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Productivity Improvement and Strategies for State Owned Enterprises

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Abstract

Extensive government control over industrial and service sectors show it could not overcome the increasing misuse of public resources, raising debts, lack of improvement in operation efficiency and mismanagement. Numerous productivity programs could be a key to improve performances.

In present article a case of productivity program in one of State Owned Enterprises (SOEs) namely Isfahan Steel Mill Company (ISMC) was identified, then conditions and factors that enhanced its performance through a productivity plan was studied. Then productivity plan consisting of external and internal environment, productivity program, and its performance was looked into. In order to gather information the author relied on secondary data sources and interviews with key Human Resource Management personnel in ISMC.

The result showed Human Resource Balancing Plan in productivity program at ISMC was affected positively by government as an external factor and also the program was affected positively by newly wage and salary systems. During a period of 7 years 18,207 employees optionally left the ISMC decreasing employees from 31,684 to 13,477 and production rose from 600,000 tons annually to 1.9 million tons per year.

At the end with an analysis based on Yu's internal and Daft external factors a number of strategies are recommended for enhancing Public Sector Undertakings (PSUs) productivity.

Keywords: SOEs, Productivity Improvement, Strategies, Productivity Programs.

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1- Introduction

A review of public sectors literature in most developing countries reveals disappointing performances. Generally, they are unacceptably large, inefficient and offer poor quality services. They consist of production and service industries such as railroad, water, electricity, radio and television, steel, hospital, textile, airline, refinery, tobacco and automobile sectors. Given the often political and ideological reasons behind the establishment of public sector, economic performance is not always the overriding concern (Ayub & Hegsted, 1986; Dom Berger & Piggot, 1986; Ehsan, 1993). Privatization is introduced as a means of overcoming public sector problems. By transferring the ownership and management of state-owned economic enterprises (SOEs) to the private sector, economic restructuring is aimed due to government difficulties regarding complexities of management and operations (Ehsan, 1993).

2-State-Owned Enterprises in Iran

The extent of government involvement in economics has always been a main subject of discussion among classical economists such as Adam Smith (1914) and David Ricardo. (1951-1973).They never denied the role of government in economics, but believed that state involvement must be very little and limited. This notion, overwhelmingly ruled throughout the first and second decades of the 20th century, and many economic policies originated from this concept. After World War I and the great depression of 1929-33, there was a second thought on the effect of policies based on classical economic concepts. At that time, there was state involvement in all economic sectors. By the end of World War II, government involvement in leading economic activities and growth in countries entangled in the war gained prominence. Based on new economic development theories, it was

Years before the 1979 Revolution, numerous problems and lack of success of SOEs in achieving their goals were evident necessary for the government of developing countries to get involved seriously and get a larger share of duties from economic activities. Consequently, in developing countries, many activities came under government direct control. In the 1960s and 70s, state sectors in these countries developed tremendously.*

One of the important instruments of government involvement in economic activities is establishing economic enterprises controlled by the government. In many countries, numerous enterprises with different goals and functions were established and grew very fast, but the unsuccessful performance of government activities in general, and the activities of state enterprises in particular, made policymakers launch a vast effort to limit state role. The international trend was such that state role was limited and private sector became more active. Privatization of SOEs became a main strategy for developing countries, since international financial institutions such as the World Bank and International Monetary Fund (IMF) also promoted the same policies. Iran, as a developing country, had SOE activities that went back more than a half century. After World War I, numerous SOEs like Iran Railroad Company and Iran Carpet Company were established. In the 1970s, an increase in oil revenues led to a fast growth in SOEs. State investment in SOEs increased and the government preferred to interfere in economic activities through SOEs. Unsuccessful privatization of SOEs in Iran goes back to the second and third 5-year plans (1962-1972) of the pre-revolution era. Privatization was one of the principles of the White Revolution during the Shah's reign. At that time, the shares of 33 SOEs, comprising 40% of the forecasted figure, were ceded to the private sector.

