PRODUCTIONAL ACTIVENESS
OF INDUSTRIAL WORKERS (1960-1985)

K. Taichikova

Abstract

The article deals with the development of productional activeness of workers in chemical industry of Kazakhstan in the beginning and peak of economic stagnation in the country. The chemical industry was one of the leading industries of the republic in 60-80-s. There was a strong resource base for its development. The chemical industry was growing not only in quantity, significant qualitative changes had place, which promoted to revelation of potential of workers in the field of production management, participation in scientific and technical creativity and as result reducing sphere of low-skilled, unattractive labor.

Keywords: Development of equipment and technologies, economical analysis, economic councils, creative brigades, innovators, bureaus of technical information, implementation, rationalizers, activeness of workers.

The most important form of productional activeness of workers was their participation in managing the production process within enterprise. From vast and complex of questions regarding participation of workers in management, we will consider main forms of their participation in this sphere of work.

In the framework of labor collective participation in management was expressed in many different forms. There were various nonprofit organizations through which workers could actively participate in management of the enterprise.

However, as we imagine it, the main indicator of activeness is not the number of different organizations on management where workers participated. But the most important thing is in their regular and everyday participation in management, deep penetration in understanding of socio-economic processes, in decision making and achieving of results.

From the point of influence of independent associations on development of an enterprise, we can define the following main groups of their activity:

1. Economical analysis, investigation and direct involvement in organization of labor and production (Public Bureau of Economic Analysis (PBEA), public bureau of normalization (PBN), economic councils, etc.

2. Development of equipment and technologies, improvement of labor conditions, and promotion of corporate culture (public construction bureaus and technological bureaus (PCB, PTB), creative brigades, primary organizations STS, public bureaus on corporate culture and others.

3. Strengthening of labor discipline and ensuring constant membership of staff (public human resources, comrade’s court and etc.)

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1Kulyaikhan Taichikova, Candidate of Historical Sciences, associate professor, chair of “International Relations” department of International Educational Corporation, Almaty, Kazakhstan.
4. Generalization and spreading of advanced experience and training of workers (public bureaus of technical information (PBTI), councils on working with young members of staff, councils of experts, councils of innovators and others).

5. Public bodies, which consider production and technical, as well as economic issues of enterprise performance (technical and economic councils, etc.).

Numerous and different in activities these organizations were effective forms of involvement of staff members in development and introduction to enterprise new technologies, improvement of organization of labor process, which led to growth of productivity. Through the combination of different forms of self-activity and creative activity the workers could influence the management of an enterprise – improve labor organization, economic work, eliminate loss of working hours and etc.

Scientific and technical society (STS) and All-Union Society of Inventors and Efficiency Experts played an important role in attraction of workers to management issues, connected to acceleration of scientific and technical progress.

Due to higher cultural and technical level, the workers could make more competent and technically reasonable proposals, as seen in growth of economic efficiency of implemented propositions.

<table>
<thead>
<tr>
<th>Dynamics of number of rationalizers and implemented propositions [1]:</th>
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<tbody>
<tr>
<td></td>
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<tr>
<td>Number of rationalizers</td>
</tr>
<tr>
<td>Received propositions</td>
</tr>
<tr>
<td>Implemented propositions</td>
</tr>
<tr>
<td>Amount of notional annual savings (thousand of rubles)</td>
</tr>
</tbody>
</table>

Indicative for development of technical creativity in this area was also increasing number of rationalizers and implemented rationalization propositions and inventions. For example, at such major enterprises of chemical industry of Kazakhstan as Karagandy synthetic rubber plant, “Karatau” every fifth, at Dzhambul superphosphate plant every eighth, at Chimkent production association “Phosphorus” every ninth worker were rationalizers.

The data of sociological survey, conducted in the industry in 1983, showed that the rationalizers were 23, 8% of workers [2], i.e. almost one in four.

Technical creativity of workers were connected with decisions of such important issues as mechanization and automation of production processes, ensuring the reliability and durability of the products, improving production processes and facilitation of working conditions. For example, at Karaganda synthetic rubber plant the reconstruction of 16 retort furnace into 32 retort allowed to increase the removal of the contact with the gas furnace by 60% and achieve economies of alcohol by 2.5% more additional selection of higher alcohols from the rectification column alcohol-aqueous aldehyde allowed to save 5.4 tones of butyl alcohol and 7.6 m. ethyl alcohol, etc. [3] There was also an essential change in the nature of innovative proposals. If in 60-
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...they were mainly aimed at saving raw materials, in the 80-s the dominant importance was given to proposals aimed at improving the material foundations of production based on the use of science and technology, respectively, the economic benefit of implemented proposals increased. At Karagandy synthetic rubber plant the economic effect from implemented innovations in 1965 was 361 thousands rubles, in 1970 – 424,8, in 1975 – 618,6 [4]. During the years of the eleventh five-year plan in the chemical industry of Dzambul on implementation of the proposed economic effect reached 32.5 million rubles [5]; during 3.5 years of the eleventh five-year plan in Chimkent Production Association "Phosphorus" 2430 rationalization proposals were developed and used, with 23 inventions and their economic effect of 6 million 284 thousand rubles [6].

