SOI: 1.1/TAS
DOI: 10.15863/TAS
Scopus ASJC: 1000

ISSN 2308-4944 (print)
ISSN 2409-0085 (online)

№ 03 (119) 2023

Teoretičeskaâ i prikladnaâ nauka

Theoretical & Applied Science

Philadelphia, USA

Teoretičeskaâ i prikladnaâ nauka

Theoretical & Applied Science

03 (119)

2023

International Scientific Journal
Theoretical & Applied Science

Founder: **International Academy of Theoretical & Applied Sciences**

Published since 2013 year. Issued Monthly.

International scientific journal «Theoretical & Applied Science», registered in France, and indexed more than 45 international scientific bases.

Editorial office: **http://T-Science.org** Phone: **+777727-606-81**

E-mail: **T-Science@mail.ru**

International Scientific Journal
Theoretical & Applied Science

Editorial Board:

				Hirsch index:
31	PhD	Mamazhonov Akramzhon Turgunovich	Uzbekistan	-
32	PhD	Ravindra Bhardwaj	USA	h Index Scopus = 2 (5)
33	Assistant lecturer	Mehrinigor Akhmedova	Uzbekistan	-
34	Associate Prof.	Fayziyeva Makhbuba Rakhimjanovna	Uzbekistan	-
35	PhD	Jamshid Jalilov	Uzbekistan	-
36		Guzalbegim Rakhimova	Uzbekistan	-
37	Prof.	Gulchehra Gaffarova	Uzbekistan	-
38	Prof.	Manana Garibashvili	Georgia	
39	D.Sc.	Alijon Karimovich Khusanov	Uzbekistan	
40	PhD	Azizkhon Rakhmonov	Uzbekistan	
41	Prof.	Sarvinoz Kadirova	Uzbekistan	
42	Prof., D.Sc.	Shermukhamedov Abbas Tairovich	Uzbekistan	
43	PhD	Bekjanova Ainura	Uzbekistan	
44		Anzhelika Bayakina	Russia	h Index RISC = 3 (18)
45	PhD	Abdurasul Martazayev	Uzbekistan	
46	PhD	Ia Shiukashvili	Georgia	
47	Associate Prof.	Lali Elanidze	Georgia	h Index Scopus = 0 (1)
48		Maka Kochauri	Georgia	

International Scientific Journal
Theoretical & Applied Science

ISJ Theoretical & Applied Science, 03 (119), 400.
Philadelphia, USA

Impact Factor ICV = 6.630

Impact Factor ISI = 0.829
based on International Citation Report (ICR)

The percentage of rejected articles:

ISSN 2308-4944

Impact Factor:					
	ISRA (India) = 6.317	SIS (USA) = 0.912	ICV (Poland) = 6.630
	ISI (Dubai, UAE) = 1.582	РИНЦ (Russia) = 3.939	PIF (India) = 1.940
	GIF (Australia) = 0.564	ESJI (KZ) = 8.771	IBI (India) = 4.260
	JIF = 1.500	SJIF (Morocco) = 7.184	OAJI (USA) = 0.350

SOI: 1.1/TAS DOI: 10.15863/TAS

International Scientific Journal

Theoretical & Applied Science

p-ISSN: 2308-4944 (print) **e-ISSN:** 2409-0085 (online)

Year: 2023 **Issue:** 03 **Volume:** 119

Published: 03.03.2023 **http://T-Science.org**

Issue Article

Annaguly Rejepovich Deryaev
Scientific Research Institute of Natural Gas of the State Concern „Turkmengas”
Candidate of Technical Sciences, Senior Researcher,
Ashgabat, Turkmenistan
annagulyderyayew@gmail.com

DESIGN OF THE INCLINED-DIRECTIONAL WELL STRUCTURE

Abstract: *The article discusses the design of the design of an inclined directional operational evaluation well in order to restore oil production from an inactive field in the coastal zones of the coastal waters of the Caspian Sea. Materials of previously drilled wells and standard calculations were used to design the well structure.*

This work can be used to select the design for the development of fields in difficult-to-digest marine shallow waters, for trouble-free conduct of the drilling process in difficult mining and geological conditions at abnormally high reservoir pressures.