After the revolution, these entities cropped up much faster. With the establishment of the Islamic Republic, a large number of industrialists left the country and the newly established government took control of factories. The new administration boosted its participation in social and economic activities while privatization was not emphasized. Centralization and cooperation were the order of the day. At the beginning of the 1980s, state ownership was enlarged and signs of inefficiency were becoming more and more apparent. Experts proposed privatization as one of the ways for overcoming inefficiency. However, during the 1980s, because of the Iran-Iraq War and the need for government control over production and distribution of basic goods and services controlling the prices were crucial. Although privatization did not become a powerful policy of state-owned enterprises to upgrade their performances, a small number of SOEs were handed over to the private sector. After the war and preparation of the First 5-Year Economic Development Plan (1989-94), economic liberalization, structural improvement and privatization of state-owned enterprises topped government policies. A list of 391 companies affiliated to

different ministries was handed over to the private sector. Since then, privatization policy and its implementation have gone through numerous changes.

While the political will of pre-revolutionary Iranian government was to promote private enterprises, the government's role in economic activities increased extensively after the revolution. A large number of companies were rapidly nationalized and most of them came under the control of different foundations with a very limited experience of managing large production and service units. After a decade of control, it was clear that the majority of these SOEs could not achieve their pre-revolutionary production levels. This was largely due to lack of financial and management control systems, absence of precise goals and criteria to monitor performance, paucity of incentives for employees based on their performance, inadequate accounting practices and lack of systematic appointments of key personnel (Ehsan, 1993).

3-Problems Facing Privatization

A look at legal trends and performance of privatization policy from the beginning shows scant government achievement. Perhaps we could say that lack of attention to private sectors in terms of funds and management capability, private sector attitude toward government, weaknesses of laws and regulations, conditions of privatization and economic structures have been the main factors behind the government's failure in achieving its privatization goals. A brief discussion of problems faced by the government with regard to privatization is presented here:

1) Legal Dimension: Privatization in Iran followed under government control over SOEs on the one hand, and privatization trend in developing countries during the 1980s and the early 1990s on the other hand. The policy was not implemented in Iran on the basis of a formal written law for privatization, but rather on the bases of the post-revolution's First Plan and legalization of changes in ministry approvals during a short period of time and in lack of legal aspects of privatization.
2) Implementation Dimension: Factors such as socioeconomic goals of the government's involvement, the degree of particular facilities to which the SOEs are entitled, financial market structure, potentials of private sector and

the degree of ownership and state control over SOEs affect the success or failure of privatization. The privatization process in its implementation dimension faced serious difficulties because of political and economic problems. Macroeconomic problems such as unclear economic policies have harmed the economic activities of private sector. Political problems of privatization on employment and on other interested groups are other difficulties. Structural problems of SOEs, which were on the government list for privatization, were such that their structures were not healthy and lacked feasibility. Therefore, they were not attractive to the private sector and there was poor demand for them. In fact, there was insufficient information on whether or not the SOEs could stand on their own feet without government assistance.

Other factors that facilitate the process of SOEs privatization are precise and prompt information regarding general savings and rate of return on investments, organizational problems, money and investment markets, legal problems and weaknesses of information systems. Beside above factors one of the main elements of unsuccessful implementation of privatization is the lack of a supportive supervision umbrella because of imprecise planning. No organizational unit was named as responsible for supervising SOEs performance. Since there was no written quantitative and qualitative goals and definite schedule for carrying out the privatization policy, also evaluation of such a policy was largely impossible.

An evaluation of privatization and its effect on efficiency shows that after the transfer of ownership, the degree of efficiency increases and its positive effects on production, revenues and manpower efficiency become visible. This shows that improved performance did not result from privatization but rather from productivity programs and other changes. What can be derived from preliminary research is that precise and reliable results regarding privatization are not available and could not be researched since it takes place when both ownership and management are transferred to the private sector. In Iran, usually most of the shares of SOEs are bought by other government sectors and banks. The Iranian government is presently not pursuing total privatization or total control over SOEs, because historical experiences of the Soviet Union showed that such a policy did not bear a fruitful result. Moreover, privatization does not comply with Islamic philosophy, but rather with a mixed economy where the

government, cooperatives and private sectors coexist and each contributes to the country's progress.

4-Research Methodology

The research methodology is case study approach, which implies a detailed in-depth observation of a subject over an extended period of time. The objective is to discover and analyze every aspect of the issues under investigation. Through this approach, the author intends to identify a productivity program in a manufacturing industry and by a detailed in-depth study find the reasons behind the successes of that program. This is because the main focus of the survey is to discern ways and means of achieving higher productivity and excellence in SOEs (Yu, 1998).