Certainly a big role in technical creativity work was played by factors such as qualification, experience, education and others. The materials of sociological survey showed that all rationalizers were classified as skilled and highly skilled workers.

Distribution of workers, depending on their participation in the movement of rationalizers and inventors and their qualifications (%) [7]

<table>
<thead>
<tr>
<th>Rationalizers and inventors</th>
<th>Level of qualification</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>Low skilled</td>
</tr>
<tr>
<td>Yes</td>
<td>-</td>
</tr>
<tr>
<td>No</td>
<td>1,2</td>
</tr>
</tbody>
</table>

Distribution of workers, depending on their participation in the movement of rationalizers and inventors and their length of work (%) [8]

<table>
<thead>
<tr>
<th>Rationalizers and inventors</th>
<th>1 year or less</th>
<th>1-2 years</th>
<th>3-4 years</th>
<th>5 years</th>
<th>6-10 years</th>
<th>11-15 years</th>
<th>16-20 years</th>
<th>21 and more</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>-</td>
<td>-</td>
<td>0,3</td>
<td>0,3</td>
<td>4,76</td>
<td>6,55</td>
<td>5,36</td>
<td>6,55</td>
</tr>
<tr>
<td>No</td>
<td>0,6</td>
<td>1,5</td>
<td>6,55</td>
<td>6,25</td>
<td>23,2</td>
<td>15,8</td>
<td>11,0</td>
<td>11,3</td>
</tr>
</tbody>
</table>

A sociological survey revealed that an important factor in the technical creativity of the workers was their age [9].

Distribution of workers, depending on their participation in the movement of rationalize sand inventors and their age (%)
As we can see, the greatest level in all kinds of technical creativity is observed in workers aged 30 to 35 years – 8.04%, a very low rate of participation in innovation among workers in the age group 17-18; 19-20 years 0.3%. This is primarily due to the little production experience of young people. Also it is because of insufficient level of expert knowledge. The sharp increase in activity was observed in people aged 21-28 years – 5.65%. There are already showing the presence of a certain experience and technical knowledge, which created the objective conditions for greater involvement of this part of the young workers in technical creativity. For example, in the eleventh five-year plan at the Karaganda factory of rubber technical products rationalization proposals introduced in number 1038 with the economic effect of 2.1 million rubles, in this work 974 young innovators and inventors were actively involved [10]. At Karaganda factory of synthetic rubber in 1978 242 young workers took part in the rationalization, they developed more than 300 technical solutions, of which 297 were used in the production with the economic effect of 74.7 thousand rubles [11]. Offers of young rationalizers contributed to the improvement of production processes, product quality, and mechanization of labor-intensive processes.

The data of sociological surveys indicate that women are less active in rationalization than men. Total 4.4% (out of 100%) women took part in the rationalization, and the level of qualification of all the 4.4% fall into the category of highly skilled workers [12].

Distribution of workers, depending on their participation in the movement of rationalizers and gender (in %)

<table>
<thead>
<tr>
<th>Rationalizers</th>
<th>Man</th>
<th>Women</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>95,0</td>
<td>5,0</td>
</tr>
<tr>
<td>No</td>
<td>62,9</td>
<td>37,1</td>
</tr>
</tbody>
</table>

The studied period was characterized by the fact that the enterprises created new forms of training in order to raise the technical level of the workers. So, at the Shymkent Chemical-Pharmaceutical Plant to find reserves and increase of efficiency of production an institute of researchers was created. The researchers conducted long-term observation of the production process, analyzed performance and make recommendations for its improvement. Then, the recommendations were considered by the Board of Chemical Society of a plant together with All-Union Society of Inventors and Rationalizers which make decisions on their implementation. In 1978 from the implementation of the recommendations of the working researchers economic effect of 78 thousand rubles was obtained [13]. People’s University of technological progress and economic knowledge was created at Guryev Chemical Plant. There were four faculties – technological, economic, management and labor protection, where 200 people studied, 89 people from the university audience were rationalizers and inventors. In 1978 they filed and put into production 169 proposals and inventions with the economic effect of 555 thousand rubles [14]. From 1970 to 1977 the University of Technological Progress and economic knowledge worked in Aktyubinsk plant of chrome connections. Students at the University of Technological Progress and economic knowledge received more than 40 applications for the estimated inventions, of which 35 received certificates of authorship, including 15 inventions introduced into production with economic effect about 1mln. rubles [15].
ative was public design bureaus (PDB). They assisted rationalizers and inventors in the design and introduction of proposals, developed projects of mechanization of production, modernization of equipment, etc. In Shymkent the production association "Phosphorus", the bureau united workers of design department, department chief mechanic, production department, chief specialist of the association. Some of the projects were aimed at improving the technological process [16]. The public design bureaus of Shymkent Chemical-Pharmaceutical Plant helped greatly in the development of drawings, calculations and correct placement of equipment. They designed and assembled the scheme of improvement of light and heavy phases in manufacturing of cure [17].

