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## The Architecture of Labour Relations in Socio-Economic Ecosystems\*

R.I. Khabibullin

Central Institute of Economics and Mathematics, Russian Academy of Sciences, Moscow, Russia

### ABSTRACT

The article presents a conceptual approach to the formation and development of labour relations in the context of socio-economic systems. The author shows that ecosystems as integrated organizational and economic structures, which developed intra-industry and inter-industry cooperative ties characterize functioning, consisting mainly of intelligent firms. In this regard, ecosystem management should be carried out not by directive methods, as in traditional business structures, but based on participatory governance and self-government principles, which also affects the specifics of human resource management. The author formulated the top-priority management tasks in the field of increasing the intellectual potential of ecosystem workers and methods for increasing the loyalty and involvement of personnel and highlighted the problems of labour relations arising in the conditions of ecosystem employment.

**Keywords:** ecosystem; systems economic theory; labour relations; digitalization; meso-economics; firm intelligence; employee self-management; participatory management

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## INTRODUCTION

Integrated forms of economic activity, such as socio-economic ecosystems, forming coherent technological habitats of interacting organizations, have been actively developed in recent years. This was made possible by the widespread digitization of various aspects of production and the economy, and the impact of digital technology on all areas of society. One of the key characteristics of the ecosystem as a form of production organization is the use of technologies that determining change not only market segments, in which companies have historically operated, but also in areas of the economy that are outside these sectors. [1] It should be noted however that the effectiveness of digitization depends on the initial readiness of companies to introduce such technologies. [2]

The ecosystem business model emerged in the digitalization of the economy through the search for new business models based on big data analysis and the use of artificial intelligence. Many traditional companies have moved to the ecosystem model in the process of digital transformation, as well as technology startups. The vast majority of bigtech-companies also went on this ways of development by building around themselves global ecosystems of products and services. Today, Chinese and American companies have made significant progress in building ecosystems. Among them are the leading technology giants such as Alibaba, Tencent, Facebook, Google, Amazon, Apple, etc. Among the Russian ecosystem companies can be identified Sber, Tinkoff, Mail.ru Group, Yandex, MTS, etc.

McKinsey experts estimate that by 2025, socio-economic ecosystems will account for about 30% of global GDP. [3] Such ecosystems will be based on 12 fundamental human and business needs: mobility, housing, health, education, digital content, public services, travel, welfare and security, global corporate services (transnational transport services), B2B services (legal and accounting services),

B2B market places (purchase of equipment), B2C market places (logistics, consumer goods). Accordingly, the digitalization process is also transforming the business environment, establishing ample opportunities for integrating economic actors in the form of ecosystems.

In fact, the term “ecosystem” is borrowed from biology, where it is defined as a habitat in which organisms are joined together by a stable network of connections. The prefix “eco-” describes the environment of the organization, and the “system” — the set of connected parts functioning as a single whole. The essence of the socio-economic ecosystem consists in the features of interaction of its elements. [4] We will rely on the provisions of the system economic theory of G. B. Kleiner, considering the socio-economic ecosystem as “spatially localized complex of uncontrolled hierarchical organizations, business processes, innovative projects and infrastructure systems, interacting with each other in the creation and circulation of material and symbolic goods and values, capable of long-term independent functioning at the expense of the circulation of these goods and systems”. [5]

The purpose of this article — to determine the conceptual basis of labour relations formed in socio-economic ecosystems.

The hypothesis of the research is that, under the influence of digitalization, there is a transformation of labour relations in the ecosystems themselves, which is the development of intelligent firms with a highly participatory management culture.

The novelty of the article is that it deals for the first time with labour relations in the context of ecosystem development from the perspective of the theory of an intellectual firm.

