task of this new entity is easier said than done. Thus, a deep S.W.O.T (Strengths, Weaknesses, Threats and Opportunities) appears to be of great importance to visualize the Moroccan IT scene in order to achieve the economic and social development sought.

Information Technology is defined in the dictionary as: “the study or use of electronic equipment, especially computers, for storing, analyzing and distributing information of all kinds, including words, numbers, and pictures” thus, information technology is the manipulation of electronic tools for information gathering, storage, processing and distribution. But what does it mean for underdeveloped countries? For underdeveloped countries it meant nothing until the late 80’s.

The Moroccan Information Technology underwent tremendous changes from its introduction till nowadays. The current situation is one of the best among Arab and African countries and morocco is playing a leader role within the underdeveloped countries. The government is also making efforts to promote the IT sector and NGOs are heavily investing

within it. Moroccans are also very enthusiastic and more and more demanding on new IT tools.

The group will start this paper by a review of previous works and government reports with regard to IT Market in Morocco. We will focus on some major points that are: Historical facts, introduction of IT Applications to Morocco, the current situation, government efforts to promote IT, and the Moroccan culture with regard to IT. Then we will proceed to integrate the literature review findings to put into light the strengths, Weaknesses, opportunities and threats of the Moroccan Information Technology. Finally, we will offer an action plan, and then propose an implementation strategy of our findings and recommendations to help develop the IT uses by Moroccan government.

LITERATURE REVIEW

This section of the paper scrutinizes a variety of previous works done by scholars on the subject of information technology in underdeveloped countries. We will give special attention to the works done with regard to the Moroccan Market and Businesses. This review includes historical facts that will clarify the picture of Information Technology in morocco from its introduction till nowadays, and the Moroccan culture and how it deals with IT.

A/ HISTORICAL FACTS:

Since the Independence, Morocco knew big democratic changes. The first years of independence were characterized by oppression of all kinds of free expression. Morocco was undergoing important political challenges and late king Hassan the second wanted to have control over all the information networks. Thus, the only television available was the Moroccan one under the control of the state, the content of newspapers was closely

controlled by the government and the distribution of foreign books was harshly controlled. You may be wondering why I'm talking about politics while my topic is about information technology. Just be patient! The answer is coming soon. Can you imagine a country wanting to have control over all the information that is entering the country encouraging TV Dishes use? Promoting Internet access? Or even mobile phones? You may not clearly see the relation between such tolls, but Mbarki's writing will clarify the scene. In his book, "La Politique selon le Roi Hassan II" (pp 56-59), H. Mbarki is focusing on the fact that the late king's politic was based on misinformation. Thus, he wanted to have control over all information networks to keep control over the country. Morocco was undergoing a big transactional period, in which political parties that participated in the French kick-out-of the country had try to find ways to rule the country. The encouragement of information communication means meant, at that time, putting a strong weapon between the hands of the rebellion. Thus, the introduction of all Information Technology tools and their import to the country had to undergo strict government policies and special authorizations. By the late, 1980's the government changed its policy under the pressure of the international community and began building the road to democracy. This lead to more opening towards the world and less fear of the other since there had been no more things to hide. Multinational companies started to invest in the Moroccan market. This opening built a root to a big information technological revolution in the country.

B/ INTRODUCTION OF IT APPLICATIONS TO MOROCCO:

Since the beginning of the century Morocco knew the introduction of the first tool that could be considered as an IT. According to A. kasmi, 2001(l'économiste), the first Telephonic connection was established in Morocco in 1906. However, the government

waited until 1956 for the creation of the Ministry of mails, telephone and telegraph. Then, by the middle 70's the first computers were introduced to Morocco. Those computers were mainly used by the few multinational companies that were settled in Morocco and mainly in Casablanca. Furthermore, only foreigners were able to use them and the companies were recruiting expatriates for the training of local employees. However, computers at that time were used for basic operations such as typing, accounting and data storage. No data processing was carried. By the beginning of the 80's Morocco entered the initiation stage and Information technology started finding its way to Moroccan Businesses, government offices and even homes. Starting this date, things went quickly and the IT sector knew big investments. The contagion era started and the integration comes quickly to move from the data processing era to the information management within businesses and government.

