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March 2010

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Enhance the competitiveness of the Arab SMEs in the knowledge economy

HUSSEIN ALASRAG

Enhancing the competitiveness of small and medium business enterprises in the Arab Countries under the knowledge economy

BY: HUSSEIN ALASRAG

This research aims to study enhancing the competitiveness of small and medium business enterprises in the Arab Countries under the knowledge economy in the light of the growing interest in it, through identification of the concept and importance of small business enterprises for the Arab States, the most important challenges facing development, and finally the research tries to propose a number of policy recommendations to develop and activate this important sector in the Arab countries under the knowledge economy.

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Introduction:

Due to their increasing importance to production growth and vital relation with various productive sectors in society, small and medium enterprises (SMEs) have become one of the key instruments to face economic and social problems and achieve development objectives in most industrial and developing countries. Statistics show that SMEs represent 90% of total companies in the vast majority of economies worldwide and provide 40-80% of total job opportunities in addition to contributing largely to GDPs of many countries. For example, they constitute about 99% of the total private business, non-agricultural in Egypt, and contribute about 80% of the total added value produced by the private sector, with about two-thirds of the labor force and three-quarters of workers in special functions outside the agricultural sector. for Kuwait, this sector constitutes approximately 90% of the private workforce, including labor and imported an estimated 45% of the labor force, employment and national rates of less than 1%, in Lebanon, more than 95% of the total enterprises, contribute about 90% of the jobs. In the UAE , small and medium enterprises accounted about 94.3% of the economic projects in the country, and employs about 62% of the workforce and contributes around 75% of the GDP of the state. In addition, they account for 96% of the GDP in Yemen in 2005, and about 77%, 59%, 25% in Algeria, Palestine and Saudi Arabia, respectively, during the same year , while the contribution of these projects range between 25% -40% of the GDP of Egypt.

The aim of this research is to study enhancing the competitiveness of Arab small and medium enterprises under the knowledge economy. To do so, the research Divided as follows: -

Section I: Small and medium enterprises in the Arab countries (definition and importance)

Section II: Enhancing the competitiveness of Arab SMEs in the knowledge economy

I. Small and medium enterprises in the Arab countries (definition and importance)

Promoting (SMEs) have been one of the best strategies for achieving economic development. Many Arab countries have recognized the importance of small and medium-sized enterprises (SMEs), and have formulated policies to encourage, support, and fund there. The benefits of SMEs to any economy are easily noticeable, they include: contribution to an economy in terms of creation of jobs, development of skilled and semi-skilled workers, and developing and adapting appropriate technological approaches. This section discusses the developmental role of small and medium-sized enterprises (SMEs) in the Arab countries.

Well-managed and healthy SMEs are a source of employment opportunities and wealth creation. They can contribute to social stability and generate tax revenues. According to the International Finance Corporation (IFC), there is a positive relationship between a country's overall level of income and the number of SMEs per 1,000 people. The World Bank's Doing Business reports indicate that a healthy SME sector corresponds with a reduced level of informal or "black market" activities.¹

So, In order to reflect the important role that can be played by SMEs in the development of Arab States I think it's important to identify the problems facing these countries. Then illustrate the importance of these projects for the Arab States. And then indicate what can be done to address these problems through the development of the **SMEs**.

A. General problems of the Arab economies

¹ World Business Council for Sustainable Development (WBCSD),.Promoting SMEs for Sustainable Development.. WBCSD, July 2007,p2

The economies of the Arab countries lack diversity, a situation which has remained unchanged since the early 1990s. Oil exports are still the main economic engine of the region. Many people,

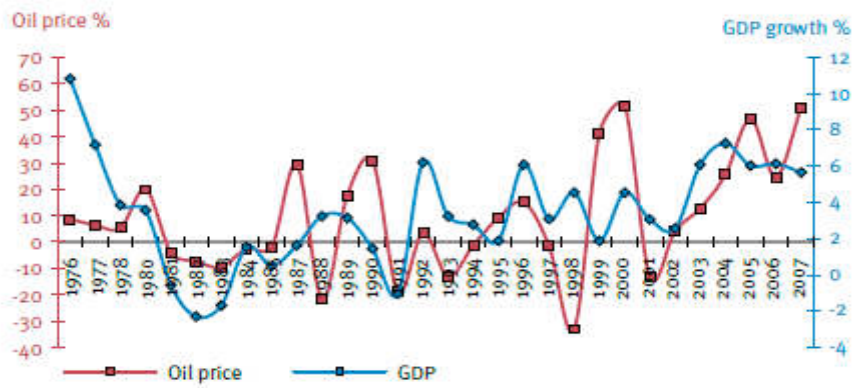
not only in the oil-rich countries, have private incomes and there is still secondary dependence on oil revenue throughout the region.

Regional cooperation is a slogan with no economic pressure from the private sector or genuine political will behind it. External indebtedness is massive and continues to sap the region's energies. Domestic savings are insufficient to finance investment, and consumption levels are still high in most Arab economies. Particular problems include:

1. Heavy reliance on oil revenues

Arab GDP growth since the 1970s has been closely tied to the rise in export revenues, dominated by fuel exports. The latter constituted 75, 72.6 and 81.4 per cent of merchandise exports of the high income (Bahrain, Kuwait, Qatar, Saudi Arabia, and the United Arab Emirates), middle income (Lebanon, Libya, and Oman, Algeria, Djibouti, Egypt, Jordan, Morocco, Syria, Tunisia) and low income (Comoros, Mauritania, Sudan, and Yemen) groups respectively in 2006. The fitful ups-and-downs in the Arab countries, from high growth in the 1970s to economic stagnation through the 1980s and back to extraordinary growth in the early 2000s directly reflects the turbulent cycles of the oil market. This is illustrated both by Figure 1, which shows the strong link between movements of the global oil price and the region's GDP growth.

Figure 1: **regional GDP growth based on constant 1990 prices, and growth in nominal oil prices, 1976-2007**



Source: UNDP/AHDR calculations based on UNSD 2008.

Notes: Data for 1979 and 1986 were removed from the graph as they were significant outliers.

The steep drops in oil income during the 1980s had major impacts on oil producing countries (Saudi Arabia, for example, saw its GDP at current prices halved between 1981 and 1987). A number of other countries experienced negative economic growth, of which the hardest hit was Kuwait, where GDP at current prices declined by around 18 per cent in 1981 and 1982. The shocks were transmitted to non oil Arab economies whose receipts from remittances fell away. Jordan and Yemen both had negative growth in some years. Through all the ups and downs during nearly two and half decades after 1980, the region's per capita economic growth hardly increased at all. Based on World Bank data, real GDP per capita in the Arab countries rose by a mere 6.4 per cent over the entire 24 year period from 1980 to 2004 (i.e. by less than 0.5 per cent annually). Since the 1990s, real per capita growth rates in non oil as well as oil countries have fluctuated erratically, often turning negative.¹

2. The structural fragility of Arab economies:

Oil-led growth has created weak structural foundations in Arab economies. Many Arab countries are turning into increasingly import oriented and service

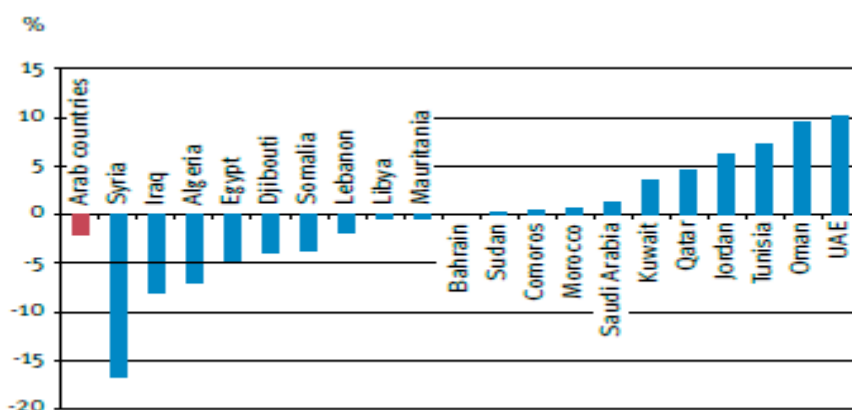
¹The United Nations Development Programme, *Arab Human Development Report 2009: Challenges to Human Security in the Arab Countries*, New York, USA, 2009, PP100-101

based economies. The types of services found in Arab countries fall at the low end of the value adding chain, contribute little to local knowledge development, and lock countries into inferior positions in global markets. This trend, which has been at the expense of Arab agriculture, manufacturing and industrial production, is therefore of concern.

Although the share of services in regional GDP declined quite significantly from over 60 per cent in 1986 to 45 per cent in 2007, this was largely due to the rise in share of the oil sector. By the year 2007, the share of services in GDP still exceeded 50 per cent in all non-oil producing Arab countries and was above 65 per cent in Bahrain, Djibouti, Jordan, Lebanon and Morocco. Furthermore, the sector accounted for over 50 per cent of total employment in most Arab countries.