A case of productivity program from Isfahan Steel Mill Company (ISMC) was identified. Then it was studied to identify and explain the conditions and factors that enhanced its performance.

For this purpose, four separate parts of productivity program, consisting of external environment, internal environment, productivity program and its performance were looked into. In order to gather information, two common means of data gathering (i.e., secondary data sources and interview) were used. For background information and data, the author had relied on the archives of ISMC and information was gathered from sources such as formal reports, electronic media, related files and other existing documents.

At the same time, the main body of information was collected by interviewing experts and knowledgeable officials in the company. To conduct each interview, a list of at least 19 preliminary questions, as interview guideline questions, was prepared and experts were informed of the interview's objectives. During each interview, the content of the list of do's and don'ts suggested by Jamshidian (Yu, 1998) was considered. Each expert was interviewed by this procedure. In the case, more than a few sessions were needed to gather information among the interviewed experts, few names remain anonymous, but the full names and positions of others are mentioned where needed. The company's name is not fictitious; rather the real name is expressed while analyzing and discussing productivity program.

5-Isfahan Steel Mill Company

The Isfahan Steel Mill (ISMC), located 45 kilometers southwest of Isfahan city. It is the first and one of the largest steel manufacturing plants in Iran. It is a totally state-owned enterprise and its ownership has not changed through the country's ups and downs. The agreement to establish ISMC was concluded within the framework of a technical and economic cooperation protocol between Iran and the Soviet Union in January 1966. According to the protocol the Iranian government agreed to transfer natural gas to the Soviet Union for a period of 12 years at no charge against the transfer of Russian technology and consultancy to build the aforementioned plant. Production of pig iron and structural steel began in 1971 with an annual capacity of 600,000 metric tons, in 1972. At present, ISMC steel products are classified into structural and high-grade low-alloy steels. These are hot-rolled into different sections such as billets, plain or deformed round bars, angles, beams and channels. Steel production involves the oxidization of pig iron extracted from blast furnace into melted steel through LD continuous casting machines after going through the refinery process and physical chemical homogenization.

Since 1972 ISMC has increased its production by implementing a development plan leading to an annual production of 1.9 million tons, and increased its nominal capacity to 2.4 metric tons through revamping plans (Qazeeyeh Zobe Ahan, 1996). Presently, its production technology is old and labor-intensive. Before the revolution in 1979, ISMC had 33,000 personnel with an approximate production of 600,000 metric tons. From 1979 through 1989, a number of personnel left the company for a number of reasons. By the end of 1990, the company had a large workforce with no motivation to work. In 1990, a new CEO was appointed and one of his programs was to reduce the number of personnel by privatization. ISMC implemented a privatization program in the same year to decrease the volume of managerial work. Under this program, certain ISMC activities were handed over to a newly established company by ISMC workers called Tekado. It was responsible for furnishing general services to ISMC with a totally independent management. Some ISMC workers left the company and joined Tekado.

Up to 1990, ISMC relatively had a large number of personnel with low production. There were many reasons behind its low production. The government was providing finances for the company and the management was

not too concerned about productivity or human resources. The company's personnel were also not too motivated to increase production because of many factors. These included low salary, meager annual salary increase, poor fringe benefits, especially for technicians and engineers, lack of' job security, decline in traveling opportunities, reduction in loan payments, continuous changes in rules and regulations for receiving houses and a decline in cash rewards. These internal elements reduced personnel motivation and there were no plans to improve the situation. Some employees were leaving ISMC, including those who were trained as technicians and engineers, while a relatively large number of unskilled workers with no other job opportunities remained in the plant.

Other external factors also triggered skilled employees to leave the company. These factors included higher wages in the labor market, low social prestige for ISMC personnel compared to other companies and higher fringe benefits in other companies. All aforementioned factors were effective in the ISMC personnel's departure before 1990. Observation showed that those leaving the work belonged to either of the following two groups: some near their retirement time who had positive experience and were interested in leaving the company. But the management did not agree either with their retirement nor offering any extra fringe benefit to raise their salaries. This group was pressurizing the management to agree with their retirement. The second group highly skilled personnel with high regional demand for their expertise. This group also sought retirement, but the management was not agreeable because it needed their skills. This group, however, left the company without receiving any cash or non-cash benefits.