## ECOSYSTEM APPROACH TO THE ORGANIZATION OF ECONOMIC ACTIVITIES

Recently, the phenomenon of the socio-economic ecosystem has been growing,

that actualizes the problem of theoretical substantiation of the ecosystem concept, as well as forefront the “ecosystem management”. [6]

M. Jansiti and R. Levine define ecosystems as “free networks of suppliers, distributors, outsourcing companies, production of related products and services, technology providers and many other organizations that influence the creation and implementation of the company’s own proposals”. [7]

O. Valdés de León proposes to define ecosystems as “networks of interacting organizations that have a digital and modular structure and influence each other’s proposals”. [8]

The ecosystem as an object of economic-management research consists of exogenously specified components of the environment and agents (actors), which act together endogenously as a system, benefiting from interconnectivity. [9] This approach is presented, for example, in a recent work by Chinese economists, describing China’s industrial production ecosystem as integrating industrial entrepreneurship, industrial engineering, and industrial ecology.[10]

Although research on ecosystems is only gaining momentum, several empirical works can be distinguished in the economic literature, showing how ecosystems contribute to entrepreneurship and meso-economy. According to these researches, firms in ecosystems are more innovative and more technologically diversified than traditional forms of management. [11] Ecosystems are an essential tool for creating a sustainable economy based on entrepreneurial innovation.

The particularity of the ecosystem approach is its meso-economic focus on how ecosystems can cover a wide range of organizations and institutional factors, relevant to research on entrepreneurship at the local, regional and possibly even national level. [12] In this context, an ecosystem is defined as “a set of interdependent actors and factors coordinated in such a way that they ensure productive

entrepreneurship in a particular territory”. [4]

In article [13] the authors argue that any socio-economic ecosystem is largely composed of knowledge ecosystem subjects and business ecosystem entities, with the State acting as an intermediary. Subjects in the knowledge ecosystem are represented by universities and research organizations and play a central role in human capital development and technological innovation. Business ecosystem subjects are both large and small-established firms that use knowledge and innovation for industrial and commercial purposes.

### **SPECIFICITY OF MANAGEMENT RELATIONS IN THE SOCIO-ECONOMIC ECOSYSTEM**

Of particular interest are the specific management relationships that arise in the socio-economic ecosystem. Originality of this management relationship is due to a number of circumstances, defined as the special role of ecosystems of large integrated business in the economy, and the complexity of consolidated object-subject interaction in the regulation of joint activities:

- special proximity of socio-economic ecosystems to the macro-level of the economy and civil society institutions, which is determined by the large scale of ecosystem business, its strategic role in the labor market;
- appearance of special, unique ecosystem grouping, management tasks, functions and works, related to the consolidation of information, financial and material flows between enterprises-members involved in coordinated joint activities; formation of ecosystem mission, brand, performance standards within a single ecosystem structure; assessment and enhancement of synergies between different actors;
- the need to take interdisciplinary and interregional factors into account in identifying and implementing solutions, as a consequence — the membership of ecosystem participants in various sectoral spheres and



territorial entities. From here — especially high requirements to the competence of ecosystem personnel, the organization of activities of the corporate coordinating center in the context of a variety of structures and methods of interaction, the ability to integrate a variety of organizational and managerial cultures;

- a high degree of economic and social responsibility of the ecosystem, which is associated with participation in large-scale business projects, generating innovation, often affecting national economic security as well as the effective employment of millions of people.

How do we see, integrated structures such as socio-economic ecosystems have special features of all elements of corporate governance. [14] This integration specificity is applied both to individual characteristics of management activities in corporate associations and to collective economic behavior of ecosystem participants. Performing, due to the scale of business, meso-economic role, socio-economic ecosystems as integrated corporate structures form a cross-sectoral identity, has common corporate interests and values. In this context we cannot agree A. A. Kobylko, who claim that ecosystem companies are intersectoral structures. [15] In other words, ecosystems are integrated organizational and economic structures, the functioning of which is characterized by developed intra-sectoral and inter-sectoral cooperative links.