Not surprisingly, most Arab countries have experienced significant deindustrialization over the last four decades (Figure 2). In fact, the Arab countries were less industrialized in 2007 than in 1970, almost four decades ago.¹

Figure 2: Change in the share of manufacturing to GDP (%), 1970 to 2007,



¹ Ibid,p 103

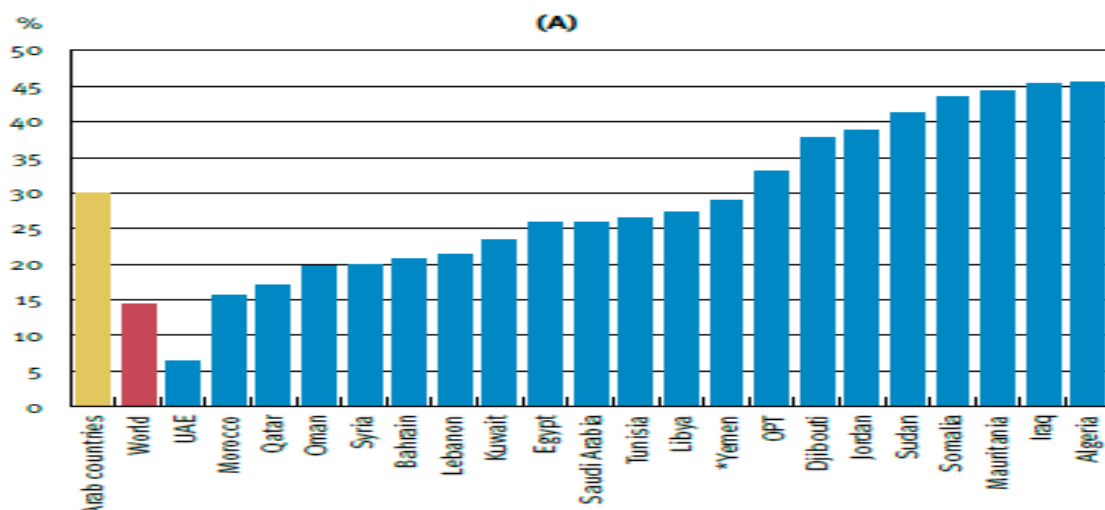
Source: The United Nations Development Programme, *Arab Human Development Report 2009:Challenges to Human Security in the Arab Countries*, New York, USA,2009,p105

This includes middle income with a relatively diversified economic base in the 1960s, such as Algeria, Egypt, Iraq and Syria. True, Jordan, Oman, Tunisia, and UAE have made noticeable progress in industrial development. Nonetheless, in general, the contribution of manufacturing to GDP is anemic, even in Arab countries that have witnessed rapid industrial growth and especially when compared to the shares of other developing countries such as the East Asian economies. For the majority of Arab countries, manufactured goods made up less than 11 per cent of total commodity exports in for the year 2006/2007.⁸ Moreover, all country groups appear to be converging on the modest regional average, which was below 10 per cent in 2007, from an initially diverse sub regional industrial base in 1970. Finally, the structural fragility of Arab economies as a result of oil-led growth is highlighted by the conspicuous decline in the share of non-oil productive sectors (agriculture and manufacturing) to GDP in all Arab countries except the high income countries. It should be noted that the rapid increase in manufacturing shares in the latter is due, in part, to the very low initial base in the 1970s and the rapid growth in value added by petrochemical industries.

3. Unemployment

Data from the Arab Labour Organization show that in 2005 the overall average unemployment rate for the Arab countries was about 14.4 per cent of the labour force compared to 6.3 per cent for the world at large. While national unemployment rates vary considerably, ranging from about 2 per cent in Qatar and Kuwait to about 22 per cent in Mauritania, as noted subsequently, youth unemployment is a serious challenge common to many Arab countries.

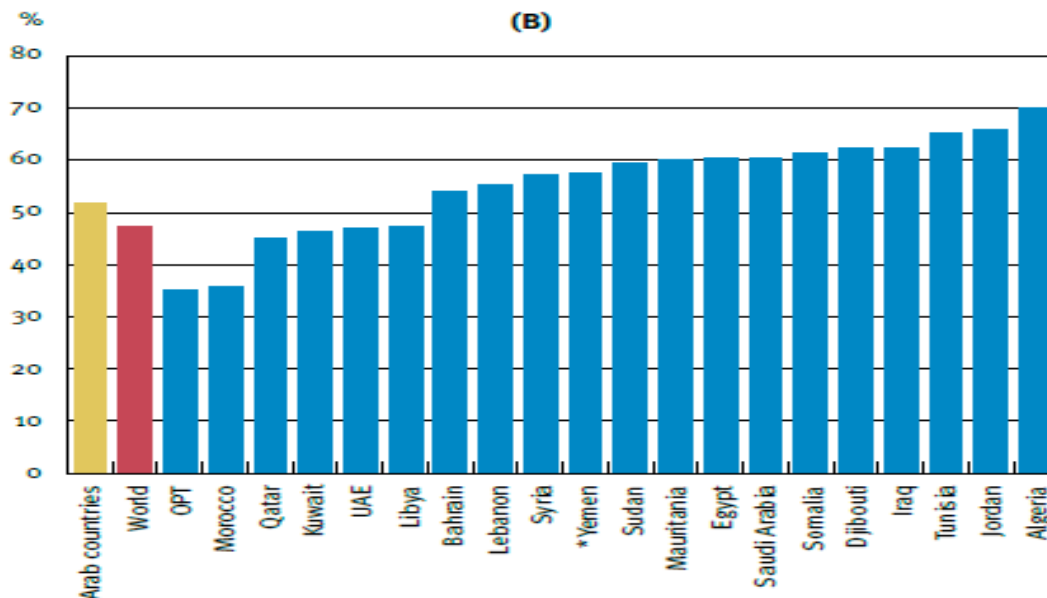
Figure3- A: Unemployment rate among Arab youth in the year 2005/2006



Source: The United Nations Development Programme, *Arab Human Development Report 2009*, ibid, p 109

ALO estimates for the year 2005/2006 show that youth unemployment rates vary from a high of about 46 per cent in Algeria to a low of 6.3 per cent in the UAE. Unemployment in the Arab countries not only affects youth disproportionately; it also often wears a female face. Unemployment rates for young Arab women are higher than those for young Arab men, and among the highest in the world. ALO data for the year 2005 shows that the youth unemployment rate for men was 25 per cent of the male labour force compared to 31.2 per cent for women.

Figure3- B: share of Arab youth in total unemployment (%), in the year 2005/2006



Source: The United Nations Development Programme, *Arab Human Development Report 2009*, ibid, p 109

4. Overall poverty:

Overall poverty, defined as the share of the population under the national upper poverty line, is significantly higher than the underestimate yielded by using the international poverty line of two dollars a day or lower national poverty lines. The *Arab Human Development Report 2009* showed, that overall poverty rate would be in the order of 39.9%. Hence, it concluded that poverty in the Arab countries is a more conspicuous phenomenon than commonly assumed despite these countries' relatively high average per capita expenditure. The explanation is simple: the great majority of the poor are concentrated in countries such as Egypt, Iraq, Mauritania, Morocco, Somalia, Sudan, Syria and Yemen with relatively large populations and lower than average per capita expenditure shares. Regardless of the choice of poverty line (national or international), the region has made no significant progress on the poverty reduction front in the 2000s if the 1990s are taken as a base period.¹

¹ Ibid, p116

B. Definitional Aspects of small and medium enterprises:

There is no universally agreed definition of SMEs. Some analyses define them in terms of their total revenue, while others use the number of employees as an indicator. The European Union defines a medium-sized enterprise as one with a headcount of 250, a small firm as one with a headcount of less than 50 and a microenterprise as one with a maximum of 10 employees. To qualify as an SME in the European Union, a firm must have an annual turnover of Euro 40 million or less and/or a balance sheet valuation not exceeding Euro 27 million, while the annual turnover of a micro enterprise must not exceed Euro 2 million.

The OECD adopts the following convention for categorizing SMEs --*micro*: 1-4 employees; *very small*: 5-19 employees; *small*: 20-99 employees; *medium*: 100-500 employees. ¹

In most of the OECD countries, for example, work force size is regarded as the main criterion. However, what is termed a small manufacturing enterprise may have up to 50 employees in Belgium and Greece, up to 100 in the United States, up to 200 in Canada, Italy and Spain, and up to 500 in Denmark, France, Germany and Ireland. In nearly all these countries, enterprises with fewer than 10 or fewer than 20 employees are regarded either as very small enterprises or micro-enterprises, or are excluded from official statistics.

¹ Meghana Ayyagari, Thorsten Beck, and Asli Demirgüç-Kunt , Small and Medium Enterprises across the Globe:A New Database,World Bank Policy Research Working Paper 3127, August 2003.p8

Also there is no single definition of SMES among officials of the multilateral development institutions, each thinking within the context of the official definition of his or her own institution, as represented below by the maximum size criteria for SMEs.

Table 1: SME Definitions Used by Multilateral Institutions

<u>Institution</u>	Maximum # of Employees	Max. Revenues or Turnover (\$)	Maximum Assets (\$)
World Bank	300	15,000,000	15,000,000
MIF – IADB	100	3,000,000	(none)
African Development Bank	50	(none)	(none)
Asian Development Bank	No official definition. Uses only definitions of individual national governments.		
UNDP	200	(none)	(none)

Source: Tom Gibson, H. J. van der Vaart, *Defining SMEs: A Less Imperfect Way of Defining Small and Medium Enterprises in Developing Countries*, September 2008, p5.

Characteristic of the disparities among these definitions is the substantial difference between how the World Bank and the Multilateral Investment Fund (MIF) of the Inter- American Development Bank (IADB), let alone the African Development Bank (AfDB), define an SME. As Table I shows, the World Bank’s definition includes businesses three times larger by employees and five times larger by turnover or assets than the largest SME under the MIF definition. At the same time, the average gross national income per capita (PC-GNI) of the developing member countries of the World Bank Group is significantly *less* than the average PC-GNI for the countries of Latin America and the Caribbean served by the MIF. Whatever explains this disproportionality between the two definitions, it is unlikely to be a scientific

distinction. Nor are explanations for these substantial differences articulated by these institutions. Note further that none of these institutions set a *minimum* definition for SMEs, which in our view gravely compromises any conclusion that can be made.

It seems clear that SMEs are more meaningfully defined by their functional and behavioral attributes than by Procrustean quantifications of employees, assets, and turnover. These functional characteristics are important to monitor, as they often define the very reasons for which taxpayer money is used to support SME development. However, given the impracticability of quantifying such attributes for large numbers of companies, a reasonable proxy for them must be found among the three conventional measurements.