Internet connection was launched in Morocco at 1993, but Moroccans started using and knowing the World Wide Web at the beginning of 1996. Then things went another time rapidly and users showed a big interest on the new tool. Cyber cafés grew like mushrooms in all Moroccan cities and the population rapidly got used to this new information technology tool. In November 1996, the first Moroccan website (www.Leconomiste.press.ma) was developed by l'économiste, a Moroccan daily newspaper. According to A. Kasmi, 2001(l'économiste), the launching of this website needed an investment of 120,000 Dhs the first year. It was mainly consulted from Europe, USA and Canada.

The government also followed the general trend and computers were bought for the majority of its offices and employees benefited from special training programs. Furthermore, special Softwares were designed to help offices handle the daily operations

and networks were developed to link the different departments. The government started financing and encouraging IT investments.

C/ ASSESSMENT OF THE CURRENT SITUATION:

The actual situation of IT in Morocco is by far one of the best in the underdeveloped countries. The government is encouraging IT investments and the Business started to recognize its importance. The Moroccan society is also very open all kinds of new technology. Moroccan IT businesses are now internationally recognized and invited to international conferences to talk about the Moroccan IT Market. As indicated by Salim Rochdi 2002 (Al Bayane), Morocco took part to the European Week for Information Technology in Paris. Seventeen Moroccan companies, leaders in their activity sector, presented their products and services. The participation was such a big success that 30 to 40 enterprises are already invited to participate at the 2003 edition. Thus, we can say that morocco is on the right way and IT is expected to know more and more development within the country.

However, at the exception of the “*Administartion des douanes et Impots Direct*”, rare are the departments that put the advantages of the information technology at the service of their clients. Moreover, the SEPTI (*secretariat of state in charge of Post, and information and communication technology*) gave a lot of hope to the professionals. Nonetheless, the lack of means to act appeared rapidly on the scene. The operators are still waiting for concrete actions and are fed up with promises.

With regard to internet, by 2000 Morocco counted only 300,000 internet users (mainly via cyber cafés) and less than 1.5 million subscribers to the fixed phones.

In Casablanca, a kind of Moroccan Silicon-Valley was built. The Technopark is a kind of nursery for high tech enterprises. Till today, 37 enterprises are taking advantage of its facilities. The major condition for having access to it is to be operating in the information Technology sector. The enterprises in it take advantage of a package comprising: the buildings, telephone connections, fast flow Internet Access, mail management, buildings maintenance, the cleaning of the common areas... According to the SEPTI annual report 2001, The goal is to create a synergy among enterprises operating in the same sector. The society that constructed the Casablanca Technopark is planning to build a technopole in Bouznika that will cover three activity sectors: production, exploitation, research and services.

D/ GOVERNMENT EFFORTS TO PROMOTE IT:

According to Mr. Nasr Hajji , Secretary of the state delegate to the prime minister in charge of Post, and information and communication technology: the objective in the short term is to put together the bases and mechanisms necessary for the area's takeoff . By 2010, he is forecasting that morocco will achieve all the objectives, European and international standards. Therefore, the minister points that the goal is to have 3 million surfers for 2005 and 10 million by 2010. He is also pointing out that the internet boom is to be achieved through fixed sum contracts. However, the ministry lacks performance indicatory in the field to concoct a valid strategy. This strategy should be divided to five major axes: training and research, economy and enterprise, administration and local communities, E-commerce and generalization of IT in society.

According to the ministry of telecommunication the following training and programs are available right now in Morocco:

- The Ecole Nationale de l'Industrie Minerale (ENIM) in Rabat has an Informatics Department which provides training for systems engineers, information center management, database and network administration and applications development.
- The Ecole Supérieure de Technologie de Casablanca (ESTC) provides training in informatics in corporate management.
- The Ministry of National Education is taking a leading role in networking among teaching institutions.
- Fourteen universities and higher education institutes have been connected to the Internet via an X.25-Internet gateway operated by the ISP MTDS in Rabat.
- The Secretary of Post and Information Technology (SEPTI) is working to place information about all government ministries and departments online, including all business regulations.
- The GOM intends to promote online access by the public to a variety of services, including education and health.
- The Ecole des Sciences de l'Information (ESI) has an extensive IT training program and a large documentation center. It also has links with schools of information science at universities in Pittsburgh, Montreal and Sheffield (UK).
- The University Ibnou Zhor de Agadir is the Las Palmas Chair focal point for establishing a system for improving access to scientific documentation, in collaboration with the Polytechnical University for Valencia, Spain.

