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7 May 2012

Online at <https://mpra.ub.uni-muenchen.de/67021/>

MPRA Paper No. 67021, posted 03 Oct 2015 07:51 UTC

**Performance Measurements of National Industrial Strategy
(NIS) For Saudi Arabia**

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Abstract

This paper suggests ways to measure the performance of NIS implementation in order to reach its goals by the end of 2020 by selecting a specific industry as an example. This paper seeks to study NIS goals which are supposed to meet by implement the eight axes of the strategy. In this paper, I will discuss the current situation of the Saudi Arabia's Industry and determined the strength and weakness of it.

Statement of the Problem

The implementation of the eight elements of NIS is one of the biggest challenges will face Saudi Arabian's industry in future. This paper will try to set a performance measurement for NIS axes in order to monitor the progress of NIS implementation by using some of Engineering Management tools.

1. Background about Saudi Arabia



Figure 1

1.1. Overview

Saudi Arabia is the birthplace of Islam and home to Islam's two holiest shrines in Mecca and Medina. The modern Saudi state was founded in 1932 by ABD AL-AZIZ bin Abd al-Rahman AL SAUD after a 30-year campaign to unify most of the Arabian Peninsula. A male descendent of Ibn Saud, his son ABDALLAH bin Abd al-Aziz, rules the country today as required by the country's 1992 Basic Law. Saudi Arabia was the world's largest producer and exporter of total petroleum liquids in 2010, and the world's second largest crude oil producer behind Russia. Saudi Arabia's economy remains heavily dependent on crude oil. Oil export revenues have accounted for 80-90 percent of total Saudi revenues and above 40 percent of the country's gross domestic product (GDP) (The World Fact Book, 2012)

1.2. Geography and the Climate

The Kingdom's is about 2.15 million square kilometers, with a population of about 24 million according to the 2007 statistics; 17.5 million of the population is Saudis which forms 73% of the population.

According to its location, the Kingdom occupies a distinguished geographical status being located in the center of the three continents of Asia, Africa and Europe, which awarded it the high commercial importance as it represents the meeting point of the three continents, not to mention the religious importance to Muslims around the world, since The Kingdom was honored by Allah to have Mecca where the Holy Mosque and the Qiblah for all Muslims are, and Al-Medina where the Holy Mosque of the Prophet (peace be upon him) and his tomb are located, which are two unique religious and geographical landmarks gathered only on the land of the Kingdom of Saudi Arabia .

The Kingdom has a great diversity in the nature of the it's terrain due to its land spill-over, where Tihama plain extends about 1100 km on coastal length, and to the east of it; there is the high-rise mountains of Sarawat with an altitude of about 1000 meters. To the east of it, Najd plateau and its hills are located; and they're bounded with the Dahna' dunes and Alsaman Desert from the east.

The south area of the Kingdom is punctuated by the valley of Al-Dawaser that aligns the Empty Quarter desert.

From the north; the plains of Najd extends to the region of Hail until they reach the Nofoud Great Desert and join it, then join the borders of Iraq and Jordan. There are also some mountains such as the Mountains of Tuwaiq, Al-A'ared, Aja, and Salma.

As for the Empty Quarter desert, it forms the southern east part of the kingdom, and it's a large area of desert with an estimated area of 640 thousand square kilometers of sand dunes and marshes, while the eastern coastal plain extends to about 610 km and is composed of salty marshes and sand areas (MCI, 2012).

1.3. People

The estimate population in July 2011 is 26.1 million (20.5 million Saudis, 5.6 million foreign nationals). The annual population growth rate 2011 is 1.536%. The ethnic groups divided as follow: Arab (90% of native pop.), Afro-Asian (10% of native pop.). 100% of people believe in Islam. The official language is Arabic. The statistic of education shows that the percent of literacy is total 78.8% (male 84.7%, female 70.8%). Work force is closed to 7.3 million, about 80% foreign workers (Wikipedia, 2012).

1.4. Government

The governance regulation in the Kingdom of Saudi Arabia is monarchical, and it is limited to the sons of the Founder King Abdul-Aziz bin Abdurrahman bin Faisal Al Saud. The King is the one who selects the Crown Prince, and he is the one to relieve him with a Royal Order.

The Crown Prince is devoted only to the duties of the mandate of the Covenant and any other duties assigned to him by His Majesty the King, and he – the Crown Prince - shall assume the powers of the King upon his death until the pledge of allegiance is given.

1.5. The Flag

The Flag of the Kingdom of Saudi Arabia is Green, and in the center of it there is the expression “There is no god but God and Muhammad is the Messenger of God” with an unsheathed sword under it. It is the only flag in the world that is not hung at half-mast for containing the Shahaadatayn (MCI, 2012).

1.6. Economy

Saudi Arabia's economy is petroleum-based; roughly 75% of budget revenues and 90% of export earnings come from the oil industry. The oil industry comprises about 45% of Saudi Arabia's gross domestic product (GDP), compared with 40% from the private sector. Saudi Arabia officially has about 260 billion barrels of oil reserves, comprising about one-fifth of the world's proven total petroleum reserves

In the 1990s, Saudi Arabia experienced a significant contraction of oil revenues combined with a high rate of population growth. Per capita income fell from a high of \$11,700 at the height of the oil boom in 1981 to \$6,300 in 1998. Oil price increases of 2008–2009 have triggered a second oil boom, pushing Saudi Arabia's budget surplus to \$28 billion (110SR billion) in 2005.

Saudi Arabia is one of only a few fast-growing countries in the world with a relatively high per capita income of \$24,200 (2010). Saudi Arabia will be launching six "economic cities", for example King Abdullah Economic City, which are planned to be completed by 2020. These six new industrialized cities are intended to diversify the economy of Saudi Arabia, and are expected to increase the per capita income. The King of Saudi Arabia has announced that the per

capita income is forecast to rise from \$15,000 in 2006 to \$33,500 in 2020. The cities will be spread around Saudi Arabia to promote diversification for each region and their economy, and the cities are projected to contribute \$150 billion to the GDP. However, the urban areas of Riyadh and Jeddah are expected to contribute \$287 billion dollars by the year 2020 (Wikipedia, 2012).

1.7. Education

Education is free at all levels. The school system is composed of elementary, intermediate, and secondary schools. A large part of the curriculum at all levels is devoted to Islam, and, at the secondary level, students are able to follow either a religious or a technical track. Classes are segregated by gender. Higher education has expanded rapidly, with large numbers of Universities and colleges being founded particularly since 2000. Ministry of higher education include the country's first University, King Saud University founded in 1957, the Islamic University at Medina founded in 1961, and the King Abdulaziz University in Jeddah founded in 1967.

The study of Islam dominates the Saudi educational system. In particular, the memorization by rote of large parts of the Qu'ran, its interpretation and understanding (Tafsir) and the application of Islamic tradition to everyday life is at the core of the curriculum. Religion taught in this manner is also a compulsory subject for all University students (Wikipedia, 2012).