1. Criteria for Defining SMEs

It is apparent in the analysis that three main quantitative parameters are commonly used in the SMEs definitions. In addition to these quantitative parameters, a few countries have added qualitative criteria into their definitions of the M/SME sector. It is important to cover both the quantitative aspects and the qualitative measures.¹

a) Quantitative Analysis

Quantitative analysis of SMEs primarily consists of the following criteria:

1) Number of employees: This is the most widely used criterion to define SMEs. Normally, micro-enterprises are defined as those entities that employ between one to nine workers; small enterprises employ from five, ten or 15 up

¹ Doha Abdelhamid and Alia El Mahdi, The Small Business Informality Challenge: Lessons Learned From Country Experiences and The Road Ahead of Egypt, ERF Working Paper Series, Economic Research Forum, Working Paper 0324 ,pp3-5

to 49 workers; and medium enterprises usually employ from 50 up to 250 workers in some countries. It is obvious that the literature contains different definitions for micro, small and medium enterprises, and this difference depends primarily on the degree of development of the countries in question.

2) Value of fixed assets: This criterion is also used by a number of countries. However, it is not used as commonly due to the difficulty for some enterprises to determine a precise value of their fixed assets and hesitance of some enterprise owners to reveal this type of information to the outside world. Classifying enterprises by this criterion differs not only from one country to another (according to its stage of development), but also from one sector to another. In all cases where the *value of fixed assets* is used, it is linked to the *number of employees* criterion.

3) Turnover per enterprise: This criterion may also be referred to as the *value of sales, gross receipts or output per establishment*. This criterion for defining SMEs is correlated to other quantitative criteria, such as the *number of employees* or the *value of fixed assets*.

b) Qualitative Criteria

Of the international and local country definitions, only Australia and the United States include qualitative criteria in their official definitions of a small business. The qualitative measures tend to focus on particular characteristics of SMEs that are inherent in their nature. Some of the SMEs qualitative criteria, including: (a) management and ownership are rarely separate; (b) control over business operations and decisions reside with one or two persons who are usually family members; (c) project's equity is not publicly traded; (d) personal security of the owners is required to secure debt acquisition and repayment; (e) the level and number of formal contractual relations are kept at a minimum level; and (f) personal objectives of the owners guide and influence business decisions directly.

Examples of qualitative definitions in the US include those of the US Congress and the Committee for Economic Development. The US Congress defines a small business as being one that is owned independently and does not carry a dominant market position. The Committee for Economic Development defines a small business as having at least two of the following features: (a) independence in management since the manager usually owns the business; (b) the supply of capital and ownership is controlled by an individual or a few individuals; (c) the area of operation is primarily local, although the market is not necessarily domestic; and (d) the presence of a business is seen as being small when compared to larger competitors in the industry.

Qualitative measures cannot be used aloof of quantitative measures. The Australian committee was primarily initiated to provide guidance to small business management and enable them to be more efficient with a specific focus on small manufacturing. The committee suggested that a small business should be defined as: 'A business in which one or two persons are required to make all the critical management decisions: finance, accounting, personnel, purchasing, processing or servicing, marketing, selling, without the aid of an internal specialist and with specific knowledge in only one or two functional areas.' The definition incorporated a quantitative guideline that small businesses would normally employ 100 employees. Other researchers have also support linking quantitative measures to qualitative ones.

C. SME Definitions in the Arab countries

The term SME covers a wide range of definitions and measures, varying from country to country and between the sources reporting SME statistics. Some of the commonly used criteria are the number of employees, total net assets, sales and investment level. However, the most common definitional basis used is employment, and here again, there is variation in defining the upper

and lower size limit of an SME. Despite this variance, a large number of sources define an SME to have a cut-off range of 0-250 employees.

Similarly, in the Arab countries and elsewhere in the world, the definitions of a micro-, small, medium and large enterprise vary widely. In Yemen, for example, a small enterprise is one employing fewer than four workers, a medium-sized enterprise is one that employs between two and nine workers, and a large enterprise is one that has more than 10 employees. In Jordan, a small enterprise is one with between four and 10 employees and a medium-sized enterprise is one with between 10 and 25. Micro-businesses are those with up to four employees. In Egypt, a SME is a paid capital of no more than LE1 million and no more than 50 workers. . Table No. (2) Shows definitions adopted in some Arab countries

Table No. (2) definitions adopted in some Arab countries

State	Number of workers	Other criteria
<u>Yemen:</u>		
- Small projects.	- Less than 4 workers	
- Medium-sized projects	- Less than 10 employees	
- Large projects	- More than 10 employees	
This definition applies to the industry		
<u>Jordan:</u>		

<ul style="list-style-type: none"> - Small projects. - Medium-sized projects - Large projects 	<ul style="list-style-type: none"> - Between (2 - 10) workers - Between (10 - 25) factor - More than 25 workers 	
<p><u>Sudan</u></p> <p>Small Projects</p>	<ul style="list-style-type: none"> - Less than 10 workers. <p>(Definition of the Ministry of Industry)</p>	
<p><u>Sultanate of Oman:</u></p> <ul style="list-style-type: none"> - Small projects - Medium-sized projects 	<ul style="list-style-type: none"> - Less than 10 workers - Between 10 - 100 workers 	<p>Invested capital less than 50 thousand riyals.</p> <p>Capital between (50 - 100) thousand riyals.</p>
<p><u>Egypt:</u></p> <p>Small Projects:</p>	<ul style="list-style-type: none"> - Less than 50 workers. 	<p>Capital ranges between 50 thousand pounds to one million pounds</p>
<p><u>Algeria:</u></p> <ul style="list-style-type: none"> - Micro-projects. - Small projects - Medium-sized projects 	<ul style="list-style-type: none"> - Less than 10 workers - Less than 50 workers - From 50 to 250 workers 	
<p><u>Saudi Arabia:</u></p> <ul style="list-style-type: none"> - Small projects - Medium-sized projects 	<ul style="list-style-type: none"> - Between (1 - 20) factor - Between (21 - 100) a factor 	<p>No more than the invested capital of 20 million riyals, and this definition is valid for the industrial sector</p>
<p><u>Kuwait:</u></p> <ul style="list-style-type: none"> - Small projects - Medium-sized projects 	<ul style="list-style-type: none"> Less than 10 workers 	<p>That capital does not exceed 200 thousand dinars</p>

	Between (10 - 50) factor	
<u>Bahrain:</u> - Small projects – Medium-sized projects	Between (5 - 19) factor Between (20 - 100) a factor	
<u>Iraq:</u> - Small projects – Medium-sized projects	- Between (1 - 9) workers - Between (10 - 29) factor	- Invested capital for small enterprises in the range of 100 thousand dinars
<u>Gulf Cooperation Council Arab Gulf states: (Category Gulf Organization for Industrial Consulting)</u> - Small projects – Medium-sized projects	- With fewer than 30 workers - Works with fewer than 60 workers	Does not exceed the capital invested \$ 2 million Capital invested between (2 - 6) million dollars.
<u>Category Arab project to support capacity building in the establishment and development of small and medium enterprises (Pilot)</u> - Very small-scale project: - Small-scale project: - Project average:	- Between (1 - 4) workers - Between (5 - 19) factor - Between (20 - 99) factor	

Source: Arab Labor Organization, small and medium enterprises as an option to reduce unemployment and youth employment in the Arab countries(Arabic), Arab Labor Conference, Thirty-fifth session, Sharm El Sheikh / Egypt Arabic, February 23-March 1 / March 2008, pp 13-15

From the table we can note the following:-

First, different countries adopt different criteria - such as employment, sales or investment - for defining small and medium enterprises, and different sources of statistics on SME therefore use different criteria.

Second, even the definition of an SME on the basis of a specific criterion is not uniform across countries. For instance, a specific country may define an SME to be an enterprise with less than 50 employees while another country may define the cut-off to be 10 employees.

D. The importance of small and medium enterprises in the Arab countries

Small and medium size enterprises (SMEs) have been considered the engine of growth, innovation and job creation in both developed and developing economies. Almost every company we know of began as an SME. The all-powerful Microsoft began as a couple of guys in a small garage in North-America. Vodafone as we know it today was once a little spin-off from Racal. Hewlett-Packard started in a little wooden shack. Google was begun by a couple of young kids who thought they had a good idea. SMEs are often classified by the number of employees and/or by the value of their assets. The size classification varies within regions and across countries relative to the size of the economy and its endowments. It is important to note that there is a minimum as well as a maximum size for SMEs. In the European Union (EU), the SME population is extremely large and very heterogeneous. There are between 8 and 12 million SMEs in the EU-15 in 2005 and a further 2.5 million SMEs among new EU members. They account for over 99% of all enterprises and for two-thirds of all employment in the enterprise sector. Estimates suggest that almost half of all new jobs in Europe are created by less than 5% of high-tech SMEs. In the UK, there are 3.7 million businesses, or one for every ten people of working age. Of those businesses, 99.8 percent are micro