Before 1990, a relatively large number of employees left ISMC and thus the workforce was reduced to 31,684 by the end of 1990. By this time, the remaining personnel did not have any motivation to stay and work for higher production. In 1990, a new CEO was appointed, an engineer with a number of years of working experience in steel industries abroad, who was fully aware of human resource potentials. He also was familiar with strategic planning and management. The first move of the new CEO was to sign a contract with Japan's Nippon Steel Company to evaluate ISMC's condition and pinpoint its capability, weaknesses, limitations and potentials. Nippon suggested four strategies to which ISMC added one as base to change the entire company and make it productive. These strategies were as follows: 1) Change the physical and

management structures of the company; 2) Increase production to reach the optimal capacity; 3) Make the production feasible by decreasing the costs; 4) Design and build the factory; and 5) Expand steel mills for internal and external markets. One of the ways of making steel production viable was to decrease the number of personnel. By 1990, ISMC had 31,684 employees, a number which was very high in comparison with similar factories.

6- Productivity Program

The new CEO and the Human Resource Management Department designed a program called "Human Resource Balancing Plan" (HRBP). The management surveyed the number of man/hour needed to produce one ton of steel. A study of similar plants in Bangladesh and India showed that for each ton of steel production 10 man / hour are needed and the existing ratio exceeded the defined rate. Therefore, the ISMC management decided to reduce workforce to reach the man/hour rate of 10. The HRBP was designed to allow the employees the options of early retirement, retirement, termination or transfer the above index.

Early retirement and termination under particular conditions bonded the employee and the ISMC. Any employee interested in retirement was to agree with and meet the following conditions and regulations: A) Having at least 15 years of valid work for retirement; B) ISMC offers a 5-year allowance and pays all retirement deductions to government; C) For each year of service, ISMC pays one month's salary and fringe benefits; D) Employees who work on a daily basis and those who had under 15 years of experience would receive two months' salary with fringe benefits on the basis of the last payment for each year of service.

All employees, who agreed to the HRBP, have the option of receiving cash or ISMC products. The amount would be no less than six tons and no more than 12 tons at the government price rate. The HRBP, which was totally optional, motivated a large number of employees to go for early retirement or termination and enjoy its benefits. In seven years, a large number of employees were laid off without any hardship on them or ISMC. The following table shows the reduction of employees under the HRBP.

Table 1: Trend of Personnel Reduction in ISMC, 1990-96

Year	1990	1991	1992	1993	1994	1995	1996	Total
No.	136	4622	2809	320	2530	5512	2278	18207

Source: (ISMC Human Resource Office, 1998).

The number of personnel reduction reached 18,207 by end of 1996 under the HRBP. That is from 31,684 to 13,477 at the beginning of 1997. This reduction is shown in table 2 on the basis of functional units.

Table 2: HRBP by Departments, 1990-96

CEO office	Planning Office	Production	Economic Finance	Purchase Dept.	Sales Dept.	HRM dept.	Operation Dept.		Total
583	163	9418	596	200	268	2179	4132	668	18207

Source: (ISMC Human Resource Office, 1998)

The personnel reduction meant an increase in output per man hour and a cost reduction. Meanwhile, ISMC planned to launch an extensive an educational program furnishing on-the-job training for the remaining work force that stayed to continue the work. The training program was so designed that if some one left his job, the other fellow-workers had to pick up his work. During 1990-96, almost everyone was trained 3.75 times on average. The main reason for such training was the retirement of co-workers without replacement. In order to do so, their jobs had to be redesigned or restructured and they were to receive new training for the new jobs. In this connection, the Human Resource Department defined the new job assignments and also trained them for their new jobs (Fatemi, 1998). One interesting factor, which made the co-workers accept to the retiree work, was that the company agreed to pay the retirees' wages to those workers who agreed to take over the duties of the retirees. This meant an increase in salaries of those staying and doing the extra work. This was apart from the annual increase, which covered all the employees. Table 3 shows the number of employees who received on-the-job training from 1990 to 1996.