2. Industrial Development in Saudi Arabia

2.1. Introduction

Although industrialization is relatively recent, in Saudi Arabia, it has witnessed a steady development, during which distinguished accomplishments were achieved. These are attributed to the importance of the industrial sector and the support it receives from the government owing to its role in achieving strategic and economic goals of the country. The efforts exerted by the government for the support of industrial development covered several basic spheres including implementation of required infrastructure, construction of Jubail and Yanbu industrial cities, construction of industrial cities in various regions of the Kingdom, establishment of Saudi Industrial Development Fund (SIDF), and continued provision of other industrial support and incentives. The response and cooperation of the private sector with the governmental plans and efforts have an effective impact on actualization of the industrial development's achievements. In the following, we review, in brief, some of the industrial progress indicators in Saudi Arabia over the past years (SIDF, 2011)

2.2. Progress in Number of Factories, Investment and Number of Employees

The government has attached great importance to the industrial development by providing all kinds of supports and facilities to the industrial sector. As a result, the Saudi industry has made significant progress that was clearly manifested in the growth of industrial investment since the establishment of Saudi Industrial Development Fund (SIDF). The following table illustrates the progress in the number of producing factories and volume of their investments and the number of employees between 1974 and 2010, broken down by major sectors (Operational Industrial Projects System (OIPS), 2011, SIDF, 2011).

Number of Operating Industrial Units and Size of their Investments and Number of Employees 1974 – 2010

Industrial Activity	Factory No.		Finance(\$ Million)		Manpower	
	1974	2010	1974	2010	1974	2010
Manufacture of food products and beverages	2	746	2.028	40.45588235	7.199	103.027
Manufacture of textiles	2	90	20	4.421791444	60	15.04
Manufacture of wearing apparel; dressing and dyeing	2	78	38	738.9705882	249	8.288
Tanning and dressing of leather; manufacture of luggage, handbags, saddlery, harness and footwear	2	48	7	663.7700535	50	4.121
Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles	4	54	65	848.2620321	839	4.082
Manufacture of paper and paper products	4	157	177	7.705548128	843	19.153
Publishing, printing and reproduction of recorded media	8	117	809	3.711898396	2.594	10.568
Manufacture of coke, refined petroleum products and nuclear fuel	9	81	364	41.12807487	3.487	24.595
Manufacture of chemicals and chemical products	9	493	2.954	49.72459893	2.429	41.782
Manufacture of rubber and plastics products	9	498	522	12.35995989	1.895	44.062
Manufacture of other non-metallic mineral products	11	795	3.771	57.58957219	3.78	83.049
Manufacture of basic metals	12	317	234	37.85695187	2.801	47.833
Manufacture of fabricated metal products, except machinery and equipment	17	324	160	8.798462567	931	30.745
Manufacture of machinery and equipment n.e.c.	18	229	215.4666667	5.085561497	4.357	23.878

Manufacture of office, accounting and computing machinery	24	5		661.76 47059	-	2.70 4
Manufacture of electrical machinery and apparatus n.e.c.	25	11 4	127	11.326 20321	464	21.6 21
Manufacture of radio, television and communication equipment and apparatus	39	21		968.58 28877	-	1.98 8
Manufacture of medical, precision and optical instruments, watches and clocks	19 8	12	1	82.219 25134	33	351
Manufacture of motor vehicles, trailers and semi-trailers	-	14 0	78	2.4816 17647	622	13.3 06
Manufacture of other transport equipment	-	15		294.78 60963	-	1.47 3
Manufacture of furniture; manufacturing n.e.c.	-	30 8	170	5.0033 42246	1.2 95	28.0 27
Recycling	-	3		40.106 95187	-	123
Total	39 5	4.6 45	12.331	405.05 2139	33. 928	529. 816

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Manufacture of fabricated metal products, except machinery and equipment	17	324	160	8.7984626	931	30.745
Manufacture of machinery and equipment n.e.c.	18	229	215.46667	5.0855615	4.357	23.878
Manufacture of office, accounting and computing machinery	24	5		661.76471	-	2.704
Manufacture of electrical machinery and apparatus n.e.c.	25	114	127	11.326203	464	21.621
Manufacture of radio, television and communication equipment and apparatus	39	21		968.58289	-	1.988
Manufacture of medical, precision and optical instruments, watches and clocks	198	12	1	82.219251	33	351
Manufacture of motor vehicles, trailers and semi-trailers	-	140	78	2.4816176	622	13.306
Manufacture of other transport equipment	-	15		294.7861	-	1.473
Manufacture of furniture; manufacturing n.e.c.	-	308	170	5.0033422	1.295	28.027
Recycling	-	3		40.106952	-	123
Total	395	4,645	12.331	405.05214	33,928	529,816

Table 1

As indicated in the previous table, the industrial base in the Kingdom has experienced a wide expansion over the past four decades. The number of operating industrial units has increased from (395) in 1974 to (4,645) in 2010. Parallel, invested capital has increased from \$12.3 billion in 1974 to about \$405 billion in 2010. At the same time, number of employees has increased from (34,000) in 1974 to (530,000) in 2010.

Looking into the sectorial composition of the operating industrial units in the Kingdom at the end of 2010. We note that the Other Non-Metallic Minerals Sector is heading all other sectors in terms of operating industrial units (795) representing 17% of total operating ones. The Refined Petroleum Products sector also occupied the leading position among the other industrial sectors in terms of size of investments (\$41.1 billion) representing 38% of total investments of operating factories, followed by the Non-Metallic Minerals Sector with \$15.2 billion representing 14% of total investment of operating factories. The Food and Beverages Sector headed all other Sectors in terms of the number of employees (103,027 workers) representing 19% of total employment in the operating factories (Operational Industrial Projects System (OIPS), 2011, SIDF, 2011).

Providing modern industrial cities is an additional form of support the government for the national industries. The Ministry of Commerce & Industry has constructed and developed several industrial cities in the various regions of the Kingdom and provided them with all required services and utilities. To upgrade the quality of services provided by the industrial cities, the Saudi Industrial Property Authority (Modon) was established in 2001, as an independent public agency to supervise the establishment and management of industrial cities and technology zones, in addition to the operation, maintenance and development of these cities in collaboration with the private sector. Table 2, shows total areas and developed areas of the existing industrial cities in the Kingdom. Here we have to note that the figures in the table 2 do not include areas of the two major industrial cities of Jubail & Yanbu, in addition to industrial cities of the oil refineries that are belonged to ARAMCO. The two industrial cities of Jubail & Yanbu are considered strategic locations for hydrocarbon and energy intensive industries to develop and exploit the Kingdom's natural advantage by higher rates of economic efficiency.

Areas under the two industrial cities (Jubail and Yanbu) are estimated at (1,020) and (185) square kilometers respectively, including a number of basic industrial plants, secondary industrial plants, supporting industrial plants, as well as full-service residential compounds that include housing, schools, hospitals, clinics, recreation centers, roads and other necessary utilities (Saudi Industrial Property Authority (Modon), 2009, SIDF, 2011).