With the increasing complexity of business models and the socio-economic environment as a whole, the significance of issues of effective personnel management in the formation of competitiveness and competitive-sustainability of economic entities becomes increasingly apparent. The qualitative and quantitative characteristics of human capital in socio-economic ecosystems have a direct impact on all key economic and financial performance indicators. In the publication [16] talks about the functioning

of the ecosystem due to the modularity of the structure, which provides interaction of its elements and development of “collective solutions”.

In recent decades, the interest in economic science and practice has not diminished to research and study of new labour management systems, processes of organization of the system of professional education, factors of development and formation of key competencies and conditions of reproduction of human capital, the implementation of social and labour relations in the new economic environment. Management styles, approaches to labour management and labour relations in general are transformed in the age of ecosystem formation.

Authors of the monograph “Ecosystems in the space of the new economy” [17] emphasize the following principles of management of work in ecosystems:

- 1) the hierarchy is flatter, then disappears;
- 2) the reassessment of management goals occurs in accordance with new tasks, technologies, innovations;
- 3) is constantly adapting to new changes;
- 4) the labour administration is carried out of project, flexible, based on individual needs;
- 5) the role of creativity is increasing;
- 6) the institution of self-government is being strengthened.

Thus, cognitive technology development, knowledge management systems, accessible educational trajectories in the digital economy, finding the most effective and efficient personnel-technologies, influencing labour management in modern conditions to mitigate the ongoing transformation processes in socio-economic ecosystems, are becomes more important.

It should be pointed out, that effectiveness of an ecosystem depends to a large extent on its ability to maintain social dialogue as a constructive way of integrating the personal goals of staff into the overall goals of the organization. The constant participation of employees in the social dialogue is beneficial

for the ecosystem, as it contributes to the development of a favorable moral and psychological climate, generate innovation, build trust among participants and as consequence — achieving efficient economic performance of the socio-economic ecosystem.

A number of researchers note one of the key differences between ecosystem management and enterprise management — it cannot be prescriptive. Fully, mature ecosystem should not be characterized by a hierarchical management system. At present, social and labour relations are also being transformed under the influence of the digitalization of the economy. Introduction of digital technologies, development of ecosystems leads not only to modernization of production technology, but also to change of corporate culture, staff mentality and, as a consequence, personnel management practices. [18]

### COLLECTIVE INTELLECT AND SELF-MANAGEMENT OF EMPLOYEES IN THE SOCIO-ECONOMIC ECOSYSTEM

The competence and professionalism of employees is an important determinant of ecosystem development. In a strategic perspective, assessment of the formation of intellectual capital a firm involves improvement of the system of motivation and stimulation of activity of employees and purposeful management of development of labor collectives. The research allowed to trace the dependence of financial parameters of company activity on the work environment, behavior of employees and their relevance to the case. [19]

The most successful ecosystems are those that bring together educated and highly intelligent employees, not just employees, but full-fledged subject of decision-making.

The evolution of the formation and development of socio-economic ecosystems shows that their landscape is formed under the influence of the intellectual firms that included into them. One of the basic characteristics of such firms is the *intelligence*

of employees. In the sum of it forms what can be designated as *collective intelligence*, which can improve the productivity and functioning of ecosystems. As result of research collective intelligence have found evidence of relevance to the development of ecosystems in general. These result in collective intelligence being higher than the average intelligence of the participants and the maximum intelligence of the group members. It means that collective intelligence is of independent importance to the functioning of the socio-economic ecosystem. Consequently, the creation of an enabling environment for intellectual work is an important feature of the development of modern ecosystem companies.

Since ecosystems are composed primarily of intelligent firms, they should be managed in a non-legislative method, as in traditional business structures, but on the basis of participatory management principles. Intellectual firm is an organization where the basis of activity — creativity of participants, i.e. the purpose of its existence is to use intelligence. [20] The operation of an intellectual firm presupposes a democratic model of management and the implementation of the principle of self-management. Participatory management expands the field of creation and economic activity of such firms, which constitute the core of modern socio-economic ecosystems.

