ции определяет необходимость стратегического планирования конкурентоспособности компании на основе выделения, развития и модернизации ее конкурентных преимуществ. Только комплексный и стратегический подход к деятельности компании на рынке может гарантировать ей успехи относительно ее конкурентов. Конкурентоспособность это относительная категория и ключевая цель стратегии конкурентоспособности компании в отношении конкурентов — ее обеспечение посредством реализации созданных конкурентных преимуществ.

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Industrial policy and development of industrial systems in Uzbekistan

Abstract: This article describes the industrial policy of Uzbekistan with the ascent to features of current statement and management of industrial systems. Moreover, it explores the use of state target programs as a main factor of modern industrial policy, and assess its further implementation for reindustrialization of Uzbekistan’s economy, which aims to achieve the economic security. The paper is finalized by set of recommendations for development of industrial policy and industrial systems’ management.

Keywords: industrial policy, reindustrialization, industrial system, state target programs, scientific-research and experimental-design.

1. Industrial system — theoretical approaches

The industry is a base of material production which contributes to generation of GDP. This contribution varied from 25% to 40% depends on a country. In the second half of 1990s’ and the beginning of 2000s’ the share of industry in GDP was increased in countries like Japan, India, China, Brazil, South-African Republic, etc. In Uzbekistan the share of industry in GDP increased from 17.6% in 1990 [1] to 24.2% in 2013 [2].
The industry creates the demand for different products, including means of production. Want satisfaction in these products depends on degree of industry development. The range of independent or related sectors included enterprises and production associations in certain area create the industrial system. In former times the definition of branches and branch structures characterized the composition of branches, qualitative and quantitative relations. This in turn reflected the country’s level of industrial development.

The modern industrial system characterized not only by business sectors, industrial enterprises and economic activities, but also includes the set of infrastructural elements which create the basis for industrial development. These elements include scientific laboratories and special scientific-research departments of corporations, which ensure high standards of scientific-research and experimental-design (SRED). During the last two decades two radical changes in industrial system were happened: (i) reconstruction of branch structure with the change of share of different sectors in creation of total production of industry; (ii) increasing of significance of SRED with the change of value added to enhance the share of science intensive results.

Reforms conducted in Uzbekistan aimed to economize resources, to increase the productivity and elasticity of industrial systems, to automatize the production, to introduce the modern techniques and technologies. These targets were achieved due to redistribution of available resources in industry and ton due to resources available in other sectors of economy. Incidentally, exactly these changes in industry caused the high level of production computerization in developed countries. Thus, the main aim of industrial development is the implementation of “unmanned” and “nonwaste” technologies and production with optimal use of resources and minimal damage for environment.

The best practices in achieving these aims could be found in engineering industry and metal-working industry. The share of this sector in Uzbekistan’s industry in 2013 was 18.8% [2]. This sector combines the maximum significant volume of scientific and technical results as well as creates new means of production. This sector includes electronic engineering and instrument engineering industries whish create means of production for microelectronics.

The analysis of industry as a system requests specific logic of economic analysis. Hypothetically the best logic of analysis for industry is based on simultaneous analysis of two vectors.

The first vector points the direction of industry and its sectors’ identification statement. It exposes the necessity of analysis for industrial system and its infrastructure development with further consideration of main factors influenced the successful development such as assets, techniques, technologies, staff, and needs. This vector sets the analysis “from below” and requests facts’ collection and its processing on industrial systems and ways for their development.

The second vector defines the desired dynamic of industrial sectors’ development and sets the aims of industrial development. Moreover, this vector defines the main aims of industrial policy, necessary structure and level of competitive strength. This vector sets the analysis “from above” and links to realization of political aims and provides program documents including economical ones. By the other words, it is connected with operations of policy system.

Taking into account both vectors will allow forecasting the industrial system’s and its sectors development as well as to improve state measures of industrial and structural policy.

Moreover, this methodology allows assessing the accessibility of aims for development of techniques, technologies, staff, and competitive strength of products, hence to improve their statement.

The industrial policy is a complex of legal, organizational, economic and managerial measures aimed for improvement conditions for effective functioning of industrial structures, to provide the productivity increasing, to increase production volumes and employment. From another hands the industrial policy in agro-industrial country has to be the main link of economic policy in equality with social, fiscal and money-credit policies.

The industrial policy of Uzbekistan has a technological structure and is limited by financial potential. The industrial policy reforming is proposed to divide in three stages:
• theoretical justification of industrial policy in frame of economic reforms
• selection of models and instruments of industrial policy
• practical implementation of policy and assessment of obtained results with view to effectiveness of industrial structure and its influence on economic growth.

The first stage concerns the methodological approaches for industrial policy and characterizes by dissentions among famous economic schools. In this case the following approaches could be discussed:
• neokeynesian policy for supporting aggregate demand, GDP and per capita income allows to provide investments to industry through the low rates and enough level of savings which impossible to support in case of low income;
• monetarists policy of grip in necessary to suppress of high rate of inflation and to stimulate investors by aggregate demand change and by decreasing of discount rate;
• “supply economy” aimed to motivate for increase of savings and for encouragement of investment through tax policy reforming;
• “business cycle policy” which is combining all above mentioned instruments for counteract against cycle crisis;
• “new classic macro economy” (based on rational expectations theory) recognized “Lucas critique” and hence rejected deliberated policy of stabilization, which proposes active supporting of entrepreneurship and “spontaneous order”.