Developed and Total Areas of Existing Industrial Cities in Saudi Arabia

Industrial City	Developed Area (M2 000)	Total Area (M2 000)
Riyadh	15.86	19.237
Jeddah	12.974	20.807
Dammam	18.482	28.191
Al Hassa	1.5	1.543
Qassim	60	1.543
Zulfi	2	19
Sidair	10	257
Makkah	730	730
Madinah	1.75	9.948
Al Kharj	5	99.46
Assir	904	2.663
Taif	3	11
Al Jouf	629	3
Aarar	1	2
Tabuk	1.35	4
Hail	770	2.56
Najran	750	6.56
Gazan	2	39.49
AlHai'er	2	5
AlBaha	3	3
Total	83.759	536.732

Table 2

2.3. Progress in Industrial Production

Production of the manufacturing industries in the Kingdom has witnessed a steady progress over the past years. As shown by the figure below, total GDP (in constant prices) achieved by the manufacturing industries increased from the level of \$ 4 billion in 1975 to more

than \$29.1 billion at the end of 2010. Also, the rate of the manufacturing industries' growth continued to increase throughout this period, at an average of 5.9% annual growth rate, which is considered the highest among the other economic sectors. Owing to the substantial growth achieved by the manufacturing industries during this period, the contribution of the sector in the country's GDP has increased from 4.1 % in 1975 to 12.6% at the end of 2010. Parallel, the contribution of the manufacturing industries sector in the non-oil GDP increased from 7.8% in 1975 to 17.4% in 2010. These rates show the success of the development plans in pushing forward the industrial progress and the fruitful cooperation these plans received from the private sector (SIDF, 2011).

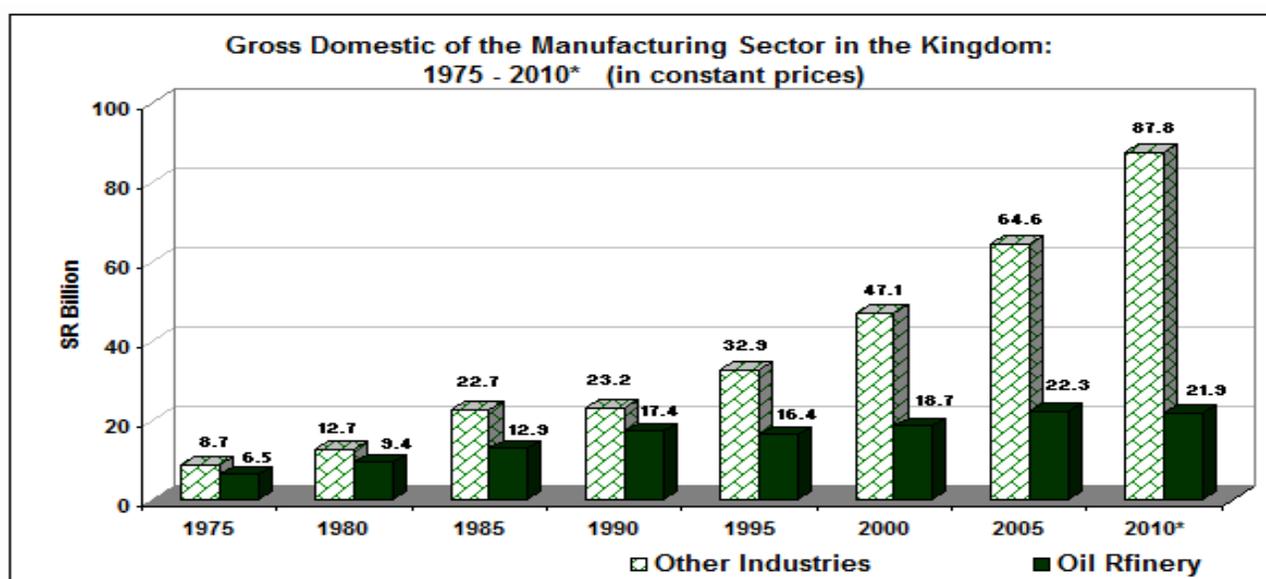


Figure 2

A more important aspect in the development of the manufacturing industries in the Kingdom is indicated by the change that occurred in the sectorial composition of the Saudi manufacturing over the past period, as the share of the manufacturing industries (other than oil refining) in manufacturing GDP increased from (57%) in 1975 (at constant prices) until it reached (80%) by the end of 2010. This trend reflects the dynamism of the Saudi manufacturing

industries sector (other than oil refining). In this regard, we refer in particular, to the substantial progress and expansion experienced by the petrochemical industries in the Kingdom over the last two decades under the auspices of Saudi Basic Industries Corporation (SABIC).

The Statistics and analysis made by SIDF show that the GDP's mix for the manufacturing industries sector, (excluding oil refining) has been a subject of a substantial growth throughout the past two decades. Since early nineties, the Chemical Products Sector has been occupying the leading position of GDP's mix of manufacturing industries, (excluding oil refining). Other sectors that have been showing a notable growth include: Machinery and Equipment, Building Material Products, and Food Products. At present, these four sectors contribute the major part of the Saudi manufacturing industries' GDP.

2.4. Progress in Industrial Exports

Saudi Arabia has devoted great attention to the development of industrial exports, in accordance with the government's comprehensive economic development strategies aiming at expansion of production base and diversification of income sources. Despite the relative recentness of industry in Saudi Arabia, particularly the experience of private sector in the field of exports, Saudi industrial exports have achieved wide steps in this area. The Chemical Industries have scored a great success in penetration of international markets, and gave a positive image of the Saudi products in terms of quality and price. The table 3 shows the growth of the values and contributions of Saudi industrial exports during the period from 1992 to 2010 (SAMA – Annual Report # 46, 2011, SIDF, 2011).

Progress in Saudi Industrial Exports: 1992 – 2010

Year	Industrial Exports (\$Million)	% of Total Exports	% of Non-Oil GDP
1992	3.3432	7	4
1993	3.361866667	8	4
1994	4.119733333	10	5
1995	6.015466667	12	7
1996	5.697066667	9	6
1997	6.592266667	11	6
1998	5.634933333	15	6
1999	5.186133333	10	5
2000	6.112	8	6
2001	7.0792	10	6
2002	7.384266667	10	6
2003	9.531466667	10	8
2004	12.68426667	10	9
2005	16	9	11
2006	18.6784	9	12
2007	22.21626667	10	13
2008	26.32266667	8	14
2009	22.66586667	11	12
2010	30.37973333	12	14

Table 3

The previous table shows that Saudi industrial exports achieved a rapid growth over the past years. Value of these exports showed an annual growth rate of 13% during 1992-2010, increasing from about \$3.34 million in 1992 to about \$30.4 million in 2010. The significant increase in the industrial exports in 2003 and 2005 could refer to the implementation of the Gulf Corporation Council (GCC) unified customs union, and the Kingdom's accession to the World Trade Organization (WTO), respectively. As of the industrial exports ratio to KSA's non-oil GDP, it grew from 4% in 1992 to 14% in 2010, indicating the importance of the exports as a

factor of industrial development (Central Department of Statistics & Information – Ministry of Economy & Planning, 2011, SIDF, 2011).