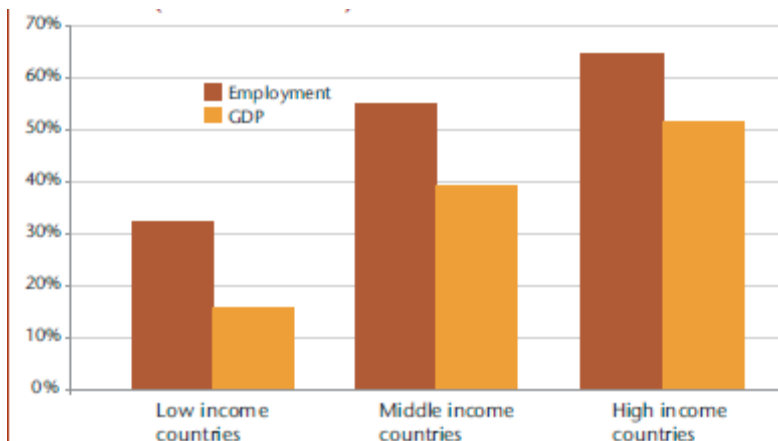
enterprises or SMEs. Recent American evidence shows that of the 24 million new jobs created in the United States in the period 1979-1995, about 75% were created by fewer than 10% of small firms. The SME sector is a very diverse group, ranging from the local corner shop to sophisticated hi-tech start-ups. This finding again underlines the importance of new firms which grow. On the production side, SMEs are estimated to account for approximately 65% of GDP in Europe, compared to a share of 45% in GDP in the United States. In some regions in the US and the EU, SMEs are practically the only private-sector employer, which underlies their social in addition to their economic importance. SMEs are also important providers of vocational training. Taiwan and Hong Kong, are considered heavily based on small enterprises. In Japan, 81% of all employment is in SMEs, where the average enterprise employs nine staff as opposed to four in the EU.¹

In OECD economies SMEs and micro enterprises account for over 95% of firms, 60-70% of employment, 55% of GDP and generate the lion's share of new jobs. In developing countries, more than 90% of all firms outside the agricultural sector are SMEs and microenterprises³, generating a significant portion of GDP. For example, in Morocco, 93% of industrial firms are SMEs and account for 38% of production, 33% of investment, 30% of exports and 46% of employment. In Bangladesh, enterprises of less than 100 employees account for 99% of firms and 58% of employment. Similarly, in Ecuador, 99% of all private companies have less than 50 employees and account for 55% of employment⁴. Not all these SMEs and micro enterprises are in the formal sector; some occupy the unofficial labor market, which varies in size from an estimated 4%-6% in developed countries to over 50% in developing nations.²

¹-National bank of Dubai, The Nature of Small and Medium Size Enterprises in GCC's Industrial Sector, Economic report, UAE, June 2007,P5

² World Business Council for Sustainable Development (WBCSD),.Promoting SMEs for Sustainable Development.. WBCSD, July 2007,p2

Figure 4: SME contribution to employment and GDP (median values)



Source: World Business Council for Sustainable Development (WBCSD), „Promoting SMEs for Sustainable Development.. WBCSD, July 2007,p2

According to OECD sources, SMEs are of considerable importance in the world economy. They account for 25 to 35 per cent or more of all exports of manufactured products. The contribution of their exports to gross domestic product (GDP) is in the vicinity of 4 to 6 per cent for the OECD countries, and approximately 12 per cent in the case of Asian economies. Furthermore, approximately 1 per cent of SMEs are truly global, with multinational or intercontinental activities, or capable of operating wherever they find suitable conditions. SMEs in this category represent 30,000 to 40,000 manufacturing enterprises in the OECD countries. In addition, an estimated 5 to 10 per cent of all manufacturing SMEs are internationalized; there are between 150,000 and 300,000 firms in this category in the OECD countries. A further 10 to 20 percent of all manufacturing SMEs, or between 300,000 and 600,000 firms in the OECD countries, rely on suppliers and/or customers in other countries for

between 10 per cent and 40 per cent of their business, and are active in up to three foreign countries.¹

There is a rich body of research on the development contribution of SMEs. While not entirely without some controversial areas, there would appear to be widespread consensus on the following points.²

- SMEs (partly because of the industrial sub-sectors and product groups covered by them) tend to employ more labour-intensive production processes than large enterprises. Accordingly, they contribute significantly to the provision of productive employment opportunities, the generation of income and ultimately, the reduction of poverty. It is essentially through the promotion of SMEs that individual countries and the international community at large can make progress towards reaching the Millennium Development Goal of halving poverty levels by the year 2015.
- There is ample empirical evidence that countries with a high share of small industrial enterprises have succeeded in making the income distribution (both regionally and functionally) more equitable. This in turn is a key contribution to ensuring long-term social stability by alleviating ex-post redistributive pressure and by reducing economic disparities between urban and rural areas.
- SMEs are key to the transition from agriculture-led to industrial economies as they provide simple opportunities for value-adding processing activities

¹ ESCWA, POTENTIAL OF MANUFACTURING SMES FOR INNOVATION IN SELECTED ESCWA COUNTRIES, ESCWA/ID/2001/2 , United Nations New York, 2001,p7

² Luetkenhorst, W. (2004) 'Corporate Social Responsibility and the Development Agenda: The case for actively involving small and medium enterprises', *Intereconomics*, May/June.p159

which can generate sustainable livelihoods. In this context, the predominant role of women is of particular importance.

- SMEs are a seedbed for entrepreneurship development, innovation and risk-taking behavior and provide the foundation for long-term growth dynamics and the transition towards larger enterprises.
- SMEs support the building up of systemic productive capacities. They help to absorb productive resources at all levels of the economy and contribute to the creation of resilient economic systems in which small and large firms are interlinked.
- Such linkages are of increasing importance also for the attraction of foreign investment. Investing TNCs seek reliable domestic suppliers for their supply chains. There is thus a premium on the existence of domestic supporting industries in the competition for foreign investors.
- SMEs, as amply demonstrated in information and communication technologies, are a significant source of innovation, often producing goods in niche markets in a highly flexible and customised manner.

As the above non-exhaustive list demonstrates, the development contributions of SMEs are varied and can be found at the intersection of economic and social dimensions: SMEs foster *economic cohesion* by linking up with, and supporting, larger enterprises, by serving niche markets and in general by contributing to the build-up of systemic productive capacities. At the same time, SMEs foster *social cohesion* by reducing development gaps and disparities, thus spreading the gains of economic growth to broader population segments and backward regions.

In fact, an urgent need for the development of small and medium enterprises in the Arab States for the following reasons:

1 - These projects constitute about 99% of the total private business, non-agricultural in Egypt, and contribute about 80% of the total added value produced by the private sector, with about two-thirds of the labor force and three-quarters of workers in special functions outside the agricultural sector. for Kuwait, this sector constitutes approximately 90% of the private workforce, including labor and imported an estimated 45% of the labor force, employment and national rates of less than 1%, in Lebanon, more than 95% of the total enterprises, contribute about 90% of the jobs. In the UAE , small and medium enterprises accounted about 94.3% of the economic projects in the country, and employs about 62% of the workforce and contributes around 75% of the GDP of the state.

2 - SMEs are one of the effective solutions for eliminating unemployment SMEs providing job opportunities to a broad base of Arab labor force estimated at about one third of the labor force or more.

3 - SMEs involved in the addendum to the national economy with an estimated contribution of 96% of the GDP in Yemen in 2005, and about 77%, 59%, 25% in Algeria, Palestine and Saudi Arabia, respectively, during the same year , while the contribution of these projects range between 25% -40% of the GDP of Egypt.

4-Employing semi-skilled workforce: Using mostly simple equipment and materials, SMEs attract semi-skilled workers who are available in the Arab countries.

5 - SMEs support and strengthen the role of the private sector in economic activity.

6-Assisting in social and political stability: Socially speaking, SMEs provide job opportunities for those classes who lack financial or academic capabilities to positively participate in the production process. This results in eliminating the tension wrapping the relationship between social classes.

7– SMEs help attract more foreign investment to the Arab economies.

8-Create livelihoods for millions of poor families and households

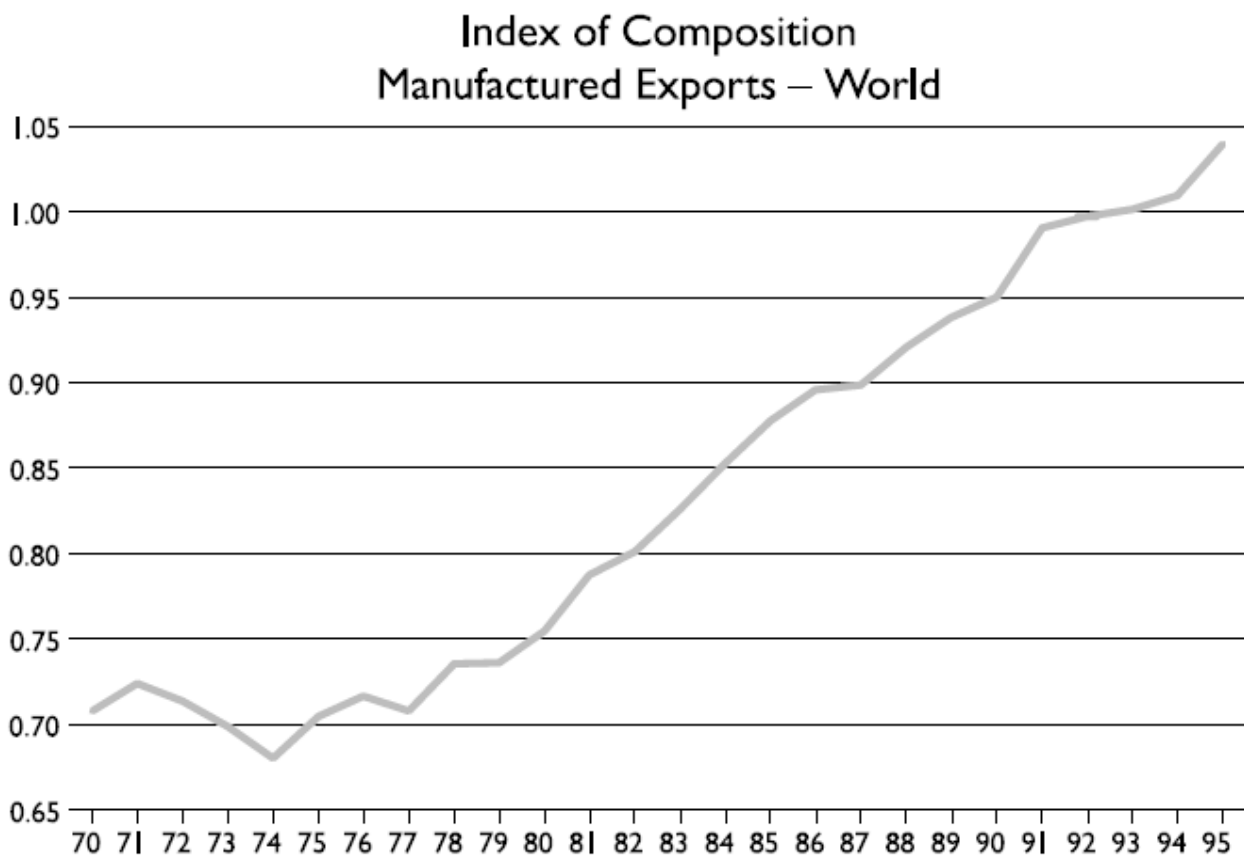
II. Enhancing the competitiveness of the Arab SMEs in the knowledge economy

Whereas in the old economy land, labor and capital were the only three generic factors of production, in the new economy, the critical assets are know-how, creativity, intelligence and information. Intelligence embedded in software and technology across a wide range of products has become more important than capital, materials, or labor. A study of 192 countries conclude that human and social capital explains no less than 64% of growth performance, while physical capital explains a meager 16%, with the remainder being explained by natural capital. Production has been witnessing exponential knowledge intensification.

