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Regimes of work organization in flexible firms: a sociological analysis of management practice (on the case of ICT and creative industries in Russia)

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Statement of the research problem

Author examines the problems of actual research on labor organization regimes in industries focused on the knowledge production as a market good. The economic aspects of knowledge in the form of information, service or intellectual property, digital services and products for sale on the market shape atypical conditions for the social organization of work in these industries. Such conditions include a high degree of uncertainty about the end result of intellectual and creative activity, the difficulties associated with the regulation of labor, the determination of optimal costs and maintaining the stability of the production cycle and sale of products on the market. According to generally accepted theoretical version, knowledge and information are functioning as a public good, creating natural constraints for the implementation of the economic logic of capitalist institutions. The production of knowledge requires a high level of labor cooperation and autonomy of producers, while its transformation into a commodity form (commodification) is associated with high costs of restricting use, enforcement of copyrights, etc. It is also noted that the markets of intellectual products intended for commercial distribution are particularly subject to price fluctuations, experience difficulties due to unstable demand, mobile evaluation of quality and unpredictability of results of reapplication. Thus, the preconditions for the reorganization of the institutions of industrial capitalism are articulated at two levels at once - at the level of the organization of labor, the dominant form of which has become immaterial labor, and at the level of the regulation of the architecture of market relations. Taken together, these aspects signaled the crisis of the Fordist regime of regulation and accumulation.

Actual works on economic history and political economy provide evidence that the response to the functional crisis of the Fordist model of capitalism was market deregulation and the implementation of economic flexibility, affecting hiring, the organizational structure of companies and management. The conclusions of international expert organizations lead to a similar conclusion. Thus, the OECD report of 1986 stressed that flexibility is becoming “an element of paramount importance for economic progress”¹. Economic and sociological studies of that time problematized the status of the new economic reality and its political and institutional

¹ Op. cit.: Pollert A. The 'flexible firm': Fixation or fact? // Work, Employment & Society. 1988. T. 2. № 3. P. 281.

foundations. The first works on this topic testified to the sporadic presence of flexible modes of production organization. However, studies in the following years already pointed to a more radical and widespread transformation of modes of production organization - small-scale production and flexible specialization, flexible labor agreements, and hiring labor on demand reshaped the economic landscape. Central Italy's industrial clusters and Japan's lean manufacturing models have inspired the modern knowledge economy. Through the efforts of business consultants and R&D departments, flexible production and hiring regimes have spread in technological sectors of the economy with high added value: above all the Route 128 high-tech clusters and in Silicon Valley, Beijing, Hong Kong and Shanghai, Hyderabad, Singapore, Taiwan². Already in the mid-1990s, flexible approaches were successfully used in the organization of creative industries, IT and other modern industries of intensive production of knowledge and innovation³.

As for labor organization and control regimes in the post-Fordist economy, there were also trends toward radical restructuring. The rapid growth in the share of high-skilled and semi-skilled occupations characteristic of the developed capitalist economies of the time threatened to undermine the privileges of management. The skilled professionals, and later the working class, proved less susceptible to forms of direct control and management's attempts to rationalize the labor process. Reacting mainly to changing social attitudes, but also aware that previous forms of management risked bringing down productivity in knowledge-intensive industries and highly skilled services, managerial rhetoric shifted toward organizing the cultural side of organizational life and more subtle methods of control⁴. Thus, according to the prevailing view since about the 1980s, the functional role of management was reduced to “normative control” strategies that engaged workers' cultural attitudes, professionalism, and commitment. A critical Marxist version

² Vallas S. Re-thinking post-Fordism: The meaning of workplace flexibility // *Sociological Theory*. 1999. T. 17. № 1. Pp. 68–101.

³ Powell W., Snellman K. The Knowledge Economy // *Annual Review of Sociology*. T. 30. Pp. 190–220. Powell W., Koput K., Smith-Doerr L. Interorganizational Collaboration and the Locus of Innovation: Networks of Learning in Biotechnology // *Administrative Science Quarterly*. T. 41. Pp. 116–45.

Saxenian A. *Regional Advantage: Culture and Competition in Silicon Valley and Route 128*, Cambridge MA: Harvard University Press. 1994.

⁴ Barley S. and Kunda G. Design and Devotion: Surges of Rational and Normative Ideologies of Control in Managerial Discourse // *Administrative Science Quarterly*. T. 37. № 3. Pp. 363–399.

of the theory of immaterial labor, rooted in the post-Fordist debate⁵, also shares this view of the problem of labor organization under “cognitive capitalism”⁶. The cognitive capitalism theory (hereafter CCT) offers a well-developed concept that explains the tendency for capital to remove itself from knowledge production, that is, to reduce the degree of management intervention in the labor process. In this scheme, the control function of immaterial labor either unfolds in the subjective experience of the worker as a technique of self-discipline and motivation, or is carried out at the level of networked social structures and mutual control within flexible work teams. Thus, both management theories and one of today's most influential and popular versions of critical labor theory trace a consensus on the role of management in the system of knowledge production - this role is either reducible to discursive manipulation or can be eliminated altogether.

However, a close look at the actual dynamics of changes in managerial practice in recent years shows the prematurity of the conclusions concerning the abolition of the classical function of management in the processes of immaterial labor. The reason for posing a theoretical problem was the development and rapid spread of a relatively new management model - the flexible development methodology, designed to manage labor processes in conditions of uncertainty and high functional flexibility of organizations. According to the annual international survey of organizations implementing agile development methodologies, by 2020 agile approaches in management were widespread in North America and Europe, gaining popularity in Latin America and Asia, as indirectly evidenced by the geography of the survey⁷. The study participants noted that the introduction of agile approaches in management allows to organize the work of distributed teams (this applies to 81% of companies surveyed) and specialists abroad (in 71% of cases). Among the key advantages of flexible development the respondents referred to greater adaptability to changes in demand / priorities, greater transparency of processes, coordination of IT and business units, increased speed of development and delivery of the product to the market, increased productivity of work teams, higher employee involvement, etc. At the same time, in 85% of cases studied, implementation was accompanied by the introduction

⁵ Amin A. Post-Fordism: A Reader. Oxford: Blackwell. 1994.; Shevchuk A.V. Postfordistskie kontseptsii kak issledovatel'skaya programma [Post-Ford Concepts as a Research Program] / A.V. Shevchuk // Ekonomicheskaya sotsiologiya [Economic Sociology]. – 2002. – Vol. 3 (2). – P. 46–61.