With regard to the structure of the Saudi industrial exports, the following figure shows the petrochemical exports versus other exports during 1992-2010

2.5. Composition of Saudi Industrial Exports (1992 - 2010)

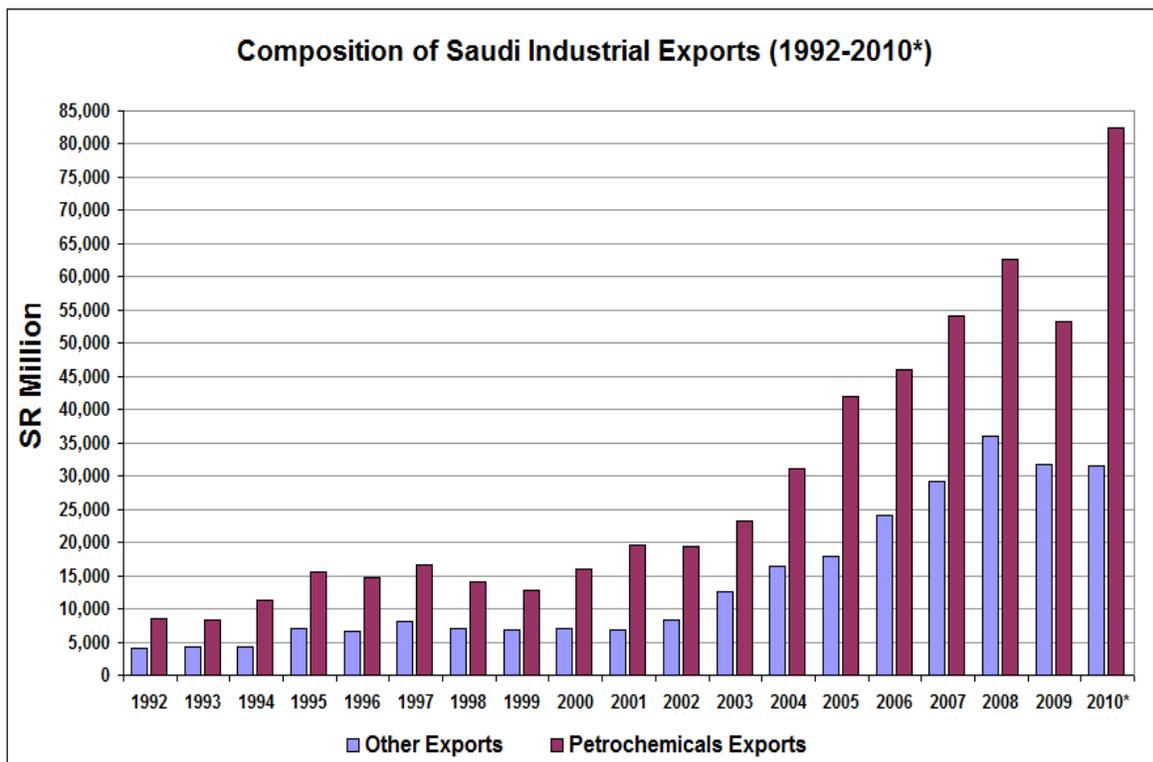


Figure 3

The above figure shows that the petrochemical exports represent about two thirds of the total Saudi industrial exports. These exports have witnessed a rapid growth since 1992 as their value grow from \$ 2,261 million in 1992 to about \$ 4,453 million in 1997. However, the value of these exports declined to a level of \$3,391 million in 1999, due to drop in oil prices. Then, it surges strongly after the development of the oil market and reached \$21,957 million in the year 2010 (Central Department of Statistics & Information – Ministry of Economy & Planning,

2011). The other non-petrochemical industrial exports have also experienced a good growth during 1992-2010, jumping from about \$1082 million in 1992 to \$ 8435 million in 2010. The table (4) reflects a detailed picture of the Saudi industrial exports performance during 1992-2010. In addition to the petrochemical sector, as shown in the same table, other exporting sectors include Food Industry, Basic Metals Industries, and Machinery and Equipment Industry. It is worth noting that most of these sectors achieved high export growth rates (Central Department of Statistics & Information – Ministry of Economy & Planning, 2011, SIDF, 2011).

Saudi Industrial Exports by Major Sectors: 1992 – 2010

Sector	Value of Exports in \$ Million		Annual Growth(%)
	1992	2010	
Food Products	421	2953	11.4
Chemical & Plastic Products	2261	21957	13.5
Basic Metals & Fabricated Industries	239	1921	12.3
Machinery & Electrical Equipment	291	998.5	11.9
Other Products	1.091	2550	12.8
Total	3343	30379.5	13

Table 4

3. Saudi Industry Competitiveness & Production Efficiency

3.1. Introduction

Industrial competitiveness is defined as “the ability of the industrial sector, represented by local industrial companies, to compete with major international companies in both local and

international markets.” Companies in the industrial sector base their competitiveness on several factors, most important of which are:

- 1- Lower costs
- 2- Improved quality
- 3- Marketing efficiency

The use of modern technology, and upgrading of technical and managerial skills. A supporter to all these factors is an encouraging macroeconomic environment, where the policies adopted by the government to upgrade industrial production efficiency play a key role in developing the competitiveness of the industrial sector, and in turn, its production capacities and capabilities. Therefore, competitiveness is closely related to productivity as a high level of competitiveness implies more efficient use of human, natural, and capital resources, therefore increasing productivity of projects. There is a big difference between comparative advantage and competitive advantage. Comparative advantage is a gifted one, which originates in the availability of resources like oil, iron, etc. On the other hand, competitive advantage is an advantage gained as a result of optimal utilization of resources and production factors by local companies, foreign companies, or both. Therefore, most developing countries suffer a problem of weak competitiveness, (despite the availability of comparative advantages), due to poor technical know-how and the organizational skills needed to compete with international companies, so as to maximize returns and value from national resources. The following is a review of the determinants, conditions and mechanisms for upgrading the competitiveness of industry, building on comparative experiences and visions; the current status of the Saudi industry and its performance indicators; and, finally, a number of proposals for enhancing the competitiveness of national industry (SIDF annual report, 2009).

3.2. Determinants for Upgrading the Competitiveness of Industry

The success of many countries, especially developing countries in East and Southeast Asia, in upgrading their competitiveness over the last two decades, confirms that there are mechanisms and tools through which competitiveness can be improved, whether at the macroeconomic level, or at the particular level of any given project. Such mechanisms and tools can be summarized as follows:

1- Production Factors

They refer to the existence of production requirements, such as a skilled, professional work force; availability of raw materials; infrastructure; finance, etc. Production factors are not rigid, but rather can be improved and consistently upgraded to become more specialized in the course of time (SIDF annual report, 2009).

2- Corporate Strategies & Competitiveness

This implies competition among companies operating within a given economic group, sector, or industry. Competition provides the motivation for creativity and innovation, and the incentive to upgrade the level of business to keep pace with the latest technologies and standards. Companies compete to capture a share of the market and enhance their profit margins (SIDF annual report, 2009).

3- Demand Factors

Companies should assess market needs; consumer purchasing preferences, and the extent of their attraction to certain products. The existence of customers who are motivated to demand and

buy certain products offers more opportunities for creativity and innovation, besides enhancing the degree of competition among companies (SIDF annual report, 2009).