Intelligence requires very flexible work and special motivation, which affects the organizational structure of management and relationships between ecosystem employees. Applicable to the activities of intellectual firms, constitute the basis ecosystems, among the top management tasks in the field of intellectual development of employees are the following:

1. Development of the competence of the labor collectives on the basis of an innovative approach to the development of the content of training specialists in order to create basic and professional competencies, skills of self-management and formation of a participatory



corporate culture in the intellectual economy.

2. Formation with the purpose enhancing the innovation of effective project teams.

3. Unlocking the intellectual potential of different categories of ecosystem workers by creating a motivational mechanism are best suited the interests of employees, their personal qualities and interests.

Research results show that the conflicting labor relationship between the company's employees and management negatively affects the innovation efficiency and reduces the firm's intelligence, while cooperative relationships based on self-management and trust among participants contribute to the generation of innovation within the ecosystem. [21]

In this context, urgency of the problem is increasing of employee involvement. Results of research conducted by the consulting company Tower's Perrin show the correlation between the growth of company income and staff involvement. As it turned out, only 20% of the 90000 employees in 18 countries felt fully involved in the work process, going beyond their mandated functions and responsibilities, aided by awareness of importance of the work performed and dedication. [21] At the same time, the companies with the most involved personnel showed a 19% increase in revenues and a 28% increase in earnings per share. The companies with the lowest participation rate showed a 32% decline in earnings and earnings per share fell by 11%.

According to Worldatwork's research, the following factors have a significant impact on involvement [22]:

1. Application of fair remuneration both material (based on KPI measurement) and intangible (merit recognition).

2. Opportunities for career and professional development.

3. Use of preferences according to the "buffet", i.e. the opportunity to choose some benefits for the employee.

4. Individual approach, opportunity to engage in interesting project. For example,

in the Google ecosystem, designers are specifically given 20% of the time to develop their own projects of greatest interest.

5. Annual meetings of Chief Operating Officer (COO) with each high performing employee to discuss his expectations regarding remuneration options. In addition to financial, other employee values (such as flexible working schedule) are also discussed.

6. Creation of cross-functional teams of efficient ecosystem employees.

All the above factors indirectly affect the position of the employee in the socio-economic ecosystem. From our perspective, the most effective mechanism of labour collective involvement can be the financial participation of employees, the various forms of which are already being implemented in practice on the basis of both a special form of legal entity or a special legal regime and provisions of general corporate and economic law. The issue of financial participation of ecosystem employees is in line with the main trends in the development of the theory of the firm and the practice of management of organizations. However, extensive development of participatory systems of governance based on values such as solidarity, mutual trust and inclusion have, over time, also had a positive impact on society as a whole.

The principle of employees' financial participation, based on considerations of economic democracy, implies, above all, the provision of employees, in addition to a fixed wage, a variable part of income directly related to profits.

The following forms of financial participation of employees are distinguished [23]:

- profit participation (cash and equity, current and deferred);
- shareholding (fractional) ownership of individual employees (including options);
- collective property management schemes, such as an employee stock ownership plan (ESOP), based on shares or fractions in the

company's capital; at the ecosystem level, a combination of a savings plan and a mutual investment fund is possible.

An example of the implementation of participatory management practices in Russian conditions is the ecosystem "Sber", within which five bank offices in the Moscow region Balashikh transformed labor relations on the basis of employee self-management, or the concept of "turquoise management". [24].