⁶ Moulner Boutang Y. Cognitive capitalism. Cambridge: Polity Press. 2011.

⁷ 14th Annual State of Agile Report, 2020. URL: <https://stateofagile.com/>

of clear regulations on the daily meetings; in 81% of cases - regular retrospective assessment of the work done and the status of working projects was conducted; in 79% and 77%, respectively, the practice of decomposition of production processes into short and intensive segments of development, planning and evaluation regulations were introduced. A similar study in Russia in 2020 showed that the global trend has also affected the practices of local companies in IT, finance, industry, retail, telecommunications, etc. The list of stated advantages in the Russian case is similar: adaptability and change management, transparency, speed of delivery of solutions to the market, consistency of business units and development, predictability of production processes.

These and a number of academic studies in this field have shown an increasing level of management interventions in the labor process - the formation of hidden hierarchies, the implementation of software controls to achieve greater “transparency”⁸. Thus, it seems appropriate to raise again the question of the functional role of management in processes of immaterial labor, the degree of interventions and practices of direct labor control. The answer to this question implies an empirical study of management practices in the sectors of intensive knowledge and information production - in the ICT sector and creative industries engaged in the development of design and creative concepts, consulting and marketing expertise, media, digital and advertising content creation, software development, websites and applications.

Problem development

The term "post-Fordism" conceptually goes back to the debate about the economic consequences of the Fordist crisis in the context of declining profitability, as well as the political debate about the revision of the institutional architecture of labor-capital relations (Aglietta M., Sabel C., Harvey D., Burawoy M., Jessop B.). Most texts on the “post-Fordist debate” were published in the 1980s and 1990s, becoming a timely intellectual response to the crisis of the 1970s and 1980s. However, we can state that the post-Fordist debate has survived the historical moment that brought it to life, and remains a relevant subject of reflection in sociology and political

⁸ Hodgson D., Briand L. Controlling the uncontrollable: Agile teams and illusions of autonomy in creative work // *Work, Employment & Society*. T. 27. № 2. Pp. 308–325. Ajunwa I., Crawford K., Schultz J. Limitless worker surveillance // *California Law Review*. T. 105. Pp. 101–142.

economy, political and social philosophy until recently. Most texts on the "post-Fordist debate" were published in the 1980s and 1990s, becoming a timely intellectual response to the crisis of the 1970s and 1980s. However, we can state that the post-Fordist debate has survived the historical moment that brought it to life, and remains a relevant subject of reflection in sociology and political economy, political and social philosophy until recently.

One of the modern versions of post-Fordist theory proceeds from the assumption that the key transformation of modern capitalism is related to the growing role of intangible factors in the structure of production⁹. The French economist Jann Moulier Boutang considers the quality of the population, the form of interaction between social and economic agents, the "quality of this interaction" (trust, cooperation), the quality of organizations, tacit knowledge, know-how and culture as immaterial production factors¹⁰. The problem of adapting the institutions of capitalism to the realities of the post-Fordist economy has also become one of the central themes in critical studies of organizations and management. Various versions of the answer to the question of how models of the organization of immaterial labor are constructed were given by the poststructuralist theories of organizations¹¹, their Deleuzian version¹², theories of knowledge management (Knowledge Management, KM)¹³, hypotheses of network coordination¹⁴ and integration between flexible production systems¹⁵.

Taking into account the fact that the content of the post-Fordist debate has already been described in Russian in the works of colleagues, the theoretical chapters of this study focus

⁹ Vercellone C., Lucarelli S. The Thesis of Cognitive Capitalism. New Research Perspectives. An introduction // Knowledge Cultures. T. 1: Pp. 15–27. 2013.

¹⁰ Moulier Boutang Y. Cognitive capitalism, Cambridge: Polity Press. 2011.

¹¹ Hassard J., Wolfram Cox J. Can Sociological Paradigms Still Inform Organizational Analysis? A Paradigm Model for Post-Paradigm Times // Organization Studies. T. 34. № 11. Pp. 1701–1728. 2013.; Jones C., Munro R. Organization Theory, 1985–2005 // The Sociological Review. T. 53. № 1. Pp. 1–15. 2005.

¹² Linstead S., Thanem T. Multiplicity, Virtuality and Organization: The Contribution of Gilles Deleuze // Organization Studies. T. 28. № 10. Pp. 1483–1501. 2007.

¹³ Böhm S. Repositioning organization theory, London: Palgrave Macmillan. Pp. 71–103. 2006.

Nonaka I. The Knowledge-Creating Company. Boston, MA: Harvard Business Press. 1998.

Nonaka I. and Von Krogh G. Tacit Knowledge and Knowledge Conversion: Controversy and Advancement in Organizational Knowledge Creation Theory // Organization Science. T. 20. № 3. Pp. 635–652. 2009.

¹⁴ Powell W., Snellman K. The Knowledge Economy // Annual Review of Sociology. T. 30. Pp. 190–220. 2004.

Powell W., Koput K., L. Smith-Doerr. Interorganizational Collaboration and the Locus of Innovation: Networks of Learning in Biotechnology // Administrative Science Quarterly. T. 41. Pp. 116–45. 1996.

¹⁵ Gilson R., Sabel C., Scott R. Contracting for Innovation: Vertical Disintegration and Interfirm Collaboration // Columbia Law Review. T. 109. № 3. Pp. 431–502. 2009.

primarily on the historical and theoretical analysis of the origin of flexible production regimes. Russian-language works on this topic and similar research problems can be divided into several categories. First, these are texts devoted to the discussion of post-Fordism in political economy¹⁶ and contemporary social philosophy¹⁷. Second, these are texts devoted to studies of the professions of mental work, management, and entrepreneurship¹⁸. Third, there is a large body of literature on economic sociology and organizational studies, in dialogue with which certain hypotheses of the study are formulated¹⁹. Finally, there is an even more extensive list of works in Soviet and Russian sociology of labor, which have formed the modern tradition of studying labor relations in the Russian context²⁰.