4- Supporting Activities & Institutions

Universities, unions, industrial bodies, and vocational and industrial training institutions and centers play a key role in the acquisition and deployment of production knowledge and culture. For example in Malaysia, the government encouraged investment in education and training and attracted leading vocational and industrial training institutions which opened branches to train and raise the manpower-skills. The collaboration of community institutions also plays an equally important role in the coordination of efforts among the public, private, and academic sectors. The combined efforts of such institutions further augment the links between community institutions and citizens, while facilitating the process of data collection and analysis as well as information flow (SIDF annual report, 2009).

5- Economic & Industrial Clusters

Economic clusters are composed of a group of multiple related industries, corporations and institutions that are adjacent geographically, interlinked, with integrated objectives in common. Such clusters help raise the level of productivity and competitiveness through access to the best professional practices, stimulate creativity and innovation and provide new business and investment opportunities (SIDF annual report, 2009).

6- The Role of the State

The State is assumed to have an essential role in promoting and advocating competitiveness through specialized education and training programs; investment in infrastructure projects; the

removal of barriers impeding national competition by eliminating or altering certain rules and regulations, and stimulating consumer demand (SIDF annual report, 2009).

3.3. Saudi Industry Performance Review

Developments in industry performance can be identified as a set of indicators, particularly the structure of exports. Table 5 shows by the end of 2007, the total value of commodity exports amounted to approximately \$ 206.1 billion, of which oil exports accounted for about 88% of total exports. Over the past years, the stability of the export structure is conspicuous. This indicator reflects the Saudi's high level of dependence on oil exports, making it less competitive at the global level due to the low technology content of its exports.

	2004	2005	2006	2007
Oil Exports	110.7	161.6	188.2	206.1
Non-oil Exports	15.3	19.0	22.8	27.9
Total Commodity Exports	126.0	180.6	211.0	234.0
Oil Exports % of GDP	87.9	89.5	89.2	88.1
Non-oil Exports % of GDP	12.1	10.5	10.8	11.9

Table 5

Table 5, shows the development of the technological structure of Saudi manufactured exports contrasted with a range of other countries worldwide for the period 1990 to 2006. The technological structure of Saudi manufactured exports continued to depend largely on medium-technology products (including electrical and non-electrical equipment; chemicals; transport equipment; rubber and plastics; ferrous and non-ferrous metals; refinery products, metal products ,construction metals and ceramics), which represents the bulk of Saudi exports. However, its share of Saudi exports decreased from 92% to 81% during the same period, to the benefit of low technology products (including paper, textiles, food industries, and wood), whose share

increased from 7% to 16% over the period. High-tech products, however, (including computers; space and electronics products; pharmaceuticals and scientific instruments), which should presumably reflect the level of competitiveness, accounted for only a small share of total Saudi exports despite the increase in its share of total manufactured exports: from 1% in 1990 to 3% in 2006 (SIDF annual report, 2009).

Country	High-Tech Exports %		Medium-Tech Exports %		Low-Tech Exports %	
	1990	2006	1990	2006	1990	2006
Saudi Arabia	1	3	92	81	7	16
Egypt	1	1	40	80	59	19
Tunisia	6	13	34	32	60	55
Jordan	14	14	76	45	10	41
Indonesia	1	10	46	52	53	38
China	11	39	32	32	57	29
Malaysia	41	56	27	29	32	15

Table 6

On the other hand, as shown in table 6, there are other Arab countries, such as Egypt and Tunisia, which succeeded in reducing their dependence on low tech products and increased the share of medium technology products (Egypt), or high technology products (Tunisia) in the overall structure of exports. China, Malaysia and Indonesia are among the leading countries worldwide in terms of upstream improvement of exports structure. In fact, Malaysia is one of the best performers in this area as its exports of high-tech products accounted for more than 50% of its total exports for the year 2006. Undoubtedly, foreign investments have played a major role in achieving this level of progress as reflected in the fact that foreign companies hold more than 60% of total investments in Malaysian industry. Therefore, by comparison, it is clear that the

Kingdom continues to face major challenges in the area of competitiveness even though the slight improvement in the structure of its manufactured exports (SIDF annual report, 2009).

3.4. Developments in Saudi Economic & Industrial Competitiveness in the Light of Global Indices

The industrial sector in any country will not be able to upgrade its competitiveness without a supportive macroeconomic environment where it can develop and compete effectively in both the domestic and foreign markets. Therefore, macroeconomic competitiveness improved by a healthy and stable economic environment is an essential precondition for the success, prosperity, and competitiveness of industry. All local and international indices suggest that Saudi Arabia's macroeconomic environment is becoming highly competitive and thus, provides the impetus for national industry to prosper and compete effectively. The Saudi's performance in this context witnessed substantial improvement as evidenced in indices such as "Doing Business" and "Global Competitiveness". On the "Doing Business Index" which represents a high ranking on the ease of doing business index means the regulatory environment is more conducive to the starting and operation of a local firm, the Kingdom achieved a leading position ranked 12th in 2012 (from a ranking of 25th in 2007G) out of 181 countries. Moreover, on the "Global Competitiveness Index" it was ranked 27th in 2008, up from 35th in 2007 (out of 134 countries). These two indices reflect the development of infrastructure, improved macroeconomic conditions and the volumetric efficiency of the market among the conventional set of variables that reflect the level of competitiveness of a country's economy (SIDF annual report, 2009).

4. National Industry Strategy (NIS) Until 2020

4.1. Introduction

The National Strategy for Industry has been envisioned to raise contribution of the Industry sector to become 20% as a minimum by 2020 within the Gross National Product. This will require a three-time multiplication of the Industrial base in the Kingdom in addition to activating the role of the Industrial Sector to achieve the optimal future status of Industry in the Kingdom. As a result, Saudi Industries will be competitive world, as they are based on innovation and transferring the National Resources into a sustainable wealth. Additionally, investing all the National resources and available opportunities to urge industry development and to depend more on technology, this will provide more opportunities within the National Framework and establishing strong and effective national and international partnerships (National Industry Strategy (NIS), 2009, SIDF, 2011).

4.2. Main General and Specific Objectives of NIS Until 2020

NIS aims to achieve a real transfer in various areas such as development of production technology; diversification of industrial products; transfer and adoption of proper technology, and development of the skills required for industrial sector advancement. The NIS also targets Saudi and foreign investments to increase the value added of the targeted industries. In addition to that, NIS aims to build up the bases of industrial data to ensure industrial integration as well as the development of applied programs to adopt standard specifications and higher levels of quality necessary to penetrate foreign markets (National Industry Strategy (NIS), 2009, SIDF, 2011).

NIS also seeks to encourage diversification of comparative advantage industries and their

complementary industries, as well as to stimulate development of infrastructure of industrial cities and technology zones. However, achievement of these objectives requires the advancement and modernization of the business environment; the streamlining of industrial regulations and procedures by depending more on technology and electronic means, and the development of small and medium industries along with traditional and professional industries.