The knowledge intensity of world manufactured exports remained largely unchanged between 1970 and 1977, but since 1977 it has increased steadily and persistently – from an index value of 0.71 in 1977 to 1.04 in 1995 (figure 5). United States exports of database and other information services (26.7% pa), engineering, architectural, construction and mining services (16.7% pa), and computer and data processing services (12.6% pa) have all exhibited much higher growth than have exports of other services, manufactures or

commodities exports.¹ As early as in 1996 it was estimated that more than 50% of the GDP in OECD economies is knowledge-based. Industry now funds almost 60% of OECD R&D activities and carries out about 67% of total research.

Figure 5: Knowledge intensity of manufactured exports, 1970-95



Source: John Houghton and Peter Sheehan, "A Primer on the Knowledge Economy", Centre for Strategic Economic Studies, Victoria University, Australia, 2000, p4

¹ John Houghton and Peter Sheehan, "A Primer on the Knowledge Economy", Centre for Strategic Economic Studies, Victoria University, Australia, 2000, p3

One of the main features of the new global knowledge economy is the exponentially increasing concentration of value added away from production (especially labor-intensive production) links, to the advantage of the technology and knowledge-intensive links or stages in the value chain. Accordingly, when it comes to positioning an enterprise or an entire economy in the global economy, economic returns are associated with moving up the ladder through R&D and innovation, technological development, continuous product improvement, a high and multi-skill base of human resources with the requisite technical and technological capacities, among other factors. These came to constitute the ***high road for competitiveness, associated with increase in value***. Traditional modes of competitiveness based on factors like unskilled labor, natural resources and simple technologies on the other hand are rapidly and increasingly losing significance. These factors (where comparative advantage can easily be lost) came to constitute ***the low road***, which manifests itself in ***price competition, ultimately leading to a ruinous race to the bottom***. Other key variables include the presence of an overall system and a financial system that are conducive to enterprise growth and competitiveness, through availing – among other things – the required factors and resources efficiently and effectively¹

A. The concept of the Knowledge Economy

In an agricultural economy land is the key resource. In an industrial economy natural resources, such as coal and iron ore, and labour are the main resources. A knowledge economy is one in which knowledge is the key resource. The generation and the exploitation of knowledge has come to play the predominant part in the creation of wealth. It is not simply about pushing back the frontiers of knowledge; it is also about the more effective use and exploitation of all types of knowledge in all manner of economic activity. It is

¹ Egyptian Ministry of Finance, ENHANCING COMPETITIVENESS FOR SMES IN EGYPT, General Framework and Action Plan, November, 2004,p 15

not a new idea that knowledge plays an important role in the economy, nor is it a new fact. All economies, however simple, are based on knowledge about how, for example, to farm, to mine and to build; and this use of knowledge has been increasing since the Industrial Revolution. But the degree of incorporation of knowledge and information into economic activity is now so great that it is inducing quite profound structural and qualitative changes in the operation of the economy and transforming the basis of competitive advantage.

The rising knowledge intensity of the world economy and our increasing ability to distribute that knowledge have increased its value to all participants in the economic system. The implications of this are profound, not only for the strategies of firms and for the policies of government but also for the institutions and systems used to regulate economic behaviour.¹

The **knowledge economy** is a term that refers either to an **economy of knowledge** focused on the production and management of knowledge in the frame of economic constraints, or to **acknowledge-based economy**. In the second meaning, more frequently used, it refers to the use of knowledge technologies (such as knowledge engineering and knowledge management) to produce economic benefits as well as job creation.

The essential difference is that in a *knowledge economy*, knowledge is a product, in *knowledge-based economy*, knowledge is a tool. This difference is not yet well distinguished in the subject matter literature. They both are strongly interdisciplinary, involving economists, computer scientists, software engineers, mathematicians, chemists, physicists, as well as cognitivists, psychologists and sociologists.

¹John Houghton and Peter Sheehan, "A Primer on the Knowledge Economy", Centre for Strategic Economic Studies ,Victoria University, Australia,2000,p1

Various observers describe today's global economy as one in transition to a "knowledge economy", as an extension of an "information society". The transition requires that the rules and practices that determined success in the industrial economy need rewriting in an interconnected, globalized economy where knowledge resources such as know-how and expertise are as critical as other economic resources. According to analysts of the "knowledge economy", these rules need to be rewritten at the levels of firms and industries in terms of knowledge management and at the level of public policy as knowledge policy or knowledge-related policy.

The initial foundation for the Knowledge Economy was first introduced in 1966 in the book *The Effective Executive* by Peter Drucker. In this book, Drucker described the difference between the manual worker and the knowledge worker. The manual worker, according to him, works with his hands and produces goods or services. In contrast, a knowledge worker works with his or her head not hands, and produces ideas, knowledge, and information. The key problem in the formalization and modeling of knowledge economy, is a vague definition of knowledge, which is a rather relative concept. For example, it is not proper to consider information society as interchangeable with knowledge society. Information is usually not equivalent to knowledge. Their use, as well, depends on individual and group preferences (see the cognitive IPK model) – which are "economy-dependent".

Commentators suggest there are various interlocking driving forces, which are changing the rules of business and national competitiveness:

- Globalization — markets and products are more global.
- Information technology, which is related to next three:

- Information/Knowledge Intensity — efficient production relies on information and know-how; over 70 per cent of workers- in developed economies are information workers; many factory workers use their heads more than their hands.
- New Media – New media increases the production and distribution of knowledge which in turn, results in collective intelligence. Existing knowledge becomes much easier to access as a result of networked data-bases which promote online interaction between users and producers.
- Computer networking and Connectivity – developments such as the Internet bring the "global village" ever nearer.

As a result, goods and services can be developed, bought, sold, and in many cases even delivered over electronic networks.

As regards the applications of any new technology, this depends on how it meets economic demand. It can remain dormant or make a commercial

B. Characteristics of the Knowledge Economy

The emergence of the knowledge economy can be characterised in terms of the increasing role of knowledge as a factor of production and its impact on skills, learning, organisation and innovation¹.

1. There is an enormous increase in the codification of knowledge, which together with networks and the digitalisation of information, is leading to its increasing commodification.
2. Increasing codification of knowledge is leading to a shift in the balance of the stock of knowledge – leading to a relative shortage of tacit knowledge.

¹ John Houghton and Peter Sheehan, "A Primer on the Knowledge Economy", Ibid,p9

3. Codification is promoting a shift in the organisation and structure of production.
4. Information and communication technologies increasingly favour the diffusion of information over re-invention, reducing the investment required for a given quantum of knowledge.
5. The increasing rate of accumulation of knowledge stocks is positive for economic growth (raising the speed limit to growth). Knowledge is not necessarily exhausted in consumption.
6. Codification is producing a convergence, bridging different areas of competence, reducing knowledge dispersion, and increasing the speed of turnover of the stock of knowledge.
7. The innovation system and its 'knowledge distribution power' are critically important.
8. The increased rate of codification and collection of information are leading to a shift in focus towards tacit ('handling') skills.
9. Learning is increasingly central for both people and organisations.
10. Learning involves both education and learning-by-doing, learning-by-using and learning-by-interacting.
11. Learning organisations are increasingly networked organisations.
12. Initiative, creativity, problem solving and openness to change are increasingly important skills.
13. The transition to a knowledge-based system may make market failure systemic.
14. A knowledge-based economy is so fundamentally different from the resourcebased system of the last century that conventional economic understanding must be re-examined.

C. SME Competitiveness in the Global Knowledge Economy

Worldwide SMEs are facing increasing competitive pressures that are compounded by the unequal access to cutting edge technologies and scientific resources. The reality is that only a minority of the global SMEs universe is able to exploit the opportunities created by globalization. These 'modern SMEs' are the ones which have growth and export potential, constituting a small portion of the 'medium', and, to an even lesser extent, the 'small' size categories. Among European SMEs for example, modern technology innovators and adaptors constitute no more than an optimistic 20% of Europe's SMEs; a percentage that's bound to be lower amongst developing countries. The experience of Asia and South-East Asia shows that the majority of small enterprises perform poorly on world markets. Only the growth-oriented medium sized enterprises that have a propensity to apply technology and training and serve specialized niche markets have managed to prosper and even have had a sizeable contribution to their countries' exports (e.g. 43% of Korea's exports). Micro enterprises are highly unlikely to enjoy a privileged position in the global economy, as they continue to cater for the survival needs of their owners, using simple outdated technologies and running poorly managed operations.