Table 3: Number of Employee Who Received Training

Year	1990	1991	1992	1993	1994	1995	1996	Total
No.	3487	4526	9890	10072	7975	7610	11597	55157

Source: (ISMC Educational Office, 1998)

One of the external factors, which facilitated implementation of the plan, was government permission, granted to ISMC by High Committee of Iran National Steel Company. Although a similar permission was given to the previous CEO, he was not successful in motivating the employees to accept the retirement plan on their own will (Dehqani, 1998).

7- HRBP and Productivity

The plan on balancing human resources and the plan for imparting regular training caused an increase in productivity and better performance. There were also other indirect results from the HRBP. Concisely, the indirect results could be categorized as follows: 1) An increase of useful work hours from 3 to 8; 2) An increase of employee income.3) A delegation of authority to supervisors on rewarding and punishing employees 4) Design and implementation of a reward system; 5) Motivating the employee for research and continuous study; 6) A reduction on wastage, repairs and accidents; 7) Boosting production; 8) Establishing job security; 9) Facilitating management trips inside and outside the country; 10) Promoting an industrial culture in the plant. The productivity program "Human Resource Balancing Plan" was designed so that. When the program was announced, employees were gradually attracted to the program and no major obstacle was observed. Both ISMC and employees emerged from this program as winners. The program led to improved performance and made production more feasible.

8-Critical Factors

Generally, state-owned enterprises are not active in placid or clustered environments, but rather in very reactive internal and external environments. Environmental forces are so numerous and complex that the life and growth of SOEs are constantly endangered. Richard Daft (1982) classifies the external

forces influencing an enterprise as industry, raw materials, human resources, financial resources, market, technology, economy, government, socio-cultural factors, and international market. According to Daft, each of these ten sectors is made of elements that can potentially have an impact on enterprises. Those sectors which are especially important for an enterprise and have far more impact than the others should be watched closely. At the same time, the internal environment of a SOE is also important to take into consideration. Factors such as organizational culture, communications, structures, objectives, leadership, salary, and fringe benefits and others could affect the management programs and its end results. In order to recognize the factors that influenced HRBP under study, the author has identified the external factors influencing the productivity program of ISMC according to Richard Daft's classification. On such base a question was raised. Which sectors have the most significant effect and which element has had the most effect and why?

Table 4 features the main product, productivity program, internal and external factors, and the results of productivity program. A scale ranging from low, relatively low, average, relatively high and high is used to show the degree of success of the program.

Table 4: Factors Affecting Productivity Program in the SOE

Item	SOE	Product	Productivity Program	Environmental factors		Result in Performance
				Internal	External	
1	ISMC	Steel	HRBP	Reward system/Government		High

Source: (Extracted from research process)

Based on the author's findings, the external critical factors in the project are the role of government, raw materials, competitors, finance, international forces, technology, market and economic conditions. As far as internal critical factors are concerned, we could categories them as reward system, resistance to change, lack of coordination, revenue, personnel, quality control, salary system, older technology and constant management changes.

9- Analysis of External Factors

One major sector, namely government was the most effective external factor that influenced the productivity program under study. Other sectors such as financial resources, and economic conditions also played an effective role, but not as effective as government.

Table 5: Major Internal and External Success Factors

Item	Internal	External
1	Suitable wage and salary system	Government
2	Skilled personnel	Market
3	Coordination	Economic conditions
4	Flexibility	-
5	Suitable reward system	-

Source: (Extracted from research process)

10-Conclusions and Recommendations

The roots of nonproductive economy can be traced to many factors. These factors could be external or internal forces, ranging from international to totally national, state or local ones. They influence the economy and its end results. State-owned enterprises or SOEs as a country's economic subsystem and one of the pivotal forces of economic growth are also affected by these factors. In order to know the most notable factors influencing their productivity, SOEs should be analyzed in the context of international and national economy as well as different dimensions to get a clear picture of them as well as the obstacles facing them. In this paper, the author used Yu's model and Richard Daft's concept of external sectors affecting ISMC Human Resource Balancing Plan as a productivity program.