Development of socio-economic ecosystems consisting of intellectual firms with democratic economic system leads to domination of "flat" organizational structures in business practice, self-managed (Agile) teams and so-called "turquoise organizations". In fact, as rightly noted by D.V. Kuzin and I.P. Ponomaryov, this is about "disappearance of managers in the traditional sense, but with preservation of the management function". [25]

### «ECOSYSTEM MANAGEMENT»: COMPENSATION OF EMPLOYEES

In the context of "ecosystem management", the issue of personification of remuneration systems for ecosystem workers is becoming topical in the context of their individual achievements — KPI, where formation of tools aimed at management and development of certain competencies within the framework of specific types of work and projects. Today in the agenda of discussion of professional forums there are issues related to the external and internal HR-brand of the ecosystem, impact of loyalty and engagement programs on labor efficiency, creation of conceptually new programs of health and welfare of employees in correlation with labor productivity. At the same time, the digitalization processes accompany all issues of discussion in the field of human resources management, as digitalization and technology change the approach to the competences of ecosystem personnel, organization and regulation of labor.

With regard to payment systems for employees in socio-economic ecosystems, in our view, the most optimal will be a combination of two methods — rewarded based on KPI (Key Performance Indicator) and grading. KPI refers to a system of financial and non-financial indicators, which are performance indicators for the achievement of the organization's strategic objectives, allowing for tactical management based on the developed interim operational indicators. [26] The KPI-based rewarded scheme allows for a transparent, fair and differentiated payment system, optimize the use of Salary Fund and, in general, improve staff performance. Grading — a system of procedures for the evaluation and ranking of positions, as a result of which they are allocated to groups (grads) according to their value for the company. [27] Grading gives the opportunity to introduce a single unified salary system for all divisions and branches. In this way, a transparent system of professional and career development is built, which helps to retain valuable professionals in the ecosystem.

Combined payment system based on KPI and grading allows to quickly assessing the effectiveness of companies, entities and individual staff members in terms of achieving their business objectives, fixed for a certain period, and make optimal decisions after analysis of the results. Overall, this approach is a powerful tool for achieving the objectives and strategy of the socio-economic ecosystem in terms of labour relations.

However, if we consider the labor relations arising in the online platforms (and this is part of ecosystems), now there are problems and imbalances in the regulation of such relations, what concerns the federal authorities. In particular, Deputy Minister of Economic Development of the Russian Federation Vladislav Fedulov noted, "as in any new, rapidly growing market, of course we see risks and see areas in which we need to further protect users' interests. The first — is labour relations within large ecosystems. The



simplest example — contract terms between the aggregator and taxi drivers. In fact, the driver is not registered in the state, he has all the responsibility, and he pays a fee for entering the platform, not to mention taxes. Whether this model — is correct is a question. We consider that in some cases there are clear imbalances”. [28]

This is about such services as Yandex, Mail.ru Group and other marketplaces and aggregators connected with taxi services, food and goods delivery services, etc. The above online platforms are intermediaries between the performers and the users of services. In such conditions “labor relations gradually cease to be so, having acquired a civil-legal character, if at all, are not regulated by any laws”. [29]

Today there are several methods, how online platforms is build labor relations with employees.

First, the employment contract. When accepting an employee under an employment contract, the ecosystem independently pays individual income tax in the budget, payments in the Fund of social insurance, Federal Compulsory Medical Insurance Fund, Pension Fund of the Russian Federation etc. In addition, the ecosystem assumes responsibility for providing the social and labour guarantees enshrined in the Labour Code of the Russian Federation.

Second, the contract with individual entrepreneur (IE). The conclusion of a contract with an individual in IE status. In this case, the ecosystem does not pay insurance fees and individual income tax. IE independently pays taxes, insurance fees, and reports to the Federal Tax Service.

Third, the contract with the self-employed. In this case, the contractor individually pays a tax of 4% of the income when working with physical persons, and when working with legal persons — 6%. The ecosystem does not pay insurance fees and individual income tax.

Fourth, a civil-legal contract (CLC) in which the ecosystem does not pay the insurance

fees for occupational accident and illness insurance, and also the case temporary disability and motherhood. All other fees and individual income tax are assessed in the same amount as in the case of an employment contract.