Most developing countries, including Arab countries, lack a robust and dynamic medium enterprise sector similar to the one that emerged in East Asia, hence suffering from what came to be known as "the missing middle" syndrome. The lack of such a vibrant sector results in weak linkages between the large and the SME sector, and hence in unduly high import content of products, lack of efficiency, due to the weakness of local competition, and above all, high susceptibility to economic downturns that threatens to adversely affect national employment levels and production capacities. Moreover, recent research has shown how countries with a solid base of small and medium enterprises and active linkages with large enterprises have managed to achieve high export growth rates. Conversely, countries that have not been able to develop such a strong base with active linkage

relations have generally suffered from low export growth rates. In short, the absence of a competitive SME sector results in weak competitiveness of the economy in general.

The above developments brought about significant changes with regards to what constitutes competitiveness whether on the level of the country, the enterprise or the individual. The sweeping globalization means that the key issue is not whether to participate in global markets or not, but how to do so in a way that provides for sustainable income growth. In Porter's typology of factors depicted in Figure 6 below, basic and generalized factors do not lead to sustained competitiveness. Comparative advantages in these factors can quickly be eroded (especially with technical and technological progress) vis-à-vis advanced and specialized ones.

Figure 6: Porter's Typology of Factors

<p>Basic Factors Those are factors inherited by a country and do not need to be developed through policies. They include: Natural Resources – Location – Climate – Unskilled & Semi-skilled Workers</p>	<p>Advanced Factors These are factors that must be built over time. These include: Digital data communications infrastructure – Highly Educated Workforce – University Research in Sophisticated Disciplines</p>
<p>Generalized Factors Can be used in a wide range of industries. These include: The Highway Systems – A Supply of Debt Capital – Pool of Well-Educated Employees with University Degrees.</p>	<p>Specialized Factors Specific to certain industries. Examples include: Ports specialized in handling bulk chemicals – Highly Specialized Scientific Institutes – Cadre of Highly Skilled and Highly Specialized Personnel</p>

Source: Egyptian Ministry of Finance, ENHANCING COMPETITIVENESS FOR SMES IN EGYPT, General Framework and Action Plan, November, 2004,p 29

Two paths to competitiveness can be discerned from the developments explained above. The first constitutes the low road or price competitiveness;

whereby participants are engaged in intense price competition and hence a ruinous "race to the bottom". This path would involve the production of labor-intensive and resource based manufactures, or relying on cheap labor, and cheap infrastructure to attract FDI. Technological advances lead to a sharp decline in demand for unskilled labor and many natural resources. As firms and countries continued to specialize in highly competitive markets with low entry barriers, they were increasingly subjected to the erosion of their returns due to falling terms of trade. This is a threat which has long confronted producers of primary commodities and agricultural products, but it is increasingly also to be found in the export of manufactures. On the other hand, the high road is where participants in the global economy position themselves in, or upgrade themselves to, high-value links of the value chain. It involves competition in innovation, R&D, technological upgrading and continuous product improvement, as well as the development of the requisite skill base and technological capacity. Traditional modes of competitiveness based on cost and price factors, while still in existence, are being increasingly replaced by quality, flexibility, design, reliability and networking. However, very few developing countries have so far been able to build competitiveness in that manner. Unlike the East Asian tigers, most developing countries are under tremendous pressure to undertake rapid liberalization at a time when they have low levels of industrialization and competitiveness to be able to benefit from such a move, and they exhibit a high level of reliance on revenues from import duties and tariffs. Finally, two additional factors are considered to be critical to competitiveness. First, the existence of a macro environment supportive of enterprise development along the above lines (systemic factors). The other is the extent to which the financial system of a given country/location effectively supports enterprise operation, and growth, again, along the lines identified above.¹

¹ Egyptian Ministry of Finance, ENHANCING COMPETITIVENESS FOR SMES IN EGYPT, General Framework and Action Plan, November, 2004

D. Strategies for enhancing competitiveness in the knowledge economy

While even in developed countries many SMEs did suffer from the deterioration of their competitiveness, others have found ways to actually enhance their position in the global market. These included the following strategies:¹

1. The Innovation Strategy

The most important source of knowledge and innovation in today's world economy is R&D. Investing in new knowledge is a risky activity that most SMEs, even in developed countries, cannot justify. There are however other source of knowledge that some SMEs, especially those in developed countries, can capitalize on. These include a high degree of human capital development and a skilled labor force, together with the strong presence of scientists and engineers.

2. The Information Technology Strategy

The application and adoption of modern IT technology can effectively serve to reduce costs. Both the internet and the microprocessor can help mitigate economies of scale and sizeable investments in areas like product design, marketing, communication, etc.

3. The Niche Strategy

In the rush to larger markets, many smaller market segments are left underserved. These constitute windows of opportunity for SMEs who possess an adequate level of technology, together with the requisite flexibility and agility to serve relatively narrow, but geographically diverse, markets. This

¹ Ibid, pp35-36

was the strategy adopted by the German SMEs (*mittlestand*) who focused on a narrow market niche where they had a competitive edge and focused all their resources on maintaining leadership in that market. Production and operations are usually characterized by a high level of customization and interaction with the clients in order to maintain market leadership.

4. Flexible Specialization

The use of general purpose equipment enhances the firm's ability to respond to changing specifications and customer demands.

5. Networking

Here the firm networks with other large or small firms through a variety of formal and informal links (e.g., subcontracting).

6. Clustering

In a clustering strategy, firms take advantage of linkages with geographically close enterprises. This allows them to reap the benefits of economies of scale (through for example, joint production, marketing ...etc.), and benefit from knowledge spillovers.

7. The Foreign Direct Investment Strategy

According to the OECD, the transnational economic activities of SMEs have been rising over time. SMEs in several countries (e.g., Italy, the Netherlands and Japan) have actively increased the value of their FDI in both relative and absolute terms.

E. Enhancing Competitiveness for SMEs in the Arab countries in the Global Knowledge Economy

Related to competitiveness in the global knowledge economy through the upgrading of the new research and development and innovation, and technological development, and continuous improvement in products, and the presence of human resource base has a wide, multi-skilled and has the potential technical and technological resources,

among other factors. And to build a competitive sector of small and medium enterprises, there must be compliance with several key pillars:

1. Maintaining a stable's macroeconomic environment.

Research suggests the recent literature on the development of small and medium enterprises in developing countries, including Arab countries that these projects suffer disproportionately from the Faculty of volatile environments. There is therefore an urgent need to create an environment supportive of private investment, as well as the foundation of companies, growth and the government should accelerate its efforts to eliminate the imbalances that characterize the market and address market failures (Market failures) in the economy generally, and must ensure that there is justice in dealing with the various parties, especially small and medium enterprises. It also depends the success of small business and medium to create a positive environment for the establishment and operation of these facilities include the following:

First: Develop a long-term national plan for the development of small and medium enterprises in the Arab countries in order to achieve complementarity and coherence between these projects and major projects, both at the country level or at the national level, where an international experience of successful small businesses that he must be a methodology and a clear and specific targets for the development of small projects is the development of policies and small business development in the broader context of economic policy of the State. In this regard there are some basic requirements, particularly in relation to institutional construction necessary to develop policies to small businesses and include these requirements following points:

1. Posted realistic understanding of the economic potential of small enterprises, and the involvement of all stakeholders in it.

2. Maintaining close integration of development policies and programs of small projects and between the general orientation of economic policy, and creating some sort of amendment to the economic development strategies to accommodate the issue of small business development and various services and policies required to develop these projects.
3. Increasing the stability of the institutional structure, transparency and predictability of its development.

And must rely on a number of foundations are: --

- Targeting the establishment of industrial clusters, must be directed to any effective program for small-scale projects include the establishment of industrial clusters, including large groups, especially those with links to the production of horizontal or vertical.
- Targeting promising sub-sectors, to secure positive results for business services programs, databases should be used to identify the most promising sub-sectors of the economy and development of tools to support these sectors.
- Mainstream services centers for clusters of small projects, where productivity could be increased through these centers that provide financial and non-financial.

2. Close integration between the policies of the development of SMEs and manufacturing, technological, and educational policies.

To establish those ties of cooperation, must be overcome barriers related to the overlap of powers and bureaucracy, lack of coordination between the various parties: Without the existence of the bonds of effective coordination of policies, as well as between institutions and actors, which manages the implementation process, development efforts will remain fragmented, and

disjointed, disconnected, and will have little impact - if any - on the competitiveness of the sector.

With the increasing role of knowledge and skills input in production and the resulting shift in the nature of competitiveness, the scientific infrastructure and education the most important economic factor in today's world. Without a workforce of highly educated and skilled, and a strong foundation of research and development and innovation, and continuing education, and strong linkages between science and education, and between the economic work (especially small and medium enterprises) on the other hand, will continue to erode competitiveness over the long term should be beyond the critical role of the educational system, in particular, the direct economic function, to play an influential role in the development of the core system of values in society, and guidance to encourage and reward entrepreneurial thinking, innovation, and critical thinking. The workshops and live up to higher value chains need to focus on a set of skills different from those prevailing in the economy, and in addition, it also requires upgrading to meet the education needs of the market Nizomp of labor. Finally, the system should the dominant cultural values (which

Systems are supposed to be reinforced by education and training) to encourage the establishment of private enterprises and continuing education, innovation and creativity. In fact, there can be competitive without massive investment in resources and effort devoted to educational reform, which aims to narrow the knowledge gap between quantitative and qualitative terms the Arab States and the rest of the world.

In this regard, proposed a number of actions including:

. 1 systems have the sensitivity of the market for curriculum development and modification, and should go hand in hand

With:

A. Needs of the market.

B. The needs of priority sectors of the strategy.

C. International standards.

. 2 more rational investment of resources, especially in secondary and higher education, to be

Emphasizes:

D. Quality of education.

E. The importance of technical education.

And. Respond to the needs of the market.