Nothing from above mentioned approaches could not be apply in conditions of Uzbekistan due to developing socio-economic environment and too difficult objectives and aims of reforming economics. The set of macro economic effects needed which are depend not only on supply and demand, but also on kind of industrial sector influencing on economic structure.

2. Reindustrialization of economics — modern approaches

During the years of independency the set of structural changes in industry of Uzbekistan such as reindustrialization of economics have happened. According to official definition “reindustrialization” — is the industry regeneration through enterprises’ recapitalization and through modern technologies implemention. Initially, “industrialization” means the replacement of manual labour by mechanical one. In the same time “reindustrialization” is the same process, but repeated, when mechanical machines are replaced by modern “smart” robots and machines. Moreover, “reindustrialization” means the reconstruction of industries and technologies.

These processes may put on practice jointly taking into account the availability of investments: i.e. available income and savings, which can be transmitted to investments.

On the first stage of planning and realization of measures for improving the functioning of industry, the set of methodological questions must be solved.

Firstly, it is necessary to detect criteria which indicate rightness and effectiveness of policy.

Secondly, general conditions and methods for supporting the industry and its sectors must be defined.

Third, exact volumes of resources and their sources must be considered.

Fourth, the SWOT analysis and analysis of risks must be conducted.

The optimum structure of industrial system with realization of “nonraw material” scenario of economic development achieved when relative increment of generation equal to sum of relative increments of closedness index and raw dependency index of economic sector.

Further, it is necessary to define the kind of industrial policy. Following international scientific literature there exist three main kind of industrial policy: export oriented; internal oriented; and strategic, which is based on restructuring of industry [3; 4].

Export oriented industrial policy is based on state supporting of competitive sectors with stimulating the export of production to the world market. Korea, China, Japan and India are the countries which follow this kind of policy. In some case Uzbekistan’s policy also could be called export oriented, but with a significant share of raw materials’ export.

The internal oriented policy based on protection of internal market through the protectionism on behalf of the state. Such countries as France (in the beginning of XX century), Taiwan, and Singapore are following this kind of policy.

Strategic industrial policy based on limitation for irreplaceable resources use and on development
of high-tech sectors. The USA and OPEC countries follow strategic industrial policy.

Industrial policy must include three major directions of changes: technological, structural and institutional. The technological aspects linked with effective impacts on all resources of industry, such as natural, financial, labour, information, capital, etc. Thus, it presupposes the “classic part” of industrial policy — the replacement of manual labour by mechanical one. Structural changes implement for industrial structure modification and for supporting of set of processing sectors which guaranteed the potential for economic growth. Institutional changes connected with establishment of new effective bodies guaranteed implementation of innovations, liberated economy, and other results.

3. Strategies, the state bodies, and state target programs for industrial systems’ development

The main strategies aimed to develop the industrial systems could be divided into two groups: “direct” and “indirect”.

In modern conditions the following “direct” strategies prevailed:

- industry and its sectors development program;
- legal terms of industrial enterprises functioning;
- corporate planning system;
- international conventions and financial-industrial groups.

The main “indirect” strategies include those types of contracts between organizations which arrange cooperation network as well as establish vertical and horizontal integrated unions, etc.

“Indirect” strategies are the main results of self-adjustment of economic bodies in diapason established by “direct” ones, and “direct” strategies are based on political process results. Hence, “indirect” strategies defined by economic genotype. In turn, “direct” strategies are defined by public objectives, more accurately — the views of governments, which must be able to choose the priorities and achieve these aims.

Thereafter, the diversification of “direct” strategies is more dynamic, in turn the diversification of “indirect” ones is enough stable. These statements are formulating the fundamental gaps of economic dynamic. The high rate of aims’ differentiation born the conflicts in economy development, which are solved by compulsory measures using instruments of economic policy.

The general industrial policy makers in today’s Uzbekistan are:

- Ministry of Economy;
- Ministry for Foreign Economic Relations, Investments and Trade;
- Ministry of Finance;
- Chamber of Commerce and Industry;
- Large scale companies, public organizations and associations, etc.

The set of the state target development programs is the key instrument of industrial policy in Uzbekistan after the collapse of USSR. In fact, the projecting of such programs replaced methods of centralized planning as in Soviet era. Hence, it is important to define the quality of projects and adoption to modern Uzbek conditions.

![Graph](image-url)

**Figure 1:** The share of SRED in GDP of Uzbekistan, %

*Source: National Innovation System of Uzbekistan: assessment of potential and effectiveness (2011). P. 49. UNDP project, Tashkent.*
The state target program is a complex of scientific-research, research and developing, industrial, socio-economic, organizational, and other measures. It ensures effective solving of set of problems, included state, economic, food, ecologic, social and cultural development of Uzbekistan. All state target development programs could be find in official website of the government of Republic of Uzbekistan.