The problem of labor organization in creative industries has been studied in the works of British and American researchers of Labor Process Theory (Alan McKinley, Paul Thompson, Chris Smith, Stephen Ackroyd, etc.) as close to the dissertation research as possible. In this tradition, management processes at the level of the firm are studied in close connection with the more general context of the political economy of markets and the peculiarities of their regulation. A key category for the empirical description is the so-called "labor process" and its qualitative attributes. The emphasis of LPT research is on describing the changing mechanisms of labor

¹⁶ Shevchuk A.V. Post-Fordist Concepts as a Research Program / A.V. Shevchuk // *Ekonomicheskaya sotsiologiya* [Economic Sociology]. – 2002. – Vol. 3 (2). – P. 46–61.

¹⁷ Maiatsky M. Ambiguities of cognitive capitalism / M. Maiatsky // *Logos*. – 2007. – № 4 (61). – Pp. 230-239.

¹⁸ Abramov R. N. Managerialism: economic ideology and management practice / R. N. Abramov // *Economic sociology*. - 2007. - Vol. 8. - No. 2. - pp. 93-102.; Abramov R. N. Professional ethics in the context of the sociology of professions: a review of foreign concepts / R. N. Abramov // *Sociological Research*. - 2018. - No. 7. - pp. 87-94.; Chepurenko A. Yu. Flexibility of the organizational structure and typology of informal small business in Russia. According to the longitudinal study (2013-2015) / A. Y. Chepurenko // *Economic sociology*. - 2019. - Vol. 20. - No. 4. - pp. 39-69.

¹⁹ Radaev V. V. Ordinary and innovative practices in the activities of the Russian middle class / V. V. Radaev // *The World of Russia: Sociology, ethnology*. - 2003. - Vol. 12. - No. 4. - pp. 89-119. Radaev V. V. Population ecology of organizations: how a variety of organizational forms arises / V. V. Radaev // *Russian Journal of Management*. - 2005. - Vol. 3. - No. 2. - pp. 99-108. Radaev V. V. Formation of new Russian markets: transaction costs, forms of control and business ethics / V. V. Radaev. - Moscow: Center for Political Technologies, 1998. Pavlyutkin I. V. Basic sociological approaches to the analysis of organizations / I. V. Pavlyutkin, I. S. Chirikov // *Economic sociology*. - 2010. - Vol. 11. - No. 5. - pp. 161-177. Pavlyutkin I. V. University management in the conditions of a new market situation (towards the concept of "new managerialism") / I. V. Pavlyutkin // *Questions of education*. - 2004. - No. 3. - pp. 57-65.

²⁰ Zaslavskaya T. I. Sociology of economic life: essays of theory / T. I. Zaslavskaya, R. V. Ryvkina. - Novosibirsk: Nauka, 1991. Zdravomyslov A. G. Man and his work (a sociological study) / edited by A. G. Zdravomyslov, V. P. Rozhin, V. A. Yadov. - M., "Thought", 1967. - 392 p. Shkaratan O. I. Worker and engineer. Social factors of labor efficiency / O. I. Shkaratan. - M.: Mysl', 1985.

control, the balance of power in the system of labor relations, and the discovery of a more general and sustained logic of organization of capitalist institutions in time and space.

Hypotheses and objectives of the study

The central theoretical hypothesis of the study is that in flexible modes of production organization the functions of managerial control over the labor process are strengthened (contrary to the conclusions of the researchers of flexible specialization and TKC). It is assumed that the process of strengthening the influence of management on production is in direct dependence on external market factors.

The empirical **hypotheses** of the study include the following:

1. The flexibility of the organizational model reinforces the characteristic of uncertainty in knowledge production and the characteristic of indeterminacy of workforce mobility (*mobility indeterminacy*).

Network theory describes the network model of open organizations as the preferred form of knowledge production under high uncertainty²¹. According to this theory, network models can maintain stable and durable structures of cooperation between producers, smoothing out the effect of uncertainty and opportunism of the participants both through a developed mechanism of informal relational contracting²², and at the expense of switching costs arising from interaction²³. It is reasonable to test the opposite hypothesis, according to which in most cases in flexible organizational models the effects of uncertainty inherent in the knowledge economy are

²¹ Powell W. Neither Market Nor Hierarchy: Network Forms of Organization / W. Powell // Research in Organizational Behaviour. – 1990. – Vol. 12. – P. 295–336.

²² Lamoreaux N.R. Beyond Markets and Hierarchies: Towards a New Synthesis of American Business History / N.R. Lamoreaux, D.M.G. Raff, P. Temin // American Historical Review. – April 2003. – Vol. 108. – P. 404–433.

²³ Gilson R. Contracting for Innovation: Vertical Disintegration and Interfirm Collaboration / R. Gilson, C. Sabel, R. Scott // Columbia Law Review. – 2009. – Vol. 109 (3). – P. 431–502.

amplified by the influence of mobility indeterminacy, studied in the works on LPT²⁴. The development of subcontracting, on-demand skilled labor, and the increasing complexity of outsourcing chains can introduce a significant element of unpredictability into the production cycle, which in these conditions is not functionally compensated by any of the mechanisms described earlier to reduce uncertainty.

2. Market stimuli associated with the level of competition between producers, competition for personnel, as well as the established models of relations between the producer and client organizations in the industries under study prove to be an additional exogenous factor of influence on management motivation in terms of strengthening the control over the work of specialists.

Modern research in the LPT tradition emphasizes the importance of referring to the context and dynamics of the competitive market situation to explain the forms of labor organization within the firm²⁵. Some works in the field of organizational sociology lead to a similar conclusion²⁶. But while for the sociology of labor the context of the political economy of markets has traditionally been an organic part of the construction of explanatory models, for the sociology of organizations this conclusion applies to a much lesser extent, as the aforementioned criticism from the "realist" theory of organizations draws attention to. This paper assumes that market incentives have a direct impact on the dynamics of change in the field of labor organization, and the effect of such exogenous factors is significant along with the impact of endogenous factors (such as institutional coercion, ceremonial practices, the need to bridge gaps between formal institutions and organizational practices, etc.) explored in the sociology of organizations.