. 3 modified the primary school curriculum to reinforce:

G. Skills investment.

H. Innovation, creativity and critical thinking.

3. More attention to mechanisms to support innovation

So that small and medium enterprises to meet the challenges of the Arab knowledge economy it must encourage innovation and innovation and investment. For this you must:

(A) To promote innovative culture: culture is performed a key role in the development of any company's ability to innovate. They affect the way the company works through it, and on the relationship among the employees. Innovation requires mental and characterized by a spirit of initiative, sense of creativity, dynamism and organizational capacity, mind open to new ideas

and other cultures, and enhance the learning environment. If the ability to develop creative, innovators must adhere to the values of the company and their common objectives. must be the values that support the innovative capacity is an integral part of the fabric of the culture of the company.

In this knowledge-based age, SMEs must construct themselves as learning organizations and become increasingly knowledge-based by developing a culture of learning that provides conditions conducive to systematic, across-the-board work force development. Innovation is related to learning, in the sense that it is an outcome of learning. A prerequisite for competition in the new era of the knowledge economy is an organization that fosters a learning environment. If manufacturing SMEs in the countries of the region are to survive and remain viable in a dynamic international and regional environment characterized by uncertainty and rapid change, they must possess learning capacity. This means that employees must become learning individuals, as it is they who are the key to a firm's competitive advantage, it is they who make the real difference.

(B) Funding for research and development: investment did not reach small and medium enterprises in research and development in general to an optimum level because they can not reap the full return on their efforts in this area. It has intervened many Gomatvy developed countries in order to correct the deficiencies prevailing in the market In order to provide a greater financial incentive for private investment in research and development. For example, the research program of innovation in small private establishments in the United States Small Business Innovation Research Program (SBIR), mandated by Congress to allocate about 4% of the research budget allocated to the large institutions to finance small businesses with new and innovative ideas. Similarly, the Project LINK scheme in the United Kingdom the main mechanism by which to provide support for cooperation between business and research base. The project includes programs for electronics,

communication and information technology, food and agriculture, life sciences and medicine, materials and chemicals, energy, engineering, and from which to finance up to 50% of research projects in those sectors to enhance their competitiveness. The draft SMART Scheme grants to small and medium enterprises for feasibility studies in new technology and for research until they reach the stage of a prototype of new products and processes. In feasibility studies, you get the successful proposals (submitted by companies with fewer than 50 employees) to 75% of the cost of the project has fulfilled the conditions of a maximum of 45, 000 pounds. And get development projects, after receiving the grant, the 30% of development costs a maximum of 200, 000 euros, with a very small number of special projects 89 to get up to \$ 600000 euros. Asian Tigers followed a similar path, where governments have invested heavily in research and development aimed at small and medium enterprises. In Taiwan, the government encouraged small and medium enterprises to conclude contracts with universities for research and allocated 50% of research grants by more than 90 National Council for Science (about U.S. \$ 200 million annually) to bear half the cost of this contract research. In Korea, despite the government's dependence on Altchibal chaebol, which is large companies, the government has invested heavily in research and development aimed at small and medium enterprises.

In this regard, proposed a number of actions including:

- . 1 increase the amount of funding available for research and development through a variety of financial instruments (soft loans, grants, and cost-sharing arrangements, etc.).
- . 2 parts of the allocation of research budgets to research institutions to small and medium enterprises operating in selected activities for which there has the potential to achieve competitive advantage.

- . 3 require research institutions to cover parts of their costs through joint research with the private sector.
- . 4 Submission of tax incentives for important research and development done by the private sector, especially small and medium enterprises.
- . 5 to obtain technical and financial assistance from donors for the development of research programs and Alttaiwi based on best practices.
- . 6 to begin a public awareness campaign targeting the private sector, especially small and medium enterprises, about the importance of research and development for their competitiveness, as well as for the means available.
- . 7 Development of a healthy and balanced criteria for prioritizing activities would qualify for funding based on the competitiveness of current and potential.
- . 8 start in a national program of institutional development aimed at research institutions and universities in order to create structures have a high degree of corporate governance (governance) and with the representation of the private sector, increase the efficiency of these institutions, the development potential and possibilities of adequate research and development, and strengthen links with private sector institutions, particularly the facilities small and medium enterprises.
- . 9 to enhance the efficiency of research organizations, educational and competitiveness, we must lead on these organizations to tender for government projects, rather than the distribution of these research projects on specific institutions in advance.
- . 10 more effective linkages between research institutions and academic local and international that can provide knowledge to the private sector.

. 11 Promotion of cooperation between the private sector and academic institutions in areas such as joint research programs and training in the phases of undergraduate and graduate studies.

(C) encourage and support access to technology and capacity building: is access to technology through various forms ranging from direct procurement, and financing of property rights, and access privileges to obtain licenses and strategic alliances. Structures can support the technical and commercial centers, such as research and development, and technology transfer centers, and facilities for quality control, .. Etc. play a key role in disseminating information, and identify appropriate technologies, and ensure an effective and useful for this technology to small and medium-sized and adapted to their needs. For example, the Singapore Institute of Standards and Industrial Research Singapore Institute of Standards and Industrial Research (SISIR) the deployment of technology among small and medium enterprises and to facilitate exports by providing information about the requirements of foreign technical and how to meet them. Center also assisted the development of local technology companies in identifying technology needs and was bought by them.

However, there is a major factor must be taken into account, regardless of the availability and cost of new technology, namely the existence of adequate capacity for the selection of new technology, and access to, and proficiency to deal with and costs, and adaptation, and assimilation. The existence of this energy is a direct indication of the degree of scientific progress and education in the economy. And can take some

Procedures to facilitate the development of technological capacity.

In this regard, proposed a number of actions including:

- Development of technological extension services: the technological extension services vary greatly so that they begin to provide information on new technologies and ends to help the project in identifying technology needs and purchasing.
- Closer cooperation between research and development and venture capital industry: In general there is a complementarity between public grants and loans for research and development and venture capital. The increasing number of venture capital funds, which obliges the owners of the new facilities first to get progress on the general grant to develop technology Ounmuzja preliminary, and not resort to the sources of risk capital to meet the needs of business development until a later time. Moreover, while the owners of the venture capital specialists in assessing the potential of the business more of them in the assessment of technological capability development, the government agencies employ large numbers of engineers

Or to have a network of experts trained professionals to conduct technology assessment to the extent necessary. It should be noted that the exchange of information between the two types of organizations (business plans, audit reports for technological) to achieve mutual benefit. Moreover, such cooperation reduces the administrative burden placed on the facility, which is developing a technology, by allowing the exchange of audit reports, and assessments business plans, and experiences. Has developed many of the universities of the capital its own risks in order to facilitate the commercialization of research. There are other means can be activated which is to develop tools and technology organizations category ³ technological rating in order to bridge the information gap between entrepreneurs and funding organizations.

- Support the development of business plans and activities of non-technical: Because the R & D grants based on research projects and

are mostly directed towards the development of new technologies, facing the small and medium enterprises are often difficulties in the formulation of research proposals submitted by. The researchers found that the latest generation of technology-based companies need in particular to support the work - such as the development of business plans, and training on risk management - more than he needs to just funding. There is an increase in the provision of support to these non-technical aspects of the innovation process.

(D). Financing through equity (Equity Finance): facing financial institutions, as well as governmental bodies, the difficulty of trade-offs between risk and profit associated with projects that seek to development and modernization. As the uncertainty surrounding the technical feasibility, and the duration of development, and the total funding required, and the possibility of commercialization of the project, and the size of the potential market, makes financial institutions reluctant to be funded by such projects. And thus take some additional steps in the context of reprogramming its strategy for technological development through the provision of initial funding (seed capital) of capital for new companies and buying shares of property rights. In this way, the funding mechanisms through equity complementary to traditional public grants for research and development and business development. The recently that is worth a Social Fund for Development plans to start focusing on entering into partnerships with small and medium enterprises. However, this requires management and systems and adequate financial capacity, in addition to the technical capabilities, which include a wide range of activities and areas of technical and technological. In addition, this method also requires the existence of appropriate mechanisms for the exit of investors.

(D). Other fiscal incentives: To update the technological capabilities of small and medium enterprises, can be grants or tax concessions to cover the cost of access to technology, licenses, and advisory services.

4. Regional and international cooperation in light of the knowledge economy

It is essential that governments cooperate in their efforts to strengthen the capacity of small and medium enterprises, and an environment that encourages to take advantage of the knowledge economy. This can be achieved through the establishment of a regional coordinating body concerned, and shall encourage the exchange of information and expertise between agencies and ministries of the national information technology, and perhaps at the stage of later, to facilitate cooperative activities in support of innovation. The role of the Governments of the region in creating this environment and help small and medium enterprises to continue to succeed, and encourages the development of new projects in their countries. Under the new competitive conditions resulting from globalization, governments must develop new policies that promote innovation, encourage enterprises of small and medium - building innovative capacity. And providing appropriate services not currently available services, such as industrial parks, training, applied research, technical assistance, and dissemination of information, databases, quality control, technology transfer, and administrative regulations, and other services. Should be developed bodies of national innovation participation of representatives of the private sector such as associations of producers, and educational centers, and local banks, and others.

The international community should assist Governments to do more activities on technology transfer and training and development of human capacity in the region and create an environment for universal access to knowledge economy. And can include such activities also conduct additional studies on

the prevalence of innovation, and analysis of the factors that impede the spread of ideas and innovations new countries in the region, and to prepare recommendations on public policy that would enhance the utilization of the knowledge economy.

The role of Governments is to create an innovation-friendly environment that helps SMEs to remain successful, and to encourage the establishment of new ones in their respective countries. In view of the new competitive conditions resulting from globalization, Governments must develop new policies that foster innovation and promote the innovational capacity-building of manufacturing SMEs.