According to the Strategic Development Center, now about 9% of the executives, cooperating with online platforms, work under the CLC agreement as individuals, 55% are registered as self-employed, 33% work under a formal employment contract, the remaining 5% are registered as IE. At the moment, the practice is that online platforms are interested in the construction of “gray” labor relations. Therefore, the status of platform employees is actively discussed and made the subject of court proceedings. In this regard, there are a number of issues related to the protection of ecosystem employees and the provision of social guarantees.

In addition, in the conditions of impending ecosystem domination, there will be questions as, how employees can forming trade union and whether it is possible for them to conduct collective negotiations on the conclusion of a collective agreement without its official registration, to create a “digital trade union”. Can such employees initiate a collective labour dispute with the employer in order to protect their collective labour rights, form a conciliation commission, labour arbitration or strike? [30]

On 30 September 2021, the first meeting of the working group on the regulation of platform employment in Russia was held at the site of the Strategic Development Center.<sup>1</sup> Results of an independent study of the best Russian and foreign practices in regulating relations between platforms and service providers were presented during the event. The main conclusion reached by the experts was that the ecosystem labour sphere needs to

<sup>1</sup> URL: [https://www.csr.ru/ru/news/tssr-provyel-pervoe-zasedanie-rabochey-gruppy-po-regulirovaniyu-platfornennoy-zanyatosti/?fbclid=IwAR\\_2MlcaEX6kD\\_2oZYiIN\\_4RGSV2mZg\\_OVPRTaJiBrKEdiFf26IpDJZgiF\\_uugs](https://www.csr.ru/ru/news/tssr-provyel-pervoe-zasedanie-rabochey-gruppy-po-regulirovaniyu-platfornennoy-zanyatosti/?fbclid=IwAR_2MlcaEX6kD_2oZYiIN_4RGSV2mZg_OVPRTaJiBrKEdiFf26IpDJZgiF_uugs) (accessed: 01/11/2021).



be legislated to provide greater legal certainty and guarantees for platforms and platform' employees.

### CONCLUSION

Thus, the economic landscape has undergone significant transformation in recent years, related to the accelerated development of socio-economic ecosystems — new large integrated business structures consisting of interconnected intellectual firms. In this connection, there is a need to change the paradigm of management of human resources of companies, creation of a new architecture of labor relations in terms of “ecosystem management”. The strategy for optimal development of socio-economic ecosystems will include a system of measures that ensure a high level of motivation of protecting the interests of ecosystem workers, involving them in ecosystem management, creating institutional conditions for the development of democratically managed companies, in which a system of participatory management and financial participation of labour collectives is practised.

In our view, organizational and economic mechanisms of formation and development of ecosystems should be aimed at “construction” of a favorable institutional environment for

development in the ecosystem of collective forms of management, protecting the interests of ecosystem employees. This, in turn, means establishing and developing institutions to support a system of self-management structures and financial participation — both external (legislative provision of ecosystem employment, formation of supporting structures for democratically managed companies) and internal (democratization of management in ecosystem companies, formation of systems of training of employees of self-management and the best practices of participatory management).

Maintaining the benefits of collaborative forms of ecosystem management and addressing their potential weaknesses is possible through the scaling-up of labour and capital partnerships in production management and distribution results. Among the factors that sustain such benefits — introduction in the framework of socio-economic ecosystems of various practices of training all employees in the basics of self-management, democratic management, financial literacy, managerial and economic knowledge. Such an approach would take advantage of modern democratic economics and minimize the potential risks of digitization.

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### ABOUT THE AUTHOR



**Rifat I. Khabibullin** — Cand. Sci. (Econ.), Leading Researcher, Central Institute of Economics and Mathematics of RAS, Moscow, Russia  
<https://orcid.org/0000-0002-4601-4999>  
[rifatilgizovich@gmail.com](mailto:rifatilgizovich@gmail.com)

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