²⁴ Smith C. The double indeterminacy of labour power: Labour effort and labour mobility / C. Smith // *Work, Employment and Society*. – 2006. – Vol. 20 (2). – P. 389–402.

²⁵ Thompson P. From Conception to Consumption: Creativity and the Missing Managerial Link. Ch. 3 / P. Thompson, M. Jones, C. Warhurst; A. McKinlay, C. Smith (eds.) / *Creative Labour: Working in the Creative Industries*. – UK: Palgrave Macmillan, 2009. Morris J. The indeterminacy of 'temporariness': Control and power in neo-bureaucratic organizations and work in UK television / J. Morris, C. Farrell, M. Reed // *Human Relations*. – 2016. – Vol. 69 (12). – P. 2274–2297.

²⁶ Reed M. Reflections on the 'Realist Turn' in Organization and Management Studies / M. Reed // *Journal of Management Studies*. – 2005. – Vol. 42 (8). – P. 1621–1644.

3. The model of managerial practices in firms and their dynamics are functionally conditioned by the influence on the labor process of the factors of uncertainty and production indeterminacy.

The criticism of Fordist institutions of production, expressed in the works on the theory of cognitive capitalism, postulates the inability of vertically constructed managerial structures to maintain the functions of production in an environment marked by high uncertainty and increasing complexity of the specificity of the production of intangible goods. In cognitive capitalism, the crisis of the Fordist model is deepened in light of the problem of cost and output measurement: consequently, management loses not only political power in the firm, but also its most important levers of influence over the labor process - such as planning, control and evaluation of the quality of the product or service produced. The argument of CCT is supported by the dominant views in management research, which indicate a turn in contemporary management practices toward a model of normative management²⁷. The hypothesis proposed here is that the high level of uncertainty and the problem of production indeterminacy in industries focused on knowledge production and innovation, in contrast, will lead to the development of mechanisms for vertical rather than horizontal integration of production, and the standardization of the production cycle under management control in order to reduce the impact of these factors.

4. Optimization and regulation of the production process and organizational routines by means of cloud technologies and agile development system reduces the efficiency of horizontal communication and increases the need for labor control.

The agile product development management approaches common in IT, creative services, telecommunications, etc. today are based on the requirement to achieve process transparency at every stage of the production cycle²⁸. Cloud-based software solutions, daily scheduled meetings and status checks on operations within shorter, decompartmentalized development steps are designed to increase the autonomy and buy-in of creative professionals to decisions regarding

²⁷ Barley S. Design and Devotion: Surges of Rational and Normative Ideologies of Control in Managerial Discourse / S. Barley, G. Kunda // *Administrative Science Quarterly*. – 1992. – Vol. 37 (3). – P. 363–399.

²⁸ Nonaka I. A Dynamic Theory of Organizational Knowledge Creation / I. Nonaka // *Organization Science*. – 1994. – Vol. 5 (1). – P. 14–37.

conceptual planning and production functions under the control of the project team. The role of management, in turn, according to the concept of agile development, is reduced to fixing creative solutions and accompanying the process of cooperation of performers for the gradual development of explicit forms of knowledge²⁹. According to the hypothesis of our study, the combination of cloud-based solutions and status evaluation management frameworks, besides the possibility to optimize the production cycle, may provoke the opposite trend - verticalization of the management function, the use of software tools by management to achieve more control over the work of the development team in such a way that the autonomy and involvement of specialists in conceptual planning, against the stated goal of agile approaches, may be reduced.

Research objectives:

- 1) Determination of formal characteristics of the organizational structure of the companies participating in the study: clarification of information about the hierarchy of roles in the firm, the nature of interaction between departments, the level of flexibility of hiring and production processes (outsourcing, outstaffing), the client portfolio and the business model of the company.
- 2) Revealing the relationship between qualitative indicators of company flexibility (organizational model flexibility, hiring and production flexibility) and informants' assessment of the degree of uncertainty in the production process.
- 3) Reconstruction of daily operations in the field of labor organization, collection of information on routine management regulations and other practices aimed at optimizing production and control of the labor process, analytical typology of these practices.
- 4) Studying the dynamics of changes in the sphere of organization of labor. Classification of reasons which caused changes in modes of organization of work, on the basis of data of interviews with management. Revealing the correlation between structural attributes of the studied markets and the dynamics of changes in the sphere of organization of work.
- 5) Analysis of the effects of the methodology of flexible development and the impact on the nature of the labor process: the study of subjective assessment by informants of the

²⁹ Nonaka I. Tacit Knowledge and Knowledge Conversion: Controversy and Advancement in Organizational Knowledge Creation Theory / I. Nonaka, G. Von Krogh // Organization Science. – 2009. – Vol. 20 (3). – P. 635–652.

dynamics of costs associated with the control and regulation of specialists, assessment of the impact of changes in management processes on the overall nature of work organization and planning and execution functions.

- 6) Analysis of the practice of application of cloud and other software tools for accounting, planning and coordination of work operations: identification of their functional role in the labor process and analysis of the effects of implementation.

Theoretical background

The analysis of immaterial labor regimes presented in this paper is based on the Labor Process Theory (LPT). The term “labor process” is first introduced by Marx and described in the chapter with the same name of the first volume of *Capital*³⁰. Marx's general theory of processes unfolding at the very bottom of the hermetic cycle of value creation, its appropriation, conversion into commodity form, and then realization on the market was further developed already in the 1970s in the works of continental (Raniero Panzieri, Andre Gorz) and Anglo-Saxon (Harry Braverman, Richard Edwards) Marxists, whose discussion laid the foundation for the LPT “first wave”³¹. As one of the leading representatives of the direction, Paul Thompson, puts it, the LPT proceeds from the recognition of “*the unique and indeterminate nature of labor in its commodity form and is therefore based on the assumption that the task of capital accumulation is achieved only by transforming labor into the actual form of labor as a source of profit*”³².

In the classical version of the theory, Harry Braverman defines indeterminacy both as a fundamental property of human labor, which, not subject to the invariants of instinctive behavior, carries in itself uncertainty about the future result and the means of achieving it, and as the main

³⁰ Marx K. *Capital: A Critique of Political Economy*. Volume one. Leningrad: State Publishing House of Political Literature. Pp. 184-205. 1952.

