

# THE CURRENT STATE OF MANAGEMENT OF NEW FORMS OF SOCIAL AND LABOR RELATIONS IN THE SYSTEM OF ENVIRONMENTAL MONITORING IN THE CONDITIONS OF THE “GREEN” ECONOMY OF THE REPUBLIC OF UZBEKISTAN

**KHODJAEVA NODIRAKHON ABDURASHIDOVNA**

PhD, Associate Professor of Tashkent State Transport University. Email: [nhodzhaeva@bk.ru](mailto:nhodzhaeva@bk.ru)

**IRMATOVA AZIZA BAKHRAMOVNA**

DSc, Associate Professor of Tashkent State University of Economics. Email: [a.irmatova@tsue.uz](mailto:a.irmatova@tsue.uz)

**Dr. SHARIFAH ZANNIERAH SYED MARZUKI**

Associate Professor, Faculty of Business and Management, Universiti Teknologi MARA.

**FAYZIEV ROVSHAN KHUSANOVICH**

Postgraduate student of the Tashkent branch of the G.V. Plekhanov Russian University of Economics.  
Email: [ravshanfayziev43@gmail.com](mailto:ravshanfayziev43@gmail.com)

**SARIMSAKOVA MALAKHAT KHIKMATULLAEVNA,**

Postgraduate student of the Tashkent State Transport University. Email: [maloxatsx@gmail.com](mailto:maloxatsx@gmail.com)

## **Annotation**

The article discusses modern approaches to managing labor resources in a "green" economy in the Republic of Uzbekistan. The authors rated factors, influencing the creation of new forms of professions in the conditions of transformation.

**Keywords:** Labor Resources, Transformation, Greening, Forecasting, Analysis, Logistic Regression, Freelancer Practice.

The transition of the economy of the Republic of Uzbekistan to the post-industrial stage of development of society, i.e. globalization, transformation dramatically change the relationship between workers and employers.

Non-standard forms of social and labor relations are modern methods that have become accepted in the management of modern enterprises. However, most enterprises try not to use these methods, since it is difficult to assess the economic effect of the transformation of relationships with employees, as they affect all aspects of the activities of enterprises, due to the difference from traditional practice. It should be noted that it is the new forms of labor relations that affect the economic effect, which may affect the development of the enterprise.

Taking this fact into account, the ability to predict the consequences of using non-standard forms of interaction between employees and the employer will speed up the process of institutionalization of new forms of labor relations in modern practice.

The system of labor relations is a set of interrelated and interacting elements, to which it is customary to include the employer, employee, state, hierarchically ordered in labor activity through the functions performed and professional stratification and moving in the labor space along horizontal and vertical channels.

In turn, the labor space can be identified as a set of communicating positions that are occupied by participants in labor relations at a specific point in space at a specific time interval.

Like most other systems, the labor relations system is mobile; its structure changes from time to time.

These changes manifest themselves especially strongly in moments associated with economic crises, since the subjects of relations are forced to look for ways to overcome them.

The modern transformation of the system of labor relations is due, according to the author, to the following factors inherent only to it:

- connections and relations between labor market participants are changing, which changes their position in space and relative to each other;
- distrust of the institution of the contract as the basis of the system of labor relations leads to the search for such forms of relations in which its significance is leveled;
- there is a change in the structure of labor supply, primarily due to demographic shifts, manifested in an increase in the number of pensioners and students, increased internal migration, etc.;
- the classical form of labor relations, which implies a full-time job, an open-ended employment contract, a certain set of guarantees for each of the subjects, in some cases has disadvantages, for example, high labor costs for the employer, limited freedom of choice for employees;
- an increase in the frequency and number of economic relations, a rapid change in technology, a short product life cycle also change the dynamics of the implementation of labor relations, which necessitates the acceleration of the processes of registration and termination of these relations, as well as special requirements for the composition and quality of their participants, the conditions for fulfilling their obligations obligations.
- Efficiently oriented enterprises must take into account all these factors, otherwise they will not be able to be competitive in the labor market. The creation of new goods and services, the introduction of unique technological processes, the implementation of atypical interactions with customers and suppliers are not just fashion, but the basis of a "green" economy, all this requires the organization to quickly change the ways in which labor subjects interact, the use of new, non-standard forms of their interaction.