Governments in the region need to develop a comprehensive approach to the promotion of an environment conducive to innovation, and to the task of assisting SMEs in developing their potential innovational capacity. Governments need to devise national innovational strategies and establish bodies to implement those strategies. The main function of such bodies would be to enhance SME's innovational capacity-building by offering relevant services that are currently lacking, such as industrial parks, training, applied research, technical assistance, dissemination of information, data bases, quality control, technology transfer, management systems and so on. National innovation bodies might be created in partnership with representatives of the private sector, such as producers' associations, educational centers, local banks, and the like. Governments need to conduct national field studies to learn more about the innovation activities of SMEs in their respective countries and to assess their innovational potential. They need to determine the factors that are inhibiting or promoting innovation, identify the kinds of support needed by SMEs for their innovation activities, and find ways and means of contributing to the building of firms' innovational capacity and the creation of an innovation-friendly environment in their countries.

Governments in the region need to co-operate in their efforts to enhance SMEs' capacity for innovation and promote an innovation-friendly environment. This could be achieved through the establishment of a regional coordinating body for innovation that would initially serve to promote exchanges of information and experience among national innovation bodies, and perhaps, at a later stage, facilitate cooperative support activities for innovation.

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An initial matrix for policy analysis

Policy	Measures	Requirements	Institutional requirements	Policy requirements	Supplemental Appropriations	Long-term measures
Export Development	Increase the contribution of Projects Small And medium-sized Export	<ul style="list-style-type: none"> - Target "gainers" - Streamlining the requirements of import and export. - To facilitate the establishment of consortia of exporters. 	<ul style="list-style-type: none"> - The establishment of one window to end the import and export procedures. - To facilitate networking between small and medium enterprises. 	To encourage the link between the projects.		<ul style="list-style-type: none"> Focus on High-tech And the activities of Tech Nologia Communications Information
Business Services	Expand Provide	More focus on the following services: Computer software	Create a one-stop shop for services in the Arab countries	To enhance cooperation among That provide	Promote awareness of Arab projects	Expand the provision of business development services in line

	<p>Business Development</p>	<p>and information processing services.</p> <p>Research and development and technical services</p> <p>Marketing services.</p> <p>Human resources development.</p> <p>Business services.</p> <p>Dissemination of market information, standards, and technologies.</p> <p>Standardization and certification of standards and</p>	<p>and in each country, offering a variety of different domains.</p> <p>Strict adherence to best practices, particularly strongly oriented towards sustainability.</p> <p>To minimize the services provided by governments directly.</p> <p>Take advantage of the private sector in</p>	<p>different services</p> <p>And between organizations and projects</p> <p>The development of business services.</p> <p>Revive and strengthen interaction and cooperation between the hardware and Arab funds and the various line ministries and national governance.</p>	<p>Small and medium-sized</p> <p>Benefits of various types of</p> <p>Business Development Services</p> <p>Methods for obtaining them.</p> <p>Create a cadre of consultants and experts qualified in various areas of business development services.</p>	<p>With market trends</p>
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		commitment to providing quality. services.			
		Extension services technology.			
Financial Services	Loans Medium-and long - Term	Lending programs for small and medium enterprises Focusing on the loans are long-and medium-term	The establishment of an Arab bank to finance small and medium enterprises Increase the effectiveness of financial institutions through programs of institutional development And training. Expansion in	Study the use of Islamic financing modes which are not based on interest Alvaidpbakd possible to reduce the price of loans to small and medium enterprises by increasing competition within the financial sector and reduce the cost of capital. To encourage the registration of real	The development of Arab financial sector to make it more competitive And efficiency and thereby reduce the The cost of capital.

			<p>the use of credit guarantee funds with emphasis on the diligence and management of a professional.</p> <p>Focus on small and medium enterprises which have the potential competitive potential.</p>	<p>property formally.</p> <p>Increased competition in the banking sector.</p> <p>Encourage the establishment of non-bank financial institutions to increase competition.</p>		
Stock Exchanges	<p>The introduction of stock markets for smaller projects</p> <p>And medium in the Arab countries</p>	<p>Exchanges as a special friend for Small Projects</p> <p>And medium-suited to small projects, e</p>	<p>Development of regulations for this special</p> <p>The stock market.</p>	<p>Increase awareness among owners of small and medium enterprises for the benefits of stock</p> <p>To their</p>	<p>Arab bourse, the establishment of private small and medium projects</p>	

			And medium-sized growth-oriented.		competitiveness and development. Technical assistance supported On the experiences of France, or The United States, or Germany, Ooualemmlkp Nations.	
Innovation and Technology	Increased cooperation between the private and institutions of	Ttoiraliaanat financial programs (for soft-loans, grants, and participate in the	Allocate portions of the budgets of research institutions to small and medium	Provide tax incentives Projects (especially Small Projects And medium-sized)	Public awareness campaigns. To provide financial and technical assistance from	A massive program of institutional development for each of the Universities and

	<p>science</p> <p>And technology and research funding R & D</p>	<p>cost) aimed to encourage research And development with emphasis in targeting.</p>	<p>enterprises.</p> <p>Development of criteria for targeting.</p> <p>Effective linkages between research bodies, local and international.</p> <p>Encourage cooperation between the private sector and academic institutions during the University and upon graduation (such training</p>	<p>that you</p> <p>Research and development.</p> <p>Require research institutions</p> <p>Recover part of the costs.</p> <p>Require research organizations</p> <p>And education to submit tenders</p> <p>Government projects</p> <p>Research.</p> <p>Tugod Yim tax incentives</p>	<p>donors based on best practices.</p>	<p>institutions</p> <p>Research.</p>
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			<p>university students, and research Common, etc.)</p>	<p>Projects that participate in programs to train students</p> <p>Universities or cooperating</p> <p>In any way with the Academic institutions</p>		
<p>Get Technology And capacity-building</p>	<p>Extension services technology. Finance specialist through participation. Help small and medium-sized innovative in developing business plans and studies</p> <p>Feasibility</p>	<p>Views effective in providing development services to the work of providing services related to Technology. Views effective in providing</p>	<p>Provide tax incentives</p> <p>To modernize Technology or to obtain</p> <p>Them, and extract Licenses, and services</p>		<p>Establish bonds of cooperation between the research and development in the Arab countries and the establishment of an Arab research centers specializing in this area</p>	

			development services Business.	Advisory Committee. To encourage universities to benefit commercially from the research.		
Gatherings ended	Support groups List Membership.	Assessment of existing groupings to identify the groups which have the potential for success.	Close cooperation with academic institutions and research the country, regional and global The availability of Arab parties in the provision of effective services Ttoiraloomal. Arab effective partnership	Support groups, membership based organizations and to encourage new groups. Improve the business environment. The provision of infrastructure. Encourage the establishment of networks Work and		The establishment of local universities And research institutions, or Either in groups or near them. Establishment of centers of residential, recreational and social To attract investors

			<p>between the small and medium enterprises and management</p> <p>And research institutes, and non-governmental organizations, etc..</p> <p>Effective cooperation with the central governments</p>	<p>cooperation between the</p> <p>Companies linked</p> <p>Encourage participation in the development of</p> <p>Community and local government</p>		
The establishment of networking and connectivity between small, medium and	Promote cooperation between companies and the link between	Establishing a pattern of one box for Information on transnational	Institutions and mechanisms for effective dissemination of information,	Focus on voluntary action to support the local base Almodrin instead of imposing conditions requiring the use of		<p>Investment in Tqa propelled grenades</p> <p>The quality of human resources</p> <p>Egypt through the</p>

<p>large projects</p>	<p>Large companies, And small, and foreign</p>	<p>corporations and suppliers. Plans to promote sub-contracting. Provide services to hold meetings between the projects to link them. Provision of programs aimed at developing the capacities of the weaker party, through training, financial support, etc.. Provide grants to participate in the offers related to</p>	<p>And assembly companies, and help build Mutual trust between them. The involvement of large companies based in Design programs to develop suppliers to ensure ownership. The establishment of a single agency be responsible</p>	<p>component Local levels. Rely on vision Medium-to long - Term in relation to Perceived division of labor between the companies, with a clear definition of the target group. Reference to understand the type of Supplier relations, which led me to the sustainability of competitiveness.</p>		<p>educational and training than Makes the Arab States More attractive Of foreign Smttmaren And local communities. Capacity Development Local technological Infrastructure mode Competitive education and science</p>
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		<p>activities between companies in research and development, training, etc..</p> <p>Support programs for standardization and certification to quality standards, commitment to provide small businesses with their needs in order to be a reliable partner.</p>	<p>for the Development of suppliers and work side by side with the specialized agencies</p>	<p>Find an appropriate legal framework governing commercial transactions, Especially those related to Property rights and their application, and contract law, law Trade. Provide economic incentives Suppliers. Encourage compact Subcontracts through</p>		<p>Technology</p>
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				<p>Government tenders.</p> <p>Development of policies aimed at</p> <p>To attract investment</p> <p>Foreign direct</p> <p>Achieve high economic returns and to allow</p> <p>Local suppliers in order to make sites suitable for themselves.</p>		
Changing regulations	<p>Simplify the framework</p> <p>To establish the current</p>	<p>Reduce the burden of regulatory controls associated with business start-up, operation, and</p>	<p>Expansion in the construction of a model one-stop shop at the local level</p>	<p>Improve coordination between the different efforts carried out by government</p>		<p>Streamlining laws and regulations governing the establishment of companies, and</p>

	<p>Companies And operation.</p>	<p>growth.</p>	<p>For licensing and registration</p>	<p>agencies, and programs Donors, etc.. Make appropriate use of international experience in supporting small and medium enterprises Constructing a model of one-stop shop for licensing and registration, but train Arabic Make appropriate use of From the results of other efforts in the Arab countries</p>		<p>operation, and growth</p>
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