³¹ Thompson P. The capitalist labour process: Concepts and connections // *Capital & Class*. T. 34. № 1. P. 7. 2010.

³² *Ibid.* P. 10.

distinctive feature, *differentia specifica*, of capitalism as a mode of production and accumulation aimed at exploiting, regulating and rationalizing labor in its free commodity form³³.

More recent theoretical works on the LPT propose the concept of *double indeterminacy*³⁴. In it, the universal concept, which originally mixed various empirical phenomena, is analytically separated.

First, it is admissible to distinguish between the indeterminacy of production, which describes the empirical gap between labor power as potentiality and the effort actually applied in the labor process, a gap which management is called upon to reduce and workers, at least, to maintain. For this reason, in the spirit of classical Marxism, the labor process is a potential field of antagonism or conflict (*effort bargaining*), whose status is redefined depending on the balance of forces, the needs of production, and exogenous factors (market competition, technological developments requiring greater or lesser labor participation, etc.). Frederick Taylor's famous idea that the planning and organization of labor in the interests of workers is inevitably bogged down in traditions and habits developed in practice - therefore, in order to increase productivity, labor needs constant control and a more rational calibration of production processes by management³⁵. LPT argues that the ways in which labor is controlled, the bargaining power and the level of workers' autonomy can and do change, but that the control function itself is a structural imperative of any surplus production (and Taylor probably shared this conviction). To this classical argument must be added the more modern, rooted in economic science, the thesis that contracts are imperfect: in a realistic model of economics, labor contracts do not contain exhaustive information regarding the necessary and sufficient amount of effort and time expended, and the required result is not always measured unambiguously. Therefore, legally documented contracts are incapable of fully regulating the indeterminacy of labor, although they do restrain it to a certain extent. In this aspect, the LPT clearly follows the new institutional

³³ Braverman H., Sweezy P., Foster J. *Labor and Monopoly Capital: The Degradation of Work in the Twentieth Century*. 25th Anniversary Edition. Foreword by Paul M. Sweezy, New Introduction by John Bellamy Foster. New York: Monthly Review Press. 1998.

³⁴ Smith C. The double indeterminacy of labour power: Labour effort and labour mobility // *Work, Employment and Society*. T. 20. № 2. Pp. 389–402. 2006.

³⁵ Knights D. and Willmott H. *Labour Process Theory*. UK: Palgrave Macmillan. P. 133. 1990.

economics, which recognizes the “imperfection of long-term contractual relations” and identifies conditions in which contracts can work more or less effectively, needing additional agreements³⁶.

The second element of indeterminacy is associated with a key feature of the market economy in comparison with other types of economy - namely, the relative freedom of the parties in the choice of counterparties. Consequently, we are talking about indeterminacy in connection with the mobility of labor (mobility indeterminacy). The trivial fact that employees in a market economy have the right to change employers or terminate existing agreements also imposes, for its part, limitations on capital and, depending on market conditions, more or less strongly affects working conditions and recruitment mechanisms³⁷. Management's human resource strategies, as well as the level of labor mobility, are conditioned by circumstances such as the degree of demand for certain qualifications and competition for labor, the demography or spatial segregation of production, the availability of human resources and jobs. For example, in markets for unique qualifications (sports, cinema, art, etc.) agency contracts are common, severely limiting the potential mobility of workers³⁸. Some studies at the intersection of social geography and political economy note that the spread of the IT cluster model has also been associated with attempts to contain mobility and provide stable access to a pool of rare and high-skilled professionals, while maintaining the potential flexibility of hiring³⁹.

The thesis author's theoretical thesis is that in a knowledge economy both types of indeterminacy are reinforced by a) the uncertainty factor of knowledge as the end product of labor, and b) market mechanisms to increase hiring flexibility and "marketize" relationships within the firm. This puts pressure on management and strongly formats management practices in the knowledge economy. In turn, a number of market factors, which are discussed in detail in the empirical part of the paper, actualize the need for more effective strategies of control and valorization of labor.

³⁶ Williamson O. Economic institutions of capitalism: Firms, markets, relational contracting. St. Petersburg: Lenizdat. p. 270. 1996.

³⁷ Winstanley D. Recruitment Strategies and Managerial Control of Technological Staff. in White-collar work: the non-manual labour process ed. by Chris Smith, David Knights and Hugh Willmott. London, UK: Palgrave Macmillan. Pp. 163-188. 1991.

³⁸ Smith C. The double indeterminacy of labour power: Labour effort and labour mobility // Work, Employment and Society. T. 20. № 2. P. 396. 2006.

³⁹ Gough J. Not Flexible Accumulation - Contradictions of Value in Contemporary Economic Geography: 1. Workplace and Interfirm Relations // Environment and Planning A: Economy and Space. T. 28. № 11. P. 2068. 1996

The results obtained in the empirical research phase indicate that the above factors do have a significant impact on management practices and predetermine the choice of control strategies.

Research Methodology

The empirical part of the dissertation research focuses on the analysis of data collected between 2019 and 2021. The research is based on qualitative methodology, and the data are records of interviews with middle management and materials from professional conferences on the digitalization of management functions, remote work management, and IT human resources solutions. The object of the study is the organization of work in Russian companies working in the IT and creative industries. The subject of the study is the daily professional practices of company management in the field of creative production and IT development and management of full-time and distributed teams of specialists. The cases of companies that at the time of the study were undergoing changes in the management structure due to the introduction of agile development methodologies were considered separately.

A total of 30 semi-structured interviews⁴⁰ with the management of firms were collected during the study. Depending on the established norms in the markets, the professional positions of the study participants varied and included project managers, account managers, product managers, line managers and art directors, but adjusted for commercial specifics, the functionality and requirements for these specialist groups differed little in relation to the general aspects of work organization.

The limitations of the study's findings include the following. The sample is not structured by gender or age of informants, the division into types of companies by size was only partially considered in the analysis, but was not initially a criterion for selecting informants, so this topic

⁴⁰ The full list of informants is given in the table in the Appendix to the main text of the dissertation: 20 informants represent companies from the creative sector (digital agencies, advertising agencies, design and architecture studios, media and other content production studios, as well as firms providing services in the field of financial and market consulting), 10 informants work in companies from the IT and telecommunications services sector.

requires further clarification. An additional limitation is the lack of direct information touching on workers' experiences and their own descriptions of the firm's management processes.