One of the trends in the development of the organization is that in conditions of high competition and uncertainty, it should concentrate all efforts on the so-called core of the business, the firm should refuse other functions. Direct refusal is practically impossible; it is assumed that the organization must transfer functions to the outside or redistribute them internally. Along with the transfer of functions, the relationship between the company and the contractors, the employer and employees is also being transformed. In the case of the transfer

of functions outside the organization, outsourcing, freelancing, crowdsourcing can be used, if we are talking about the redistribution of functions within the organization - insourcing. Let us analyze these forms of relations between the employer and employees.

Outsourcing is the transfer by the customer of certain functions to a third-party organization (involving the possible transfer of personnel, property, etc.), the implementation of which will be carried out according to the standards established by the customer.

Freelancing is a special type of employment relationship in which a highly qualified professional, who is not employed by organizations and is not included in traditional employment relationships, independently sells his services on the market to various clients, without being a subcontractor of a single customer.

Crowdsourcing is a technology for transferring certain production functions to an indefinite circle of persons who are organized through computer networks for joint activities, based on a public offer.

By insourcing we will understand the transfer of certain functions according to a special methodology and technology to a subdivision or to individual employees for implementation within the organization. In this case, the subdivision (employees) are additionally loaded with functions that are not characteristic of them, but due to the use of special technologies (optimization, the use of software, etc.) there is no oversaturation of their functions, the work of performers is intensified by using the reserves that are in the unit. New forms of labor relations in the practice of organizations are not exhausted by the above list. Rather, the selected varieties are basic, the most common in practice, allow you to determine the benchmarks in this area, around which innovative forms of labor relations will appear.

Moreover, many new forms of labor relations enter our lives imperceptibly, gradually manifesting themselves in various areas, which does not contribute to their perception as something fundamentally new. However, their fate in the system of labor relations is not clear, due to the fact that so far these forms have not been institutionalized in modern practice, which is why it is extremely relevant to assess the possibilities of their institutional development.

One of the most relevant forms of institutionalization of new practices in the field of labor relations is institutional design, this direction of development of new forms of labor relations is one of the objectives of this dissertation research.

The possibilities of evaluating the economic efficiency of the introduction and use of a new form of labor relations in organizations and enterprises are considered.

These forms include outsourcing, freelancing, crowdsourcing, insourcing.

In our scientific work, we calculate the correlation of variables using logistic regression. Logistic regression and statistical model (also known as logit-model) are often used for classification and predictive analytics. Because the outcome is a probability, the dependent variable ranges from 0 to 1. In logistic regression, a logit transformation is applied to the odds, that is, the probability of success divided by the probability of failure<sup>1</sup>.

The dependent variable for this model is the popularization factor of freelancer practice.

**Table 1: Logistic regression test results**

Logistic regression							
Freelancer_practice	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
Gender	-1.577	.877	-1.80	.072	-3.296	.141	*
Labor relations management	1.1	.421	2.62	.009	.276	1.924	***
Personnel policy	-2.966	1.5	-1.98	.048	-5.905	-.027	**
High pay	1.974	1.164	1.70	.09	-.307	4.255	*
New professions	2.819	1.336	2.11	.035	.199	5.438	**
Promotion	2.863	1.058	2.71	.007	.79	4.936	***
Allocation of allowances	1.748	1.526	1.15	.252	-1.243	4.739	
Ecosystem status assessment							
2	-1.008	2.563	-0.39	.694	-6.032	4.016	
3	-3.603	1.711	-2.11	.035	-6.956	-.25	**
4	-2.687	1.655	-1.62	.105	-5.931	.557	
5	-1.936	1.723	-1.12	.261	-5.313	1.441	
Constant	-5.017	2.545	-1.97	.049	-10.005	-.029	**
Mean dependent var	0.992		SD dependent var		0.090		
Pseudo r-squared	0.427		Number of obs		1358		
Chi-square	54.556		Prob > chi2		0.000		
Akaike crit. (AIC)	97.304		Bayesian crit. (BIC)		159.869		
*** $p < .01$ , ** $p < .05$ , * $p < .1$							

According to the regression results, the number of observations is 1358 people. Chi-square test indicator is 54.556 and its p value is 0.000  $p < 0.05$  is considered statistically significant. The coefficient of pseudo determination of the model was 42 percent.