On the basis of the comprehensive objectives mentioned above, it is envisaged that the national industry sector will, by year end 2020, achieve the following specific rates as clearly set out in the Strategy:

- Increasing industry sector's contribution to the GDP to 20%.
- Increasing industrial value added three times.
- Increasing industrial exports share from current rate of 18% to 35%.
- Increasing technology based exports from current rate of 30% to 60%.
- Increasing Saudi industrial labor force from current rate of 15% to 30%.
- Upgrading the Kingdom's status to rank at least among the best performing 30 industrial countries by 2020G by improving its annual ranking by two places (National Industry Strategy (NIS), 2009, SIDF, 2011).

4.3. National Industry Strategy (NIS) Major Axes

To achieve the objectives cited above, a number of principal axes have been outlined in the NIS to prepare and develop a variety of sectors and institutions linked directly or indirectly with industry to perform adequately the roles expected of them. Pursuant to the version approved by the Council of Ministers, NIS involves eight major axes which are

supposed upon development to result in the achievement of the objectives outlined above, and to enhance sustainable industrial development in the Kingdom. These axes are as follows:

First Axis:

It involves the overall business environment, industrial investment, and global strategic alliances. It seeks to improve macro-economic policies, such as monetary and fiscal policies and wages, and to stabilize macro-economic indicators with the purpose of attracting local and foreign investments, particularly in the industrial sector. Furthermore, it seeks to improve trade policies and market competition. This axis also includes the development of regulations and procedures governing industrial institutions such as trade, work, energy and mining regulations (National Industry Strategy (NIS), 2009, SIDF, 2011).

Second Axis:

It deals with industrial complexes, stimulates industrial diversification and achieves balanced development in all of the Kingdom's regions. It is the most important and largest axis of the Strategy as it consumes about half the funds assigned to the NIS. Globally successful practices in manufacturing confirm that industrial complexes and clusters of various interdependent industries such as feeding industries, production, distribution and services provision, located together in certain geographical areas are factors behind industrial development. This arrangement leads to lower costs and stimulates innovation and development resulting from combining and sharing skills. For this axis to achieve its ends, NIS adopts a number of relevant programs for industrial clusters and advanced industrial

technology complexes in support of advanced technology tracks and industrial promotion (National Industry Strategy (NIS), 2009, SIDF, 2011).

Third Axis:

It involves the industrial business community and small and medium enterprises (SMEs). The fact that SMEs account for more than 85% of the projects operating in the Kingdom suggests that more attention be devoted to SMEs, particularly at this transitional stage of the Saudi economy. For this axis to be achieved, a number of programs must be implemented: industrial SME's support; industrial SMEs incubation; a business resources center; a competitiveness development and industrial modernization center, and an industrial financing mechanisms program (National Industry Strategy (NIS), 2009, SIDF, 2011).

Fourth Axis:

This axis deals with the creation of industrial innovation strategies and systems to increase industrial productivity in the Kingdom. These are essential because one of the main issues that differentiate developed countries from developing countries is the status of their Research and Development (R & D), the linkage of the latter with development processes, and the linkage of educational output with the needs of the labor market and industry. Thus, the National Industrial Strategy asserts that, in order to reap the fruits of the efforts led by the science and technology network in the Kingdom, it is necessary to maximize the value added of these efforts by linking them with innovation in industrial companies while promoting innovation in small and medium scale industrial facilities (National Industry Strategy (NIS), 2009, SIDF, 2011).

Fifth Axis:

This axis involves human resources development and industrial skill systems as the availability of technically and scientifically qualified and well-trained human resources is a prerequisite for sustainable development. The importance of qualified human resources is vital in industry as personnel have to deal with, develop and maintain modern machinery and equipment. Thus, human resources play a key role in the industrial strategy for the Kingdom (National Industry Strategy (NIS), 2009, SIDF, 2011).

Sixth Axis:

It deals with infrastructure, production services, and support activities for industry. It seeks to develop infrastructure not only in the traditional industrial regions but also in the new industrial cities and zones, by establishing industrial bases throughout the Kingdom. It also aims to enhance provision of industrial services and supportive activities such as handling, shipping and storage for the purpose of expanding trade domestically and internationally. In addition, it contains a supportive program to ensure a constant electricity supply for factories throughout the Kingdom (National Industry Strategy (NIS), 2009, SIDF, 2011).

Seventh Axis:

The objective of axis 7 is to choose new industry verticals for Saudi Arabia and define their implementation plans, in order to move Saudi industry towards higher technology-content industries. Economic diversification and the deepening of the industrial base are the principal objectives for which the National Industrial Strategy was established. Therefore, the

strategy stresses the importance of continued support for the development of existing industries which have earned successful comparative and competitive advantages nationwide and/or worldwide, for example, the petrochemicals industry (National Industry Strategy (NIS), 2009, SIDF, 2011).

Eight Axes:

Axis 8 for the National Industrial Strategy was delegated the task of creating the governance mechanisms required to manage the implementation of the National Industrial Strategy. The mechanisms include the human, financial and administrative aspects of organization design, strategy management and funding availability through “National Industrial Strategy Fund 2020” (National Industry Strategy (NIS), 2009, SIDF, 2011).

The Deputy of Industry at the Ministry of Commerce and Industry is entrusted with the responsibility of implementing various objectives and parameters of the NIS with a view to avoiding role-overlapping/and wasting of efforts and resources within the agencies assigned to implement the objectives. The Ministry of Commerce and Industry as supervisor of Strategy implementation has already taken a number of appropriate actions during the period preceding the Council of Ministers’ NIS approval or, afterwards, to put the Strategy and its parameters in place. These actions include development of parameters implementation plans and the establishment of a national program for industrial development to be directly concerned with NIS implementation.

The Ministry of Commerce and Industry has also taken procedural steps for NIS implementation by inviting a number of internationally experienced consultancy firms to bid for

implementation of NIS parameters, so that each firm bids for a specific parameter as it is impossible for one consultancy firm alone to implement all parameters. Thus each firm will be responsible for implementing a certain parameter when selected under the follow-up and supervision of the Ministry of Commerce and Industry, represented by the national program for industrial development and the Office of Project Management, which will periodically report on work in progress and Strategy implementation (SIDF, 2011).

5. Future Challenges facing Saudi Industries

5.1. Introduction

At this movement with the Kingdom marching into the twenty first century, industrialization remains the strategic choice in accelerating the achievement of economic development objectives. However, with the formation of a future economic climate characterized by more openness; high competitiveness; proliferation of new economic trends; information and technology innovations as well as other features of globalization, numerous challenges are being presented to economies and business activities worldwide. In this context the future of the Kingdoms industrial sector and, in turn, the role of the SIDF as a financing institution to this sector, demand urgent attention. In an increasingly globalize environment, where open trade rules, several key elements have emerged as important challenges to the future of Saudi industry (SIDF, 2011).

5.2. Overview of some of the most daunting challenges

The following is an overview of some of the most daunting challenges:

Improving Competitiveness of National Products

The upgrading of the international competitiveness of Saudi Industrial products is necessary, not only to capture a share of international export markets, but also to maintain and enlarge the market share of the domestic market. Meeting this challenge successfully will necessitate the raising of productivity levels within the Kingdoms industrial sector to global standards (SIDF, 2011).

Keeping pace with Developments in International Markets

Nowadays, developments and innovations in international markets and technology are rapidly advancing, posing major challenges to business sectors worldwide, especially in industrial contexts. To meet such challenges, it is important to create flexible mechanisms for the improvement of management, design, production, marketing and all other aspects of the industrial business in the Kingdom (SIDF, 2011).

