
New Technologies and Globalization A Challenge for Arabic Economies

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INTRODUCTION

For more than a decade, great technological advances, notably in the field of communication and information technologies (internet, satellite channel) have changed the mode of transmission and acquisition, both in the field of knowledge and the press.

Even if these new technologies make large perspectives available for the development of Arab countries, it is not for sure that these latter take advantage from all these technologies changes. This is due to their weak technological and scientific autonomy which limits their access to the international system of technologies.

From one part, we may ask how many these countries acquire and master these technologies with only few multinational firms exercising their domination on all technological processes in the field of data and communication?

If they do, are they using these new technologies in a good way?

This paper tends to answer these questions emphasizing on the constraints and opportunities which have a relation with the use of the new information and communication technologies.

- First, we'll discuss the role of information and communication technologies in the transformation of economies.
- Second, we'll analyse the objective constraints which limit access for Arab countries to these technologies
- Third, we'll show opportunities given by these new technologies to allow development in Arab countries economies.

THE ROLE OF ICTs IN CHANGING PRESENT ECONOMIES

The appearance of new information and communication technologies (satellite telecommunication systems) gives new development perspectives for developing countries not only in the field of information but also in the field of knowledge.

They give many choices to diffuse information and knowledge. Internet is one of these. This means which has many qualities (rapidity, information reliability, electronic exchange, economic data, schemes, sounds) is revealed to be a precious support for developing countries (Duffour, 1995).

Telecommunication sector has introduced many technological innovations (mobile phones, satellites) through these innovations, transmission mode has developed and made access to data from wherever point on the globe.

As a consequence, these new information technologies and communication are considered as an important means of work. They are used in different fields of economic life; in firms and factories, banks, press and commerce. They bring solutions to a multitude of problems, using these technologies allow developing countries to overcome their delay in the field of imperfect data and in the field of technology.

So, new technologies in the field of information and communication may contribute to modernization of the economic structures in developing countries and this will depend on established

strategies and adopted policies. Given the fact that new technologies help to overcome the delay, the international economic relations show that these technologies have some consequences on global economy structures among which we may mention the following aspects:

- Information and communication technologies have shaken the old schemes of firm organisation at the technological level, production level and commercialisation. This situation aims to modify production systems, firm organisation systems and state policies and strategies (Chesnais, 1986)
- These technologies have accelerated the process of economic globalisation with the opening of finance markets all over the world, working 24 hours a day, the transfer of capitals from one country to another, the multiplication of international commerce transaction. Such a revolution allow multinational firms to build data networks and establish their control on exploitation process, production and commercialisation even when their production process is located outside (OCDE, 1989)
- The technological progress made in the field of computer services, communication systems, impose a unique technological model which all countries are obliged to follow if they wish to be considered as developed. Seeking for gains, firms are pushed to introduce the new technological innovations in their organisation (Tapscot, Agnew, 1999)
- The marriage of information and communication technologies and the other technological systems which are related to industry and biology.
- Information and communication technologies have shown the real role of information in the international competition. Access to information has become of big interest for different economic and politic actors. It will determine their positions at the international market level.
- Information and communication technologies have permitted the emergence of new resources considered as the determinant factors for the growth of economy in technologically developed countries (Negroponte, 1995)
- These technologies have reinforced the technological monopoly of multinational firms in the field of science.

Due to these changes in global economy and the constraints which Arab economies face, new technologies will affect the future of these countries either by accelerating their dependency towards dominant economies which or by reducing this gap. For the present, Arab economies are weak competitors and simply consumers of these new technologies.

OBSTACLES FOR ACCESSING TO NEW TECHNOLOGIES

Due to the lack of real research and development policies linking developing countries to research centres able to control and assure diffusion in different economic activities sectors, access to these technologies is real problem for developing countries. Arab countries face great challenges. Crisis that have touched these countries since their independence show their weakness in leading economic reforms conducted by some international organisation like the IMF.

The existence of an unfavourable macroeconomic framework, fade their ambition to found autonomous economies. In fact, Arab economies are becoming net exporters of capitals and this has negative effects in terms of development. Capitals are used to pay back foreign debts. This problem and others like inflation worsen the process of getting out this crisis, and discourage both foreign and domestic investments.

Taking this into consideration, we'll examine some points which seem to be obstacles for Arab economies to access to the new technologies.

- From competition point of view, technological change seems to give more chances for big firms rather than small ones. It reinforces their position on international market and this seems to make barriers for less competitive firms (Brahmbatt, Dradush, 1996). With the coming of these

new technologies, we see that this field is characterized by a growing concentration of multinational firms. This concentration can be measured by the number of multinational firms which work in this field, revenue, amount of money spend on research development. But in reality, only few firms monopolize this field of high technologies.