The promotion of freelancing by women compared to men (compared to no introduction of freelancing) reduces the relative logarithmic coefficient by 1.577.

Improving labor relations management by one unit increases the relative logarithmic coefficient of popularization of the freelancer practice (compared to not introducing the Freelancer\_practice) by 1.1. If the quality management of personnel policy deteriorates by one unit, the relative logarithmic coefficient of popularization of freelance practice (compared to non-introduction of freelance practice) decreases by 2.966 indicators.

A one-unit increase in higher wages increases the relative logarithmic coefficient of popularization of freelance practice (compared to not introducing Freelancer\_practice) by 1.974. If the introduction of new professions increases by one unit, the relative logarithmic coefficient of popularization of freelance practice (compared to not introducing Freelancer\_practice) increases by 2.819 indicators. A one-unit increase in employee incentives increases the relative logarithmic coefficient of promoting freelancing (compared to no freelancing) by 2.863. Also, "Current state of the ecosystem" was selected as an indicator variable, rated in the range of 1-5. Because, according to the conditions of the model, it should be interpreted in relation to the variable representing a certain sequence (ordered variable)<sup>2</sup>.

Those who rate the current state of the ecosystem as 3 decrease the relative logarithmic coefficient of popularization of freelance practice by 3.603, compared to those who rate this indicator as 1. The rest of the status scores were left uninterpreted because they were statistically insignificant.

Logistic regression is used to obtain the odds ratio when there is more than one explanatory variable. The procedure is very similar to multiple linear regression, except that the response variable is binomial. The result is the effect of each variable on the odds ratio of the observed event of interest. The main advantage is to avoid mixed effects by analyzing the relationship of all variables together. In this article, we will explain the logistic regression procedure with examples to make it as easy as possible. After defining the methodology, the main interpretation of the results is highlighted, and then some special issues are discussed. Chances are determined from probabilities and range from 0 to infinity. Odds are defined as the ratio of the probability of success to the probability of failure.<sup>3</sup>The range is from negative infinity to positive infinity. In regression, it is easiest to model unbounded outcomes. Logistic regression is actually a regular regression using logit as the response variable.

The logit transform allows for a linear relationship between the response variable and the coefficients: In this regard, we used the odds ratio methodology, which takes into account the probability values, slightly different from the logistic regression analysis. And it calculates the probability of the consequences of the popularization of the practice of freelancing.

**Table 2: Probabilistic results of logistic regression**

Logistic regression,or							
Freelancer practice	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
Gender	.207	.181	-1.80	.072	.037	1.151	*
Labor relations management	3.004	1.263	2.62	.009	1.317	6.85	***
Personnel policy	.051	.077	-1.98	.048	.003	.973	**
High pay	7.2	8.379	1.70	.09	.736	70.464	*
New professions	16.752	22.386	2.11	.035	1.221	229.888	**
Promotion	17.518	18.529	2.71	.007	2.204	139.261	***
Allocation of allowances	5.741	8.761	1.15	.252	.288	114.279	
Ecosystem status assessment	1	.	.	.	.	.	
2	.365	.935	-0.39	.694	.002	55.472	
3	.027	.047	-2.11	.035	.001	.779	**
4	.068	.113	-1.62	.105	.003	1.746	
5	.144	.249	-1.12	.261	.005	4.223	
Constant	.007	.017	-1.97	.049	0	.971	**
Mean dependent var	0.992		SD dependent var		0.090		
Pseudo r-squared	0.427		Number of obs		1358		
Chi-square	54.556		Prob > chi2		0.000		
Akaike crit. (AIC)	97.304		Bayesian crit. (BIC)		159.869		
*** $p < .01$ , ** $p < .05$ , * $p < .1$							

In this regard, we pay attention to the following interpretation:

The probability of popularization of freelance practice by women is 0.207 higher than that of men.