According to Forestier E, 1999 the Moroccan Government is encouraging It As it becomes a strategic tool for international trade development (p 25). He is adding later that Morocco is a good example for African countries in the field of IT development (p 26).

The World Bank is also offering loans to Morocco to promote IT investments and catch up the tardiness noticed on the sector. The objectives of the loan according to the World Bank report (1999) are:

to "...support the implementation of a comprehensive package of pro-competitive reforms in the telecommunications, post, and information technology (IT) sectors designed to increase the competitiveness of the Moroccan private sector, to broaden access to communications services to the poor, particularly in rural areas, and to facilitate Morocco's transition to a global, information-based economy. In telecommunications, the primary objective of the load is to promote increased competition, greater private participation and investment, and autonomous regulation. With respect to postal services, the operation seeks to increase the

competitiveness of service provision and to ensure that the public service obligations are adequately defined, financed, and met. The law also supports the development of a national strategy aimed at facilitating Morocco's integration into the global information society."

As Stated by the World Bank, The TPI-TAL intended at serving the overall goal of the Government reorganization program to speed up Morocco's integration into the universal information market, gain access to competitively priced and useful communication services and IT determines the ability of economies to nurture, create employment, and decrease social inequalities. The service sector, which is heavily dependent upon communications and IT, accounts for an increasing share of GDP in most economies, while the IT industry itself is emerging as a major source of growth, job creation, and export earnings in those economies. Satisfactory provision of telecommunications, postal, and IT services to deprived and isolated homes represents a vigorous mean to diminish social segregation and to expand the possibility of economic opening provided slight of the major cities. The Operation provides the implementation of actions in six defined areas: "(i) telecommunications liberalization; (ii) telecommunications regulation; (iii) privatization of the incumbent telecommunications operator; (iv) access to telecommunications services by poor and remote households, (v) competitiveness of postal services; and (vi) development of a national IT strategy."

E/ MOROCCAN CULTURE AND IT

1. Street Culture

Moroccans are generally excited by all new tools whether they are hi-tech innovations or not. In fact, Moroccans are curious by nature. The success encountered by cyber-café's and mobile phones is a good example of how well new technologies are welcomed by the

Moroccan society. However, a main barrier is heavily plugging up this enthusiasm. The low income of the majority of the household is a big barrier to Information Technology acquirement. Although we saw in recent years many families opting for loans to equip their homes with computers, they still represent a minority within the society.

Another ghost that is frustrating information technology investors in Morocco is “Derb Ghallef” in Casablanca. This place is a kind of Moroccan Souk specialized in the hacking of all new technologies. You can find in it illegal copies of the newest Softwares, the latest mobile phones at lower prices and so on.... Most of Moroccans are not aware of the copyright rules and buy their Softwares, movies, music, CD games from their since the only incentive they care about is price. This culture of illegal tools acquirement is a big threat for IT investors within the country.

2. The Business Culture

In the book Strategic Planning for Information Systems, John Ward and Pat Griffiths are putting into light the barriers on Information Technology Development. They state them as following (P98):

- Top management lacked awareness on the impact IS/IT is having generally and did not understand how IS/IT offered strategic advantages. They tended to see “computers” in purely operational context- still a DP era view.
- top managers do not view information as a business resource to be managed for long term benefit. They only appreciate its criticality when they cannot get what they need.
- despite the difficulty in expressing all IS benefits in economic terms, top management demand to se a financial justification for investments.
- finally, and increasingly apparent problem of the 1990’s, is that top managers have become action oriented with a short term focus that militates against putting much efforts into long term planning, especially of IS/IT.

All the above problems can clearly bee seen within the Moroccan business culture.