Advancing Transfer and Adoption of Technology

Technology plays a critical role in increasing productivity. Therefore, it directly affects the competitiveness of industrial products. Accordingly, the establishment of a solid base for technology is of paramount importance in planning the future of industry in the Kingdom. In this regard, the Kingdom needs to improve the technical capabilities of its national industries notwithstanding achievements already marked in the field of technology transfer. More importantly, however, is the urgent need for positive concerted efforts on the part of those directly concerned with industrialization to adapt and develop technology already available e.g., by means of research carried out by relevant Industrial Corporation's collaboration with universities and techno-scientific institutions, or by attracting high-tech foreign investments (SIDF, 2011).

Dealing with World Trade Organization (W.T.O.) Regulations and Developments

As Kingdom of Saudi Arabia is a full member in the W.T.O., an additional need has arisen for the country to adapt and comply with the rules of the Organization, which are necessary on all member countries. Government policy continues to be the adoption of strategies

that will maximize the benefits of membership of the organization and the nullification or mitigation of any adverse effects. Moreover, it will be necessary for such strategies to take into account new future challenges within the framework of the organizations regulations, and emergence of new issues such as environment, labor and others (SIDF, 2011).

Industrial Environment and Sustainable Development Framework

It is certain that the current concern with environmental issues will gain growing momentum in the future. Therefore, maintaining of the industrial environment while increasing efforts and developing the requisite technology to contain the adverse effects of industrialization, poses a formidable challenge to the industrial sectors and units in the Kingdom (SIDF, 2011).

Development of Saudi Manpower Capabilities

The skills and quality of the industrial workforce are regarded as dynamic factors within the framework of industrial development and the competitiveness of Saudi industry in the future. In order to develop Saudi manpower capabilities, it is necessary to study and intensify the fields and quality of technical education and vocational training, so that their output would match the requirements of industrial firms in all specializations (SIDF, 2011).

Improving Industrial Management

It hardly needs reiterating that improvement of the performance and productivity of industrial enterprises depends on the efficiency and quality of the management of such enterprises, as factor of crucial importance in the face of growing to international competition and rapid developments in marketing and technology. Moreover, there is also an urgent need to

give special attention to this factor in the case of small and medium industrial enterprises, which constitute the majority of the operating Saudi Industrial plants (SIDF, 2011).

Implementation and development of the Integration Concept

As known and observed from modern industrial management experiences, vertical integration undertaken by specific industries (in the same industry) do not achieve their presumed benefits. Concentration on the basic activity of the specialized product might be affected due to lowered efficiency and higher operational costs. In some cases, such factories lose their share of the market. Therefore, factories, specially the larger ones, should rely on other producers, preferably local, in procuring their requirements of materials and feedstock. Such collaboration will, ultimately, result in a better quality basic product which can compete effectively in local and export markets (SIDF, 2011).

Increasing Resources and Investments in the Industrial Sector

Despite the notable achievements of the industrial sector in the Kingdom, its overall contribution to the GDP is still less than aspirations. To ensure a more effective role for the industry in the country's economy, there is a need for increasing channeling of resources and investments, particularly in the manufacturing industries sector. To achieve this objective, definitely a challenging one, national and foreign private entrepreneurs must work in collaboration with government efforts to improve the Kingdoms business and investment environment for raising investment levels in this sector (Ministry of Commerce and Industry in Saudi Arabia, 2010, SIDF, 2011).

6. The Recommendations

6.1. Selecting a sector for studying

In order to implement any performance measurement method system, NIS has to select an industry sector in Saudi Arabia and measure its performance based on the indicators that the method provide. The operation of selecting a sector depends on several factors, such as the number of factors in that section, the financial value and also how many Saudi workers who work on the selected sector. NIS has mentioned the same concept in axis seven “The objective of axis 7 is to choose new industry verticals for Saudi Arabia and define their implementation plans, in order to move Saudi industry towards higher technology-content industries”.

If I have been assigned to select a sector these days, I will select a sector that has the highest number of Saudi employees in it because I believe that reducing unemployment rate among Saudi workers is one of most important goals of NIS. If we do not consider industries related to petrochemical, we find the Manufacture of food products and beverages has the highest number of Saudi workers recorded at 103,027 workers at the end of 2010.

6.1.1 Current Workforce Characteristics of Manufacturing Sector

According to the Saudi Ministry of Commerce and Industry, 89% of employees in Saudi Arabia’s industrial sector are low or medium skilled. Saudi represents 46% of the kingdom’s total workforce but only 16% of them work in the manufacturing sector. The Saudi workers participation in industrial labor has been decreasing in recent years despite efforts to the country (Ministry of Commerce and Industry, 2009)

In the top of this, wage differentials are higher for basic production workers who make \$330 per month in comparing with Saudi workers who work in the government sector who earn \$1000 per month (Ministry of Commerce and Industry, 2009).

A study that focuses on industrial companies across the kingdom shows the view of competency gaps pervade the entire skill spectrum, with 80% of managers surveyed by National Industrial Clusters Development Program(NICDP) saying that Saudis' lack of skills and qualification is the reason that Non-Saudi workers are hired instead. In addition to that, the managers surveyed by NICDP, 64% of them said that Saudi workers need extra training or counseling to fit in (Ministry of Commerce and Industry, 2009).

The stability of the jobs in the Manufacturing sector is very low. According to NICDP survey, one-third of Saudi workers quit their jobs in the Manufacturing sector just after just six months. 27% of Saudi workers quit after a year and 23% leave after two years. There are a lot of barriers facing Saudization jobs in manufacturing sector such as:

1- Low wages.

2- Longer work hours: A worker works 8.5 hours/day comparing with average Saudi working hours 6hr/day.

3- Poor work environment (unsafe) (Ministry of Commerce and Industry, 2009).

According to a survey that made by Bayt.com, 36% of Saudi workers prefer to work in oil and gas sector. 24% of them prefer finance sector and 23% want to work in IT sector. Bayet research also shows that in the GCC, workers say several reasons why they want to change jobs. 56% of them would change their jobs if they get higher wage. 52% of them are looking for better

career progression. 30% of the GCC workers think that the improved of working environment and increased job security would make them change their current jobs (Ministry of Commerce and Industry, 2009).

6.2. Applying Performance Measurement concept on NIS

The concept of Performance Measures may be new to many Performing Organizations in Saudi Arabia. If the Performance Measures do not exist as a tool in the NIS, a Project Manager of NIS may want to develop a system to prove the effectiveness of such as huge project like this. In so doing, the Project Manager might also contribute to process improvements within the NIS implementation.

Project Managers should consider the following to ensure that project match with the Performing Organization's mission and strategy:

- 1- Does the project have a mission and strategic plan?
- 2- Is it clearly expressed?
- 3- Does the team how is responsible about implement the strategy understand how its activities contribute to mission success?
- 4- Does understanding of the mission extend vertically throughout the organization?
- 5- Are the measures of success focused (at least in part) on outcomes?
- 6- Are the measures related to the mission and goals as reflected in the strategic plan?
- 7- Are the performance data dependable?
- 8- Are Performance Measures used to influence and/or inform resource allocation decisions?