A one-unit improvement in labor relations management increases the odds of popularizing a freelancer practice (compared to not introducing a Freelancer\_practice) by 3.004.

A one-unit improvement in the quality of personnel policy increases the probability of popularizing the freelance practice (compared to not introducing the freelance practice) by 0.051.

A one-unit increase in higher pay increases the probability of adopting a freelance practice (compared to not introducing a freelance practice) by a factor of 7.2.

The introduction of new professions increases the probability of popularization of freelancing practice (compared to not introducing freelancing practice) by 16,752 indicators for a one-unit increase.

A one-unit increase in employee incentives increases the probability of popularizing the practice of freelancing (compared to no practice of freelancing) by 17.518.

Those who rate the current state of the ecosystem as 3 increase the probability of popularizing freelance practice by 0.027 points compared to those who rate this indicator as 1.

We formed a scientific hypothesis that the calculation of the research results using the marginal effect will affect the popularization of freelancer practice as a result of the improvement of management efficiency we expect. When checking it, we made the following calculations:

Marginal effects measure the impact that a momentary change in one variable has on the outcome variable while all other variables remain constant. In a simple OLS model with linear effects, the estimated coefficients are always equal to the marginal effects. Marginal effects measure the impact that a momentary change in one variable has on the outcome variable while all other variables remain constant.<sup>4</sup>

Marginal effects allow us to interpret the direct effects that changes in regressors have on our outcome variable. Marginal effects equal estimated coefficients only in a few selected cases. To understand the direct relationship between regressors and outcomes, we need to calculate the marginal effects correctly based on the functional form of our regression.

**Table 3: Marginal effect test results**

Adjusted predictions Number of obs = 1,358  
 Model VCE : OIM  
 Expression : Pr(Freelancer\_practice), predict()  
 at: Employment\_Relationship\_Management = 4.45729 (mean)  
 Personnel\_policy = .0022091 (mean)  
 High\_pay = .994109 (mean)  
 New\_occupations = .994109 (mean)  
 Promotion = .9918999 (mean)  
 Encouragement = .9926362 (mean)  
 1. Ecosystem\_Status\_Assessment = .0405007 (mean)  
 2. Ecosystem\_Status\_Assessment = .0051546 (mean)  
 3. Ecosystem\_Status\_Assessment = .0574374 (mean)  
 4. Ecosystem\_Status\_Assessment = .2724595 (mean)  
 5. Ecosystem\_Status\_Assessment = .6244477 (mean)

Delta-method						
	Margin	Std.Err.	z	P>z	[95%Conf.	Interval]
<b>Ecosystem_Status_Assessment</b>						
1	1.000	0.000	2944.670	0.000	0.999	1.000
2	0.999	0.001	727.580	0.000	0.997	1.002
3	0.993	0.006	156.490	0.000	0.981	1.005
4	0.997	0.002	434.390	0.000	0.993	1.002
5	0.999	0.001	886.980	0.000	0.996	1.001

Therefore, keeping the mean values of the independent variables, the probability of popularization of the expected freelance practice was found to be equal to 1 for the respondents with the lowest rating (ecosystem condition rating =1) and 0.99 for the highest rating respondents (ecosystem condition rating =5).

The analysis carried out allows us to draw the following conclusions:

- changes in society predetermined the transformation of the system of labor relations;
- this transformation has led to the emergence of new, atypical forms of labor relations;
- their use is constrained by the lack of tools for assessing their economic efficiency.

It is important to note that the key advantage of using new forms of labor relations in organizations is related to the economic effect that they can provide.

The costs of the organization for the implementation of non-core functions are reduced. There is no need to keep extra employees on staff. Entire units disappear from the organizational structure.

The organization gets the opportunity to focus all its efforts on those functions or processes that provide value to customers, without dissipating existing potential.

In the short and medium term, the use of new forms of labor relations allows to reduce financial costs, and in the long term - to ensure a strong position in the market through the production of competitive products and the provision of high-quality services that form a worthy image of the organization.