Although many businesses invested in computers acquirement, they are still caught by the

Data Processing era. Top managers are not yet aware of the strategic role that IT could play in their organizations. Small and medium businesses lack the financial resources to invest on the high costing IT tools, and training for their employees.

DISCUSSION AND ANALYSIS

This part is dedicated to the analysis of the Information Technology situation in Morocco by stating its: strengths, weakness, opportunities and threats. This analysis will lead to the proposition of a plan of action to help overcome the barriers and strengthen the opportunities within the Moroccan Market.

A/ STRENGTHS OF THE MOROCCAN IT:

After a deep analysis of the IT Moroccan Market, we noticed the following strengths:

- The Main strength of Information Technology in Morocco is its outstanding position with regard to other underdeveloped countries. Thus, Morocco is attracting more foreign investments on the sector than other African and Arab countries. Furthermore, it is playing a leader role on the field in the African continent.
- The political stability of the country is also a major contributor in attracting foreign investments in general and IT in particular. IT investment is very high in terms of initial investment and investors do carefully analyze a market before they jump to it. Morocco here offers a competitive advantage compared to other African and European countries when it comes to the social and political stability.
- Strength is that of the High involvement of the government and its willingness to develop the sector. In fact, the government is giving many facilities to the investors in the IT area. Accordingly, it is investing on Hi-Tech schools and offering tailored programs that train engineers specialized in IT fields. This

involvement is also very welcomed by NGO's that invest on the country and feel comfortable when it comes to dealing with the Moroccan government that offers all the facilities to implement their projects.

- Moroccan people and especially the educated ones are willing to follow the international trend and develop the IT sector. Homes are more and more equipped with computers and parents are encouraging their children to discover and use the new technology. They are even taking loans to invest on the sector and be up to date within the latest technologies.

B/ WEAKNESSES OF THE MOROCCAN IT:

Although The Moroccan IT market is a strong one compared with similar countries, it still knows many weaknesses:

- The lack of IT infrastructure especially in remote areas. For example, Phone connections are not wild spread with mountain and country side areas, thus there is no possibility of internet connections.
- Not only the number of specialists in the field is very low, but they are also leaving the country to look for better economic situations. Canada for examples is attracting many computer science engineers that look for better salaries and economic conditions.
- The structure of Moroccan businesses doesn't encourage IT investments. In fact, the majorities of businesses are family owned and are small and medium size businesses that fear merger with other business. Thus, they lack the means to invest on the IT sector.

- The bad economic situation within the country and the low income level. People are struggling for the fulfillment of basic needs such as Food, Drink, habitat... How could such people even think about investing on technology since those tools are viewed by them as insignificant and worthless?
- The bad roads infrastructure and the difficulty to reach some areas make it possible to provide them with IT infrastructure.
- The difficulty of changing the business mentality and the fear that old employees developed against IT. In fact, those employees are reluctant with regard to the use of Information Technology and lack the skills for its handling. Furthermore, they even don't want to undergo training sessions and are at ease settled down waiting for retirement.
- Top managers are the major decision makers within companies and the business culture is far from being one of communication. Thus IT Managers, if they exist within the company, have no impact on decision making. Thus, they cannot influence Investments in the information technology within their companies.
- The usage of computers is not wild spread with the society. Only few privileged have minimum skills for the use of such a tool.

C/ OPPORTUNITIES WITHIN MOROCCO:

The Moroccan market could be considered as a “virgin” market with regard to information Technology. Thus, a lot of opportunities could be pointed out in different sectors of activity:

- In terms of fixed phones the market is not well served and new operators would be welcome to penetrate the remote areas.