The terms “creative industries” and “cultural industries” are used synonymously, with a similar history of origin⁴¹. According to the common statistical interpretation, creative industries are defined as those industries "having as their source individual creativity, skills and talent, potentially producing economic benefits and jobs through the production and exploitation of intellectual property. In turn, the IT services sector is an integral part of the technology sector of the economy, which is understood in the following sense: we refer to technology or digital companies as those engaged in the production of computers and electronics, telecommunications, data processing, hosting and related services, information services production, and computer system design and related services. Consequently, the sample of companies was based on inclusion in one of these industries.

The data presented in this paper describe the daily specifics of management in commercial firms producing intangible commercial goods (products and services) in these industries. The data collection procedure was divided into three stages. In the preliminary stage of the study, the task consisted in collecting primary data on the organizational structure of the companies (division of labor, hierarchies and divisions), features of corporate culture and routine processes in their connection with business models (for example, whether the company sells ready-made solutions or provides a service, one-time or continuous as a service, whether it focuses on sales for business or for end consumers). Regarding the second phase, the piloting guide was loosely structured, and the interviews themselves tended to be conducted in company offices. At the second stage of work, the final version of the guide was formed, which remained virtually unchanged until the end of the study and contained a set of basic hypotheses borrowed from the theory. Further interviews were partially conducted remotely, the average length of the interview was about 1-1.5 hours. The third stage of the study involved a repeat cycle of the literature on empirical studies of the labor process in the creative sector. The explanatory model included additional categories of analysis that were initially absent in it. At the same time, the work aimed at triangulating the information received from the informants about the labor market in the

⁴¹ Hesmondhalgh D. and Baker S. Creative labour: media work in three cultural industries. Routledge. 2010.

segment and competitive conditions was carried out - this information is presented in the fifth chapter of the dissertation. It contains a description of secondary data from open sources, which allows reconstructing the structure of IT services and creative industries markets in Russia.

Personal contribution in problem development

The paper presents an analysis of research in economic history and political economy, which helps to explain the current trends in the development of knowledge economy, and also builds genealogical connection of post-Fordist theories of 1980-1990s and the current theory of cognitive capitalism. On the basis of the work done, the theoretical hypothesis of the undesirable consequences of the introduction of flexible approaches to management in the practice of labor organization of firms focused on intensive production of knowledge and innovation is stated.

1. Using historical and theoretical analysis, the origins and trajectories of the development of flexible production regimes are identified: the basic theoretical provisions on the socio-economic and political conditions for the development of flexible regimes and their subsequent replacement by modes of hierarchical integration of production are formulated.

2. The analysis of studies in economic history and political economy allowed to explain the current trends in the development of knowledge economy, the genealogical connection of post-Fordist theories and the theory of cognitive capitalism was built.

3. An empirical analysis of the organization of immaterial labor in the sectors of creative production and IT-development is presented: the results of the study are conceptualized within the framework of the labor process theory, the empirical connection between the structural organization of markets and the dynamics of organizational change in the field of management is demonstrated.

4. Based on the results of the empirical study, an alternative theoretical argument is proposed, describing the development of flexible approaches to the organization of immaterial labor in the logic of centralization of management and planning functions, deepening the division of labor

and improving the apparatus of managerial control through technologies of distributed digital data processing.

5. The theoretical hypothesis of undesirable consequences of implementation of flexible development tools in the practice of labor organization of firms focused on intensive production of knowledge and innovation (knowledge-intensive firms) is formulated.

General findings

The analysis of general trends on the labor market in IT and creative industries, as well as the study of the structure of these markets, made it possible to establish the relationship between external institutional conditions and management motivation. The relative autonomy of labor processes within specific organizations is manifested in the way in which, for example, the pressure of competition, the imperatives of flexibility and lean production, the need to save costs or the requirement to intensify labor are refracted in the already established organizational routines or industry standards of organization of firms' activities, while continuing to reproduce the universal logic of accumulation. In our case, however, the variously defined structures of the IT and creative sector markets in practice come into conflict with management's attempts to establish control over the labor process. In case of creative agencies the incentive to strengthen control as a regulatory mechanism is, on the one hand, high flexibility of organizational structure and hiring, on the other hand, competitive pressure and the growing concern of company management about weak regulation of processes and the problem of measuring results in this regard. In IT the necessity to compensate high expenses of companies on compensation of privileged specialists' labor plays the role of control drivers, so management here is focused on intensification of rhythm and decomposition of operations in order to reduce dependence of the system on individuals. As a result, certainly common to both cases considered is the return of the control function, which is designed to contain the indeterminism of labor and the impact of uncertainty.

On the basis of the obtained data the simplest typology is made, which allows to distinguish empirically the state of uncertainty depending on its source.

First, uncertainty introduced by the external environment - the market, the actions of regulatory agencies, changes in industry standards, etc. - is fixed. This type of uncertainty arises as an exogenous cause and, being described in detail in the theoretical literature on organizational sociology, is one of the main factors of isomorphic change and reorganization of processes within the firm. A state of uncertainty encourages organizations to imitate the structure, technology, and goals of more successful firms from their point of view. The theory of institutional isomorphism suggests that firms can copy the practices of other organizations regardless of how effective the borrowed solution proves to be. The data from this study show that the cycle of reorganization of management principles was rather triggered by firms in an effort to streamline organizational routines and stabilize accumulation, which, however, does not contradict the legitimization thesis.

Secondly, the uncertainty factor arising in the process of knowledge production and characterizing it is highlighted empirically. The argument about uncertainty regarding the final product of immaterial labor has already been described in detail in the theoretical chapters of the thesis with reference to the works of the authors of CCT, in the thesis we limited ourselves to illustrating it empirically and parsing more plausible scenarios of management response. In response to this type of uncertainty, management does not distance itself from the labor process (as suggested by CCT), but seeks to achieve a predictable outcome in a system of discrete stages of production, organizing a more complex, fragmented cycle of work and forming a new type of division of labor.