Key words: *wellhead, inter-column space, casing, oil and gas occurrence, preventer, conductor, grouting solution, well profile, logging, fastening zone.*

Language: *English*

Citation: Deryaev, A. R. (2023). Design of the inclined-directional well structure. *ISJ Theoretical & Applied Science, 03 (119)*, 1-6.

Soi: http://s-o-i.org/1.1/TAS-03-119-1 ***Doi***: crossref https://dx.doi.org/10.15863/TAS.2023.03.119.1

Scopus ASCC: *2209.*

Introduction

The design of the well in terms of reliability, manufacturability and safety should ensure:

-maximum use of reservoir energy of productive horizons during operation due to the optimal design and diameter of the production column;

-the use of efficient equipment, optimal methods and modes of operation, maintenance of reservoir pressure, thermal effects and other methods of increasing oil and gas recovery of reservoirs;

-conditions for safe work without accidents and complications at all stages of well construction and operation;

-obtaining the necessary mining and geological information on the section being opened;

-compliance with the conditions for the protection of the subsoil and the environment, primarily due to the strength and durability of the well support, the tightness of the casing columns and the ring spaces overlapped by them, as well as the isolation of fluid–containing horizons from each other, permeable rocks and the day surface;

-maximum unification according to the standard sizes of casing pipes and borehole.

All casing columns, except for the shaft and elongated direction, coming to the surface, must be suspended at the wellhead and rigidly connected to previously lowered columns using special devices - column heads. These devices must ensure the strapping of the casing strings and prevent unloading before suspension.

The binding of the wellhead should provide:

1. For the conductor:

a) the landing of the column head of the subsequent intermediate column;

b) installation of anti-blowout equipment;

c) the presence of at least 0.3 m of free part at the wellhead for the installation of devices for forced sealing of the wellhead with open gushing.

2. For intermediate and operational columns:

a) tension and suspension;

b) rigid and hermetic connections at the wellhead with a previously deflated column;

c) monitoring of the pressure in the inter-column space and leaks through the sealing unit;

d) the possibility of pumping liquid into the inter-column space;

e) installation of anti-blowout equipment;

f) installation of a perforating valve and fountain fittings.

The rate of descent of the casing string should not lead to hydraulic fracturing, as well as to crushing of the string or absorption of drilling mud.

It is forbidden to partially or completely unload the casing string at the bottom of the well. Unloading of the shank and sections on the face or on the previously lowered part of the casing is prohibited. The upper ends of the shank or casing section installed in the unsettled part of the hole should be located in the intervals of stable rocks that do not have caverns and gutter workings [1, 2].

When lowering the shank or section, the descent speed of the drill pipes should not exceed the descent speed of the casing pipes.

It is recommended to use deep suspension devices:

a) wedge-shaped - for shanks and sections weighing up to 0.5 MN when suspended in the cased part of the hole on an unworn section of the previous casing;

b) thrust - for suspension of shanks and sections of any mass in the cased part of the hole;

c) on cement stone - for suspension of columns of any mass in the unsettled or cased part of the hole with varying degrees of wear of the previous column, provided that there is no absorption and the lifting of the grouting solution is provided for the entire length of the shank or section.

The initial data for the design of the well structure are: the purpose of drilling and the purpose of the well, the design horizon and depth of the well, the diameter of the production column, reservoir pressures and hydraulic fracturing pressures of stratigraphic horizons, methods of completion of the well and its operation, the profile of the well and its characteristics, characteristics of rocks by strength.

When choosing a well design, the duration of drilling of each attachment zone, the intensity of wear of the conductor and intermediate casing strings, as well as the geological study of the drilling area are taken into account.

Directional production and evaluation well No.707 on the West Cheleken square was laid with a design vertical depth of 2620 meters (along the hole of 2764.37 meters) in order to assess the reserve of hydrocarbon raw materials and increase oil production using advanced technologies of foreign companies. For the design of the well structure, data on reservoir pressures and temperatures of previously drilled wells were obtained [3].

The information of earlier accidents and gas and oil occurrences, as well as geophysical materials of the next neighboring wells, were collected and analyzed.

Well 262 (drilled in 1958) with a design depth of 2570 meters. Upon reaching a depth of 2168 m after logging with a density of 1.73 g/cm^3, the manifestation of a well with the output of drilling mud with a density of 1.73 g/cm^3 was detected. Attempts to close the preventer failed. The well went into open gushing.