#### Foot Notes

- 1) Ananthakumar, U., and R. Sarkar. (2017) "Application of Logistic Regression in Assessing Stock Performances," 2017 IEEE 15th Intl Conf on Dependable, Autonomic and Secure Computing, 15th Intl Conf on Pervasive Intelligence and Computing, 3rd Intl Conf on Big Data Intelligence and Computing and Cyber Science and Technology Congress (DASC/PiCom/DataCom/CyberSciTech): 1242-1247
- 2) F. Ashkar, S. Mahdi, Fitting the log-logistic distribution by generalized moments, *J. Hydrol.* 328 (3–4) (2006) 694–703
- 3) L.A. Escobar, W.Q. Meeker Jr., Assessing influence in regression analysis with censored data, *Biometrics.* (1992) 507–528.
- 4) Boggess, May. StataCorp. Methods for Obtaining Marg. Effects. Retrieved from <https://www.stata.com/support/faqs/statistics/marginal-effects-methods/> on May 9, 2018

#### References

- 1) Jolliffe, Ian T.; Cadima, Jorge (2016-04-13). "Principal component analysis: a review and recent developments". *Philosophical Transactions of the Royal Society A: Mathematical, Physical and Engineering Sciences.* 374 (2065): 20150202. doi:10.1098/rsta.2015.0202. PMC 4792409. PMID 26953178
- 2) Markopoulos, Panos P.; Kundu, Sandipan; Chamadia, Shubham; Pados, Dimitris A. (15 August 2017). "Efficient L1-Norm Principal-Component Analysis via Bit Flipping". *IEEE Transactions on Signal Processing.* 65 (16): 4252–4264. arXiv:1610.01959. Bibcode:2017ITSP..65.4252M. doi:10.1109/TSP.2017.2708023. S2CID 7931130
- 3) Desouza K. C., Jacob B. Big data in the public sector: Lessons for practitioners and scholars // *Administration & Society.* – 2017. – T. 49. – №. – C. 1043-1064.
- 4) Freeman C. *Technology policy and economic performance: Lessons from Japan.* 1987, L.: Frances Pinter. 495 p.
- 5) Frith J. Big data, technical communication, and the smart city // *Journal of Business and Technical Communication.* – 2017. – T. 31. – №. 2. – C. 168-187.
- 6) Juraneck S., Schindler D., Schjelderup G. Transfer pricing regulation and taxation of royalty payments. *Public Economic Theory*, 2018. vol. 20, issue 1, P. 67-84.
- 7) Kshetri N. The emerging role of Big Data in key development issues: Opportunities, challenges, and concerns // *Big Data & Society.* – 2014. – T. 1. – №. 2. – C. 2537.
- 8) Laudon K. C., Laudon J. P. *Management Information Systems. Managing the digital firm / 12th edition.* New York: Prentice Hall, 2012. 677 p.
- 9) Maciejewski M. To do more, better, faster and more cheaply: Using big data in public administration // *International Review of Administrative Sciences.* – 2017. – T. 83. – №. 1\_suppl. – C. 120-135.
- 10) Nelson R.R. (1993). *National innovation systems: A comparative analysis.* 1993, N.Y.: Oxford University Press.



- 11) Ananthakumar, U., and R. Sarkar. (2017) "Application of Logistic Regression in Assessing Stock Performances," 2017 IEEE 15th Intl Conf on Dependable, Autonomic and Secure Computing, 15th Intl Conf on Pervasive Intelligence and Computing, 3rd Intl Conf on Big Data Intelligence and Computing and Cyber Science and Technology Congress (DASC/PiCom/DataCom/CyberSciTech): 1242-1247
- 12) F. Ashkar, S. Mahdi, Fitting the log-logistic distribution by generalized moments, *J. Hydrol.* 328 (3–4) (2006) 694–703
- 13) L.A. Escobar, W.Q. Meeker Jr., Assessing influence in regression analysis with censored data, *Biometrics.* (1992) 507–528
- 14) Boggess, May. StataCorp. Methods for Obtaining Marg. Effects. Retrieved from <https://www.stata.com/support/faqs/statistics/marginal-effects-methods/> on May 9, 2018