The workers were involved in management of production through bureau and groups of economic analysis. Organizational forms of PBEA depended on the specifics, the specific operating conditions of the enterprise. PBEA united the workers, engineers, technicians, economists, who set a goal to enlarge production reserves and develop recommendations for improving the economic performance of the sites, shops, businesses as a whole. The main aim was to attract a wide range of factory public to a fuller and deeper analysis of the economy of the enterprise, to the identification of reserves and their inclusion in a counter-plan, all of which contributed to their successful implementation.

The main issues of the PBEA were investigation of the structure and placement of employees, analysis of the complexity, the effectiveness of technological methods, the study of the use of time, revealing losses of defects and other wasters and proposals aimed at the rational balance of team members, the introduction of advanced technology, the elimination of the loss of working time.

An important form of manifestation of initiative and independent engineering work and innovations was the scientific and technical societies (STS). One of the largest public groups in the chemical industry was the All-Union Chemical Society named after Mendeleev, which actively assisted in the implementation of new equipment, advanced technologies, scientific organization of labor.

Kazakh republican administration of AUCS named after D.I. Mendeleev conducted a number of conferences, the task of which was closely associated with the "main directions of development of the national economy of the USSR". For example, the question of "comprehensive utilization of phosphate slag for production of building materials were discussed at the scientific conference in February 1979. This issue was given great importance in view of the fact that enterprises of phosphoric industry formed a large number of toxins. It was therefore decided to expand the research, design and technological works in such important areas of use of phosphorous slag as cement and the local binding, concrete aggregate, mineral wool, glass-ceramic and other construction materials.

The Society introduced a certain number of events aimed at improving product quality. In 1977, 208 events were implemented, resulting in 14 kinds of chemical products been certified by the State Quality Mark. However, in subsequent years the number of such events was significantly reduced in 1978 – only 49; in 1979 – 158; in 1980 – 121, in 1981 – 117 [18].

An important form of practical participation of workers in management was permanent acting production conferences (PAPC). PAPC worked under
the direct leadership of trade unions. They carried out their activities in close cooperation and interaction with various public organizations and creative associations of workers operating in the field. Unlike other non-governmental organizations, whose competence included only one definite problem, PAPC were comprehensive bodies involved, without exception, all industrial and economic problems of enterprises and organizations. In the chemical and petrochemical industry of Kazakhstan at the end of 1984 the number of PAPC was 126 and two council of representatives of PAPC in production units, whereas in 1983 there were only 40 of them [19].

We have factual evidence that PAPC have contributed to introduction to the production of scientific and technological progress caused improving of technical level of production, productivity, helped regulate the production processes. This is evident in the participation of workers through the implementation of PAPC in one of the most important functions of management. However, it is impossible not to note the negative trends observed in the activities of PAPC during this period. Meetings were very irregular, often only a few, sometimes even part of the problem of enterprises were discussed, and control over the implementation of the planned activities was carried out on a case by case basis. The best practices were not generalized and disseminated, little attention was paid to issues of economic efficiency of the meetings. As a rule, PAPC of enterprises provided technical assistance to department meetings only in words. Although it was in power of the Bureau and its chairman to make the meeting not work from case to case, but to be really standing body.

We can not skip the fact that in the late 60’s and early 80’s negative trends were noticeable in the STS themselves and in the rationalization and inventive work. The scientific and technical propaganda was not always quite effective. The attention to the elimination of certain shortcomings in the industry was not paid –especially, to the use of low input of capacities and above all for the production of yellow phosphorus fertilizers, PVC staple fiber and rubber products, there was not constant monitoring of the implementation of the new technology. Many organizations are poorly participated in the development and implementation of comprehensive mechanization and automation of production, insufficient efforts were directed to address the problems of the most promising areas; little attention was paid to issues of productivity growth, improving the quality and reliability of products by scientific and engineering community. The practice has shown that some business executives and trade union organizations underestimated the role of the public in finding the factory and using of production reserves, cared little about expanding the network of public Bureau of Economic Analysis, the valuation of involving them as innovators, and did not help associations in their activities enough.

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