Well 265 (drilled in 1958-1959) with a design depth of 2700 meters. At a drilling mud density of 1.75 g/cm^3, an operational column was lowered to a depth of 2562 meters. After perforation of the intervals 2508-2504; 2502-2493 meters during the descent of the tubing between the casing columns 6”x11”, a strong intercolonial manifestation of gas and water began. To eliminate the intercolonial manifestation using electrometry, the depth of the manifestation interval is determined. From a depth of 1437 meters, special holes were perforated in the production column and cement mortar was injected.

Well 429 (drilled in 1963) with a design depth of 2700 meters. With the correction of logging, it was drilled to an actual depth of 2743 meters. These intervals were drilled with the density of drilling mud: 2000-2082 meters 1.76 g/cm^3; 2082-2481 meters 1.80 g/cm^3; 2481-2743 meters 1.73-1.76 g/cm^3. No complications occurred during the drilling operations.

The depth of the conductor's descent was determined by the requirement of fastening the upper unstable deposits and isolation of the upper aquifers or absorbing horizons [4]. The conductor is equipped with anti-blowout fittings, therefore, the installation depth of the conductor's shoe was calculated from the condition of preventing hydraulic fracturing during the elimination of oil and gas occurrences according to the formula:

$$H = 100 \times P_{wellh.} + P_{wellh.1} / \gamma_{e.gr.} - \gamma_{res.f.} \qquad (1)$$

where $P_{wellh.}$ is the pressure at the wellhead with the preventer closed during oil and gas occurrences, MPa;

P_{wellh1} - additional pressure at the wellhead that occurs when cleaning the well from incoming reservoir fluids, MPa;

$\gamma_{e.gr}$ - drilling mud density equivalent to the hydraulic fracturing gradient at the depth of the conductor's shoe installation, g/cm^3;

$\gamma_{res.fl.}$ - the density of reservoir fluid in the borehole, g/cm^3.

To select the number of intermediate columns and the depth of their descent, a combined graph of changes in reservoir pressure, hydraulic fracturing pressure and hydrostatic pressure of the drilling mud column in the coordinates "depth-equivalent pressure gradient" was constructed.

The equivalent of the pressure gradient is the density of the liquid, the column of which in the well at the depth of determination creates a pressure equal to the reservoir or hydraulic fracturing pressure [5].

For drilling intervals, we find the values of the equivalents of reservoir pressure gradients according to the formula

$$P_{res.} = 0{,}01/H \qquad (2)$$

If there is no data on hydraulic fracturing pressures, then in exceptional cases it can be determined by the formula:

$$P_{hyd.fr.} = 0{,}0083H + 0{,}66P_{res.} \quad (3)$$

where H is the depth of determination of hydraulic fracturing pressure, m;

P_{res}-reservoir pressure at the depth of determination of hydraulic fracturing pressure, MPa.

Separately, for each interval, the hydraulic fracturing coefficient is found by the formula.

$$K_{hyd.fr.} = 0{,}01/H \quad (4)$$

In the intervals of occurrence of rocks in which a violation of the borehole zone of the well is possible, where the density of the drilling fluid is selected taking into account the rock pressure (pore pressure), instead of reservoir pressure, rock pressure can be plotted on the graph.

In the intervals of intensive absorption of drilling mud, instead of the hydraulic fracturing pressure, the pressure at which intensive absorption begins can be applied to the graph.

The zones of compatible drilling conditions are the zones of attachment of wells by casing strings, their number corresponds to the number of casing strings. [6,7,8]. The depth of the casing descent is assumed to be 10-20 m above the end of the fastening zone (zone of compatible conditions), but not higher than the depth of the beginning of the next zone of compatible conditions [9, 10].

The compatibility of drilling conditions is understood as a combination of them, when the created parameters of the technological processes of drilling the underlying interval of the well will not cause complications in the drilled overlying interval, if the latter is not fixed by the casing Based on calculations using the above formulas, hydrostatic pressure and hydraulic fracturing pressure are obtained, which are shown in Tables 1 and 2. Reservoir and pore pressure are obtained from indicators of neighboring wells, and hydraulic fracturing pressure is calculated using formulas 3 and 4.

Table 1.

Index of the stratigraphic unit	Interval, m		Pressure gradient						Temperature at the end of the interval ^{0}C
			reservoir		pore		hydraulic fracturing of rocks		
	from (top)	to (bottom)	kgf/cm^2 / m