- Internet connections are mainly made through cyber-café's. Home and business connections could be boosted through the offering of new services and products tailored to the society's needs.
- The Moroccan government is under equipped and this is an n opportunity for big IT firms to gain an appealing market by offering SAP solutions, outsourcing facilities and competitive equipment prices.
- The government is launching an e-commerce program, and this is a good sector for investment since few Moroccan firms already have their websites. Even when they do, those are mainly simple informative pages that are rarely updated.
- A unique infrastructure with all the facilities for hi-tech enterprises. That is the Casablanca Technopark and the future Bouznika Technopole.
- The call centers offer a great opportunity for Europe since the labor is cheaper than Europe and the telephone operators cost less. Another factor is the low turn over of the sector 5% compared with the 40% turnover rate in Europe. The government is also offering facilities with regard to the investment in call centers, such as undemanding work regulations, and government sponsored training...
- Commercialization and diffusion of monetary products for which an advanced infrastructure already exists. The developers of monetary solutions strongly believe on the potential offered by the Moroccan market.
- The area of websites development is also a very interesting one since the majority of Moroccan enterprises and government units look for foreign

companies for their websites development. The e-commerce project also offers a great opportunity for websites developers.

D/ THREATS TO THE DEVELOPMENT OF IT:

After examination of the Moroccan IT market we noted that Many Barriers appear on the scene as an obstacle for IT development within the country.

Following is a list of the major threats to the development of IT in Morocco:

- Illiteracy is the top one threat to any IT development in Morocco. With 52% illiterate rate within the population, morocco should first overcome this problem before claiming IT development. In addition the rates differ greatly from rural to urban areas. The introduction of information technology without a general alphabetization program will be meaningless. How could citizens take advantage of information technology and use it if they lack minimum education?
- The high cost of numerical technology is also a threat to the development of IT in Morocco. Information technology is more and more based on numerical technology. The highest the cost of this technology the less people could afford to take advantage from it.
- The Moroccan government is not realistic in its planning strategies. This lack of pragmatism makes the implementation of the government programs almost impossible in the real life.
- The high price of the computers compared with the low average income level is a real obstacle towards internet penetration in the market.

- The business structure is also a Major threat to IT development since the majority of businesses are small and medium size businesses. Thus, they lack the financial funds to invest on IT.

E/ PLAN OF ACTION:

After the S.W.O.T analysis on the Moroccan IT market and the assessment of its characteristics, I suggest the following plan of action to encourage IT development in Morocco:

1. The Moroccan government should first find solutions to overcome problems such as illiteracy, road infrastructure and low citizen's income level.
2. The Moroccan government should make additional efforts in encouraging IT investments by focusing on specific areas such as call centers, telecommunication and off shore businesses.
3. The Moroccan government should work on the appropriate infrastructure for a favorable IT development context. Morocco should set clear, realistic and measurable objectives to work on.
4. More efforts should be done on training, and research has to be encouraged and sponsored by the government.
5. Incentives should be used to encourage businesses to acquire and use IT by tax reductions, low interest loans, free training for employees...
6. Government ministries could be obliged to use a minimum agreed on percentage of their budgets for IT development within their units.
7. E-commerce has to become a reality as soon as possible and the government should seriously and rapidly work on the implementation of this project.

8. Morocco should put into light its strengths, such as the favorable climate for investment to attract more foreign investors by organizing conferences in foreign countries.
9. Morocco should launch a vast program for equipping public schools with computers. The government could seek the help of many NGOs to achieve this goal.
10. Morocco should take advantage of the good image that NGOs have of its involvement within the field, and thus come up with more projects and ideas to catch up the lateness.
11. Morocco should stop the migration of engineers to foreign countries by offering them better salaries and social statuses.
12. Special low or no interest rate loans could be offered to encourage computers acquirement for home usages.
13. The government is to ensure the right of every individual to have access to telecommunication.
14. Infrastructures such as the Casablanca Technopark should be encouraged to help create a synergy among the field specialists.
15. Startups should be encouraged and helped by the government.
16. The business structure should be reviewed and business should be encouraged to merge to create bigger and more powerful businesses instead on the small and medium ones that morocco is actually having.

IMPLEMENTATION & CONCLUSION

The implementation phase that we suggest for our project includes various parameters that are not under our control. Thus, we will simply say that the implementation plan must be developed by government in a bottom-up approach that can take into consideration almost all constraints that are raised by the weaknesses and threats discussed in the above paper. This approach is the one that will allow the country to effectively implement IT and thus gain a sustainable competitive advantage that will serve not only the government but also all the stakeholders in this ambitious project.

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