Immediately after the 1979 Revolution, a large number of private enterprises were nationalized and since then the size of public sector undertakings (PSUs) continue to expand. Beside public utilities and natural resources, large manufacturing sectors became the pivotal force of economic growth. During the post-revolutionary First Plan up to the beginning of the Second Plan, positive changes occurred in the Iranian industries. Investments

were made in the manufacturing sector and about 9,600 industrial projects became operational. However, around 8,500 other projects were still incomplete. During this period, 25,000 new direct jobs were created which, inclusive of indirect jobs, would represent a considerable move. As a result, the country's industrial exports in 1997

Reached to 12 times more than the beginning of the First Plan. The share of Iranian Industries reached 16 percent in 1997, far more short of the desirable 25-30 percent share expected of manufacturing sector. The world economy in the future would be an economy with free interrelations. Therefore the creation of a productive Iranian economy requires the following steps.

1- At present, the country's share of investment in gross national product (GNP) is about 17 percent and the industry's share in such an investment grew from 10 percent at the beginning of the First Plan to 17 percent in 1997. There is still room for higher figures, since one important factor that could bring about continuous growth is maintaining a high level of investment. If the projected economic growth is to be reached, it is necessary to have a share of 30-35 percent investment in GNP, and the same for industrial investment. To reach a satisfactory rate of growth in economy and industry, a high rate of investment should be attracted from internal and external sources. Therefore, attention must be paid to investment from domestic and foreign sources. Otherwise, reaching an optimum growth would be almost impossible. It must also be noted that the country's advantages of cheap energy, potential human resources, abundant natural resources and vast market are attractive to bring foreign investment into Iran. Human resources are bottlenecks that could be the main obstacles to faster growth of the industrial sector. Therefore, industrial policies must support these two inter-related factors: Without human resource development, the growth and technology development are impossible, and without attracting and developing technology there is no expectation for achieving higher levels of human development. Attention must be paid to these two factors simultaneously.

2- Improving the level of technology and development of Was 12 times more than at the beginning of the First Plan. The share of Iranian industries reached 16 percent in 1997, far short of the desirable 25-30 percent share expected of the manufacturing sector. The world economy in the future

would be an economy without any boundaries. As the information technology industry has eliminated information boundaries, international economic trends will obliterate economic boundaries. Therefore, the creation of a productive Iranian economy requires the following steps:

3- Research and development (R&D) is a dynamic factor in industries. Attention must be focused on fundamental and applied research in order to keep it dynamic. If an industry is not connected with R&D, it will remain static as its machinery and equipment become obsolete.

4- Engineering Services (ES) has not found its status in Iranian industries yet. ES starts with improving and optimizing production lines, upgrading machinery and equipment, improving capability, designing new products, transferring and improving technology, selecting products with high value-added, decreasing wastage, observing environmental regulations and standards, promoting product quality, training skilled personnel, enhancing productivity and improving management. Since ES plays a major role in increasing the capability of industrial sector, it is necessary to pay sufficient attention to it.

5- Marketing is another factor that has been ignored in Iranians industries. Apart from domestic markets, industrial production should also focus on international markets. Statistics show that in the last two decades the value of world export has increased twice from 10 percent to 20 percent of total value of international products. At the same time, the trade share in the world gross national product (WGNP) of the developed world has increased from 33 percent in mid-1980 to 43 percent in 1995. Accordingly, the share of imports of the developing countries from the industrial countries increased from 20% to 25%. At present, the share of Iranian exports of the world trade is not significant. Non-oil export in 1997 stood at $3.2 billion, which is less than 20 percent of the country's total export.

Also, industrial export, with $1.7 billion, is about 50 percent of non-oil export, which in comparison with the newly industrialized countries is a very low. The industrial sector must be the main exporter of the country. If there is no increase in industrial production and no competitiveness, then the country cannot expand its industrial exports. Beside quality, price and diversity of

products must be considered for increasing exportation. If the other organizational obstacles were removed, industrial exports would increase.

Having a clear export strategy, setting short-term plans in line with the country's competitive advantages, having a specialized export organization, establishing and supporting export management organization, selecting appropriate markets, creating markets and also promoting the export activities of professionals will make industrial sector more active and prosperous. Finally, to improve Iran's industrial status vis-à-vis the new international and economic conditions, new strategies are needed to change the country's industrial structure, increase competitiveness in the international trade arena and boost production and exports to increase the value-added of industrial sector.

Footnotes

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