The third type of uncertainty was initially associated by CCT theorists with the “crisis of measurability”, which violates the standard cycle of creation and appropriation of the product of labor and thus breaks the historically established system of relations between capital and labor, where capital is invested in the means of production and management controls the organization of the labor process. However, empirical data show that the "measurement problem" is closely related to the state of indeterminacy of cognitive labor, which in the eyes of management becomes an additional source of uncertainty. In a realistic model, the problem of measuring costs

to the result of labor mobilizes capital to develop a satisfactory solution, guaranteeing a more stable creation and withdrawal of surplus value.

The problem of uncertainty and indeterminacy of labor at the empirical level is related to the functional flexibility of firms and hiring flexibility. In turn, flexibility is implemented by firms in the studied industries according to different scenarios, but in most cases lead to an increased role of hierarchical control and hierarchical integration of the production cycle. In the first case and according to the hierarchy of competences companies outsource simpler or less valuable and standardized types of services - this is a vertical model of integration. The key competence of the firm here is usually the final "assembly" of the product and the creation of a creative or marketing strategy to enter the market. The second scenario involves outsourcing work that cannot be done in-house: client firms avoid hiring costly in-house specialists and extract additional profit from the markup on such work, but this scenario is riskier in every respect. It corresponds to the horizontal integration model of production described in the studies of flexible specialization and network organizations⁴², but the second scenario also implies a high level of management involvement and control. Finally, the third scenario of flexible organization of production is a partial or almost complete externalization of hiring, which implies the highest level of control and, paradoxically, leads to a decrease in the autonomy of labor. Labor is hired on demand as part of a project or for a short period of a few months, while management and the core of the organization function not just as an assembly point for finished fragments of development and services, but actually as a full model of a virtual firm that combines lean production principles, properties of business in the shadow sector, an extremely fluid and therefore crisis-resistant structure and a focus on working with multidirectional flows of information. Common to the labor processes in the scenarios studied is the desire of firms to increase functional flexibility and hiring in order to optimize costs and create a business model more resistant to market shocks. Second, the flexible model creates new risks and sharply increases the factor of indeterminacy of mobility, and management seeks to use all available mechanisms (including personnel policies) to contain it; mechanisms of self-regulating horizontal control are more likely to be implemented in stable and predominantly internalized

⁴² Castels M. *The Information Age: economy, Society and Culture* / M. Castels. - Moscow: Higher School of Economics, 2000.

systems of labor relations. Third, more flexibility in practice means more management: this system of production organization produces a new division of labor between people and companies, as well as creating new information asymmetries and complicating the value chain, all of which requires integration and control.

In chapter 6 of the dissertation on the example of the analysis of structural and procedural changes in the sphere of labor organization it was shown that in the case with the implementation of flexible development methodology the reorganization cycle unfolds in accordance with the logic of clarification of managerial quality and time estimates, which subsequently facilitate the management tasks of control, planning under conditions of flexibility and uncertainty. However, the explanation is not the managers' steady following of their own interests or the conscious establishment of political control over the labor process, but the factor of high indeterminism of immaterial labor that stimulates managerial staff to improve the apparatus of control. The presence of the qualitative parameter of indeterminism substantially distinguishes creative immaterial labor from physical labor and determines the behavior of decision-making agents. The problem of resource allocation and management's limited ability to plan has its source in indeterminacy as a characteristic of labor given in a qualitatively and quantitatively indeterminate value.

We were able to study the processes of implementing flexible approaches in management in firms of different sizes, where changes in modes of work organization either coincided with the period of the interview or took place shortly before. Based on this data and by comparing it to the cases of companies where the change cycle began relatively long ago, we can record a fairly universal scenario for the introduction of agile development frameworks. Firstly, in most of the cases studied the transition to agile methodologies was accompanied by inviting an external consultant - an "agile-transformer" or a manager with management experience in IT and related industries. Second, such a specialist (or a team of consultants) initially enjoyed the trust of management and was vested with broad authority to make changes to the work schedule, rhythm and responsibilities of employees, and not always this process occurred painlessly for the team of specialists or even line management. Thirdly, the strict regulation of processes went hand in hand with the development of new instructions regarding the use of corporate software: not only were

there strict conditions for the use of certain corporate communication software, but there were also mandatory requirements to use time and task trackers, as well as software with cloud synchronization and remote access to the work interface.

The specific expertise of creative professionals becomes an obstacle to qualified management, including resource planning. At the same time, the management function is not abolished, but retains the range of powers typical of classical management - control, quality assessment, resource coordination, etc. This, in turn, makes management a bottleneck in the production chain, prompting a revision not so much of the management function itself in the production structure (as would be expected according to the theoretical assumptions of CCT), but of the radical redefinition of procedures, forms of control and ways of organizing the labor process. But this kind of reinvention of the way of management is impossible as long as the labor of specialists retains the semblance of a "black box" that requires deciphering. Management introduces procedures to ensure the "transparency" of processes and, consequently, the ability to codify and quantify the expertise of specialists. Interpretation of this plot within the framework of the LPT-analysis allows to explain the further managerial actions, originally arisen in response to the problem of measurability of costs to output, by the desire of management to reduce the influence of production indeterminacy.

Drawing parallels with classical research in organizational sociology, one would have to assume that formal changes in structure could lead to ruptures in organizational and production logics and disrupt organizational conformity, which in contrast would be reproduced in ceremonies and organizational rituals. Rather, however, the opposite situation is observed - the gap between the management discourse and practices persists, while the outwardly ceremonial attributes of labor organization in reality have unintended structural consequences, creating more and more gaps and setting in motion mechanisms of labor control. At the same time, it is emphasized that mechanisms such as standardization, decomposition or control, find compatibility not so much with intra-organizational logics as with external market circumstances and the imperative pressure of demands for a more effective valorization of labor and the elimination of indeterminacy.