9- Is there any relationship between organizational performance and individual or group incentives to contribute to organizational performance (NYS Project Management Guidebook, n.d.).

We can define the Performance Measurement (PM) as the regular systematic collection, analysis and reporting of data that tracks resources used, work produced and whether specific outcomes were achieved. Performance Measurements provide a mechanism for the organization to manage its financial and non-financial performance. Accountability is increased and enhanced, ensuring that projects support the organizational strategy, and that better services and greater satisfaction are provided to the Customer. Performance that is measured and reported will improve (NYS Project Management Guidebook, n.d.).

There is a strong relationship between strategic planning and performance measurement. Every project has to have a vision and from this vision, we can determine the major goals an organization wants to achieve. Objectives of any project have to be derived from the general goals of a project. After that, we have to measure the performance of goals and objective by establishing an appropriate Performance measurement tool.

If we have performance measurement without strategic planning, we know how fast we are going, but we do not know whether we are going in the right direction. If we have strategic planning without performance measurement, we know we are going in the right direction, but we do not know whether we are getting there(Performance Measurement Team, 2006).

Performances measures help translate an organization's mission, vision and strategy into real objectives. Sometimes it helps to ask yourself what is the worst thing that would happen in your service do not exist (Performance Measurement Team, 2006).

Performance indicators should be quantifiable, measurable, relevant, understandable, timely, consistent, comparable and reliable. Also, it should contain the different type of indicators such as input, output, and efficiency (Performance Measurement Team, 2006).

Here is a brief explain of each type of indicators with related examples to NIS:

Input Indicators

The measurement of resources that are used to produce an output (Performance Measurement Team, 2006).

Example: Let us take the number of Saudi works in Manufacture of food products and beverages as an example to measure the performance of the input data. This number, which has been taken from the Operational Industrial Projects System (OIPS), is equal to 103,027 workers. This number has to be quantifiable, measurable, relevant, and understandable.

Output Indicators

The measurement of quantity of units produced. It is typically under managerial control (Performance Measurement Team, 2006).

Example: Let us build on the example that I mentioned in the Input indicator. According to the NIS goal which focuses on the Saudi industrial labor force, the number of Saudi workers has to increase 15% in comparison with the number of laborers in 2010. That means the number of Saudi workers should be $(103,027 \times 15\%)$ **118,481** Saudi laborers in 2020 by increasing 15,454 workers during ten years. To be more specific, we have to create 1,545 jobs each year. That means we should have 130 new jobs each month in all the industrial sectors in Saudi Arabia.

Here, we can measure the performance monthly which lead to more and more control of the objectives we want to reach.

A question may be raised when seeing this number of jobs creation in Food industry sector: is it reasonable number? In order to answer the question, we have to take a look to the past data to see the growth of jobs creations for each year to determine if we can reach the goal or not. Unfortunately, this kind of information is not available right now. Therefore, we have to deal with other sources to figure out if this number is reasonable or not. According to table 4, the annual growth of Food industry is 11.4% during the period (1992-2010). In addition to that, NIS has assigned \$1200 million for human resources development and industrial skill systems and according to table 1, the Food industry represents 19% of total employment in the operating factories. That means, Food industry will take \$228 million of the human resources development budget. Based on the growth percentage and human development budget, I can say that 15% of increasing in the manpower in Food industry can be reached by the end of 2020 if the NIS for the Food industry goes as the plan.

6.3. Studying the goals and challenges that facing Saudi's industries

As mentioned in chapter four, Saudi's industries face a lot of challenges which were determined by experts. They build their expectation of challenges on the current problems facing Saudi's economy and also on the ability of industry sectors to reach with the goals that have been set by NIS strategy. In my future work, I will study the possibility of achieving the goals and if they are realistic or not based on the given information (input) that Saudi Industries have.

Conclusion

To summer up, this project went into several topics that related to Saudi Arabian's industry. It tried to discuss the current situation of the Saudi industry and determined the strength and weaknesses of it. Also, the project went through the Saudi Industry competitiveness and production efficiency and how to come up with things that would upgrade the competitiveness of Saudi's industry. National Industrial Strathy (NIS) until 2020 for Saudi Arabia and its main Objectives and axes has been covered in this report with some details. This paper went to discuss the future challenges that may face Saudi industries and how to protect it. Finally, this report suggests some ways to measure the performance of implementation of NIS.

The lesson that learned from this project is to not extend the area that the project supposed to study. In addition to that, we have to focus on a specific industry sector and also focus on a specific problems in this sector which selected in order to control the its information and come up with good results.

References

Bayt.com. (2009, November 24). Current workforce characteristics of manufacturing sector.

Retrieved from <http://www.bayt.com/>

Fitch and Plevin. (2012, April 27). Gulf splurges on home improvement. Wall Street Journal.

Retrieved from [http://blogs.wsj.com/developments/2012/04/27/real-estate-news-gulf-splurges-on-home-improvement/?KEYWORDS=gulf splurges on home improvement](http://blogs.wsj.com/developments/2012/04/27/real-estate-news-gulf-splurges-on-home-improvement/?KEYWORDS=gulf%20splurges%20on%20home%20improvement)

Operational Industrial Projects System (2011). Industrial development in Saudi Arabia .

Retrieved from Ministry of economy and planning website: <http://www.mep.gov.sa/>

Ministry of Economy & Planning. (2011). Progress in industrial exports. Retrieved from Central

Department of Statistics & Information website: <http://www.mep.gov.sa/>

Ministry of commerce and industry. (2009). National industry strategy (nis). Retrieved from

Ministry of commerce and industry website:

<http://beta.mci.gov.sa/English/Pages/default.aspx>

Ministry of Commerce and Industry National Industrial Strategy. (2009). Axis five- human resource and industrial skills. Riyadh: Ministry of Commerce and Industry.

NYS Project Management Guidebook. (n.d.). Performance measures. Retrieved from

<http://www.cio.ny.gov/pmmp/guidebook2/Performance.pdf>

Performance Measurement Team. Department of Management & Budget, (2006). Fairfax county's performance measurement system. Retrieved from website:

http://www.fairfaxcounty.gov/dmb/performance_measurement

Saudi Industrial Development Fund. (2011). Industrial development in Saudi Arabia . Retrieved

from <http://www.sidf.gov.sa/en/Pages/default.aspx>

SAMA. (2009). Annual report (46). Retrieved from Saudi Arabian Monetary Agency website:

<http://www.sama.gov.sa/sites/SAMAEN/Pages/Home.aspx>

Saudi Industrial Property Authority (Modon). (2009). Industrial development in Saudi Arabia.

Retrieved from (Saudi Industrial Property Authority (Modon) website:

<http://www.modon.gov.sa/English/Pages/default.aspx>

The World Fact Book. (2012). Saudi Arabia. Retrieved from

<https://www.cia.gov/library/publications/the-world-factbook/geos/sa.html>

Wikipedia. (2012). Saudi Arabia. Retrieved from http://en.wikipedia.org/wiki/Saudi_Arabia