During the last seven years the share of costs for SRED in GDP of Uzbekistan is decreased, e.g. from 0.25% in 2003 to 0.185% in 2009 [5].

The major part of means (97.2% in 2009) goes to research and designing developed by institutions’ them-self. The third parts (co-executors) almost not take a part in any research and designing, and their share in total costs was only 2.8% in 2009. This indicates a fair cooperation and network among scientific-research organizations. Moreover, any interdisciplinary and/or complex researches are almost not conducted.

4. SRED and industrialization

SRED play the main role in the process of transition of Uzbek economy to the innovative type of development. In order to assess the level of SRED in a country the set of indicators can be used, such as the number of scientific publications; the number of patent and patentees; the number of researchers and experts of SRED; costs for education; etc. However, the most universal indicator is the level of costs for SRED itself.

This indicator is a relative number and calculated as total state and private costs for SRED during one calendar year, including state budget; commercial organizations’ budgets; different NGO’s and private foundations’ grants.

In 2010, the first three places in the world in share of SRED costs ranked by the State of Israel (4.39%), Finland (3.78%), and Korea (3.74%). This indicator in Uzbekistan has made 0.185% of GDP.

Table 1. – Share of costs for SRED in 2004–2011, % of GDP

|        | 2004| 2005| 2006| 2007| 2008| 2009| 2010| 2011 |
|--------|-----|-----|-----|-----|-----|-----|-----|-----|
| Israel | 4.29| 4.42| 4.50| 4.84| 4.77| 4.49| 4.35| 4.39 |
| Finland| 3.45| 3.48| 3.48| 3.47| 3.70| 3.94| 3.90| 3.78 |
| Korea  | 2.68| 2.79| 3.01| 3.21| 3.36| 3.56| 3.74| NA   |
| USA    | 2.55| 2.59| 2.65| 2.72| 2.86| 2.91| 2.83| 2.77 |
| Russia | 1.15| 1.07| 1.07| 1.12| 1.04| 1.25| 1.16| 1.12 |
| Uzbekistan | 0.25| 0.23| 0.2 | 0.19| 0.18| 0.185| NA   | NA   |
| World  | 2.05| 2.05| 2.06| 2.03| 2.12| 2.19| 2.20| 2.08 |

Sources: adopted and modified from www.worldbank.org. National Innovation System of Uzbekistan: assessment of potential and effectiveness (2011). P.49. UNDP project, Tashkent.

Table 1 above indicates that the tendency for SRED costs increasing observed from 2.05% in 2008 to 2.08% in 2011.

Despite the decreasing of costs for SRED in total volume of all industrial development programs, this indicator is not significant due to the possibility of new programs planning in this period of time.

For further stages of a new industrial policy development it is necessary to assess the volume of resources needed, as well as to find and indicate sources of it. Moreover, all limitations and risks must be examined. The most important from this point of view is the effect of associated programs; the transmission of resources from one activity to another; interregional resources’ flow and regional allocation of industry.

From the author’s point of view, the industrialization must be changed the technologic base which allow the renovation of enterprises’ basic capital and accretion of human potential.

5. Conclusion

Thus, it is necessary to take into account not only the volumes of investments to fixed assets of enterprises, but also investment to education and other social spheres, which are influencing the quality of human capital and its growth. This in turn lead the economic growth of the human capital quality and its further growing and stability. The problem of distribution of possible level of all investments between technological skills and the capital (belong to the worker of industrial
enterprises) is the nontrivial aim of reindustrialization process management and its tempos.

Usually, there are two sources for needed measures:

- Creation of resource and its distribution correspondent to aim of reindustrialization and to the program, which aggregate the development program of sectors and directions of activities in joint document or/and act;
- Redistribution of available resources through economic system institutional modification, notably through modified taxes; formation of debit part of budget; withdrawal of resources from extractive industry and services sphere (labour potential) to the development of processing industry.

The synergy of these two basic sources allows to develop the target programs for industrial systems together with extension of relationships between public and private enterprises.

State target development programs must follow the criteria of confront the costs and benefits. Thus, the assessment of effectiveness acts as the major project criteria, including the process of consideration of programs and kind of economic and industrial policy.

Coherence of all kind of policies plays the main role for solving any problems in industrial sectors development due to monetary and budgeting policies must be based on development of macro aggregates and thus due to ability to solve the problems of development. Hence, it is impossible to realize the program of industrial regeneration with representing the robust monetary restrictions and economy demonetization. Thus, this approach has to be taken into account within the formation of aims for socio-economic and strategic development of Uzbekistan.

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Human resource management features in service field

Abstract: The necessity of improving the human resource management in service fields set in this article. The issue is presented in a new way. In particular, it is stated that staff is a combination of personalities but each person has individual characteristics and the unified method of their management cannot be implemented. The same applies to their study. They should measure and control studies which they need themselves. Personnel management features of the service enterprise lie in the fact that operating management is closely related to personnel management. From the outset this system is projected so that all operations of delivery service require from supplier personality the different set of skills. These skills in staff differ not only by studies but also are different naturally