Main results of the research

1. First of all, the analysis presented here clearly indicates that within the dichotomy of flow and stock described earlier, management has turned to flow management, where direct control and broader intervention in the labor process serves as a key tool for reducing the production indeterminacy and the uncertainty inherent in the production of knowledge in commodity form. At the same time, the term "neo-Taylorism," common in this context, does not accurately reflect the content of modern management practices: the obvious discrepancy is due to the fact that the implementation of the Taylorian model of labor organization was not limited to the requirement for worker autonomy and their subjective involvement in the production process, as the efficiency of production was not dependent on this requirement. An important difference is that scientific management initially aimed at differentiating skills and deepening the division of labor under the control of management, which also ensured greater output. For this reason the system of vocational training was radically different, and classical Taylorist management was not interested in the horizontal development of professional skills. Under Fordist conditions, Taylor's system, aimed at regulating low-skilled physical labor, could be implemented without significant technical and practical limitations. Whereas in the processes of immaterial labor, where goods are created through intellectual effort and decisions produced through spontaneous cooperation, classical control faces obstacles of a practical nature, but we believe it is able to level them.

2. It follows from the findings that the increase in control itself was not an embodiment of rational choice or the political will of management. We state that the introduction of agile design methodologies initially appeared to be a functional solution to management's structural problems related to the indeterminate nature of creative labor, and a response to the pressures of external market factors. However, management reorganization, in turn, had practical consequences of a different kind. The conclusions of this study should not be interpreted as a mere attempt to find gaps between "theory and practice. Rather, our argument is that the relationship between theoretical discourse and management practices is contingent and does not play a significant role in the analysis, whereas the implicit implications for organizational systems and labor processes produced by these practices are indeed weighty. The decomposition of tasks and their standardization in agile development frameworks, the fragmentation of flow into short cycles,

and the general increase in process discreteness set a precedent for even deeper management intervention in the labor process. In turn, the increasing complexity of the division of labor generated by this model and the decreasing level of worker autonomy only increase the need for hierarchical coordination. The trends described are amplified under conditions of high organizational flexibility and externalization of hiring, but the control scenario has been shown to meet the challenges of less flexible organizational structures as well, working to intensify labor and increase the rate of output.

3. The construction of a controlled communication architecture (including a digital work environment, rhythm, schedule, zones and procedures for permissible cooperation), within the framework of contemporary immaterial labor processes, is probably the most important resource for professionalizing management in the near future. The corporate sector's desire to establish a monopoly on communication within the company and on its products is expressed not only in the implementation of flexible development and rationalization of cooperation regulations. Technology actively accompanies this process - it is known that large companies create their own internal corporate social networks formally in order to meet security requirements and create a comfortable environment for employee communication. However, this is usually supplemented by machine-learning algorithms that, based on the analysis of correspondence, help to track in time the anxious moods of staff or to identify employees in the "risk groups" who want to leave the company or face emotional burnout. There are a lot of software solutions on the market that use artificial intelligence technologies to analyze correspondence, generate reports on employee workload, etc. - Of course, it is technically much easier to implement these tools in internal corporate digital environments without facing the problem of personal data protection. Practice shows that some of these control functions can indeed be automated, but the control needs to be guided and its logic and process architecture prescribed, based on an understanding of the market conditions or current management issues in practice. From this point of view we should not expect that managers will be replaced by algorithms, rather - we will see the convergence of competencies of project management and IT.

4. The results of this study allow us to formulate the following hypotheses, which require further empirical verification and discussion. The first hypothesis is that the described scenario of direct

labor control replacing normative regulation can be avoided within more sustainable social relations in firms and more sustainable labor organization models that increase rather than decrease workers' autonomy. The second hypothesis is that by removing the element of knowledge uncertainty and eliminating the element of indeterminacy of labor from the labor process, firms can achieve better (profit per employee) and other important economic metrics, but such actions risk inhibiting the development of productive forces - creativity and potential of spontaneous worker cooperation, for which, if we believe political economy theories of postfordism, the existence of "gray zones" of communication, consistent

Theoretical and practical significance of the research, approbation of the results

The value of the scientific work of the applicant is confirmed by participation in international and Russian scientific conferences and research schools, as well as by publications in Russian journals. Based on the results of the research the theoretical apparatus to the study of management methods and, more broadly, social regulation of labor in firms characterized by high structural flexibility and flexible hiring is refined. It contributes to the development of empirical approaches to the study of management models in the IT services sector and creative industries within the general approach of labor process theory.

The results of the dissertation research were approbated at the following scientific events:

1. International Summer School on Philosophy "Illuminations" at the Institute of Social Sciences and Humanities of Tyumen State University (Tyumen, 11.07. 2018). Paper: "The theory of flexible specialization in the optics of post-Fordist debates".
2. International conference and research school "Labor Studies" on the basis of the Center for Modern Political Studies of the Institute of Social Sciences of the Russian Academy of National Economy and State Service and the Moscow Higher School of Social and Economic Sciences (Moscow, 03.03.2020). Report: "Post-Fordism and Analysis of Flexible Employment by the Example of Ken Loach's "Sorry, We Missed You".
3. Speech at the project seminar of the Laboratory of Economic and Sociological Research (National Research University "Higher School of Economics") with approbation of the

preliminary results of research of flexible economic regimes (Moscow, 10.03.2020). Report:
"The Problem of Coordination in Flexible Economic Regimes: Preliminary Remarks.

The main results of the research are published in the following articles:

Khumaryan D. G. Coercion, Cognitive Capital, Value: On the Question of Principles of Knowledge Management // Sociology of power. 2020. Vol. 32. No. 1. Pp. 55-88.

Khumaryan D. G. "Flexible World" Utopia: The Politics of Flexible Production Modes // Sociology of power. 2018. Vol. 30. No. 4. pp. 12-46. Volume 25. No. 3. Pp. 141-162.

Khumaryan D. G. "Platform Capitalism" by Nick Srnicek: Crisis — Response — Boom — Crisis — and Response Again. What Do We Know about the Digital Economy? Book review: Srnicek N. 2019. Platform capitalism. Trans. from English. under the scientific ed. of M. Dobryakova. M.: Publishing house of the Higher School of Economics. 128 p. // Economic Sociology. 2019. Vol. 20. No. 3. Pp. 164-179.

Khumaryan D. G. Zhikharevich D. M., Konovalov I. A. Towards New Studies of Labor: Instead of an Introduction // Sociology of power. 2020. Vol. 32. No. 1. Pp. 8-29.