- Introducing the new technologies in the production system of firms have changed the shape of firm organisation at all levels: product conception level; production techniques level and mode of organisation level. Moreover , these organising innovations determine the rules of international competition and thus any firm that neglect the new technologies can not penetrate international markets.
- Most of the competitive production systems are characterized by a technological performance. In this sense, dynamic firms are easily adapted to consumers demand variability. This is not the case for firms in developing countries whose delay is patent in production process and as consequence they are not flexible in responding to variability in demand. The use technological systems allow these firms to make their sit of products flexible, reducing the products life cycle or increasing the sets of products and services which is not the case for firms in Arab countries.
- Due to the harsh competition between the multinational firms , owning a technology by one firm does not assure a good revenue, if this firm does not possess some advantages to keep itself competitive, like the existence of commerce network, a reliable information system and good management.
- Technical progress has required some considerable investments in the field of development research. This was the result of cooperation between the firms and the university research laboratories. Now firms have tendencies to exploit commercially these researches in order to reinforce their position in leading their activities. Unfortunately, it is not the case for Arab firms which are far from what is happening in laboratories.
- Nowadays, mastering the new technologies is becoming more and more complex due to the convergence of many technologies (computer sciences, communication, microelectronic) which require a good scientific knowledge. Without the existence of adequate scientific structures in Arab economies (research laboratories, scientific competence, research budget) no scientific progress can be realised. And so acquiring these technologies and this knowledge remain a big problem for countries that do not encourage scientific research.
- The present international system gives more importance to the firms owning new technologies. These firms are laying down new norms on products sold in world markets. A good example is Microsoft, the world biggest company in computer sciences. It has expelled all competitions in the field of manufacturing computers. So what about firms in Arab countries which have fewer technologies than American firms. These are some factors that represent real barriers to access to the new technologies.

CONDITIONS FOR ACCESS TO NEW TECHNOLOGIES BY ARAB COUNTRIES

Less developed countries have to exploit the new chances given by information and communication technologies in the field of knowledge and technology acquisition. This is why they have to reinforce their education and formation system which is the unique solution for knowledge acquisition.

Countries in south Asia have taken profit from their good educational system and their technological one. They have assimilated a part from the European technologies to which they introduce some innovations and so they could penetrate new markets and acquire new technologies.

- The new technologies in the field of information and communication offer great opportunities for these countries to exploit this amount of knowledge, spread through internet to which all may have access. They have simply to assimilate this knowledge and then innovate. This is the first element.

- The second element bears on the notion of international competition. Now days the rules of international competition have undergone deep changes. The theory of comparative advantages is no more valid. Countries that posses natural resources can no more have the leading position in international markets. World economy does not function as it used to do. New mechanism regulates the international economic relations: the oligopolistic competition and the strategic interaction. Consequently competition now obeys some considerations like the internationalisation of important resources like (knowledge, finance, experience in term of production and access to the market). From the international point of view, we should notice that some new forms of partnership between firms have taken place without forgetting strategies alliances that take place in international competition. These have replaced the old forms of partnership which laid on essentially conjoined firms, licence agreements. To the difference of strategic alliances, the old partnership worried about the aspects that had relation with ownership and the control of firms. With the appearance of the new forms of partnership like strategic alliances which represent on innovation in the organisation system of the firm. These latters tend to reach numerous objectives at the same time:
 - the partition of investment costs between many partners firms
 - the partition of costs that have relation with development research
 - penetration to international markets.
 - The constitution of oligopoly on world market.

The fact that all these advantages are procured by this new way of cooperation, the latter should incite Arab firms to multiply alliances in different branches of activities in order to overcome the barriers and penetrate world markets.

- The third element is the relation between foreign direct investment and technology. We know that FDI have a huge international role in diffusing technologies in countries that receive them. They can take many shapes (creation of filial and technical assistance). Most of the FDI go to the US, EU, Japan and some countries in South Asia and Latin America. So most of the developing countries do not benefit from the investments vital for their development. This partition of investments is due not only to the incapacity for these countries infrastructures as said by some analysts but it is also due to the internal problems (foreign debts, unemployment, workers less qualified). All these problems handicap the growth of economy in these countries.

CONCLUSION

Problems that we have mentioned are common for all countries in Arab economies (weak technological autonomy, fragile scientific infrastructure, macroeconomic problems). It is time for Arab countries to take advantage from opportunities offered by the new information and communication technologies in order to acquire data and knowledge spread through internet.

One of the strategies that we put forward is to elaborate a real research policy without which Arab countries will never overcome their technological delay as they are working under an unfavourable macro economy (foreign debts, budget deficit and weak infrastructure).

Cooperation between Arab economies is becoming more and more vital because it will allow large perspectives for the development of these countries in terms of exchanging technologies. It will compensate the unfavourable effects related to the cooperation with developed countries which has practiced so far protective policies.

The existence of comparable development levels will help these countries to establish a complementary policy in different economic fields with the specialization in different branches of economic activity and the alliances between Arab firms which will play the important role in this perspective. The new technologies in the field of information and communication seem to be a new way to explore new forms of cooperation. Thanks to this technological slant allowed by information

and communication technologies, the economic rapprochement between Arab economies is no longer a dream but a possible fact that can be realized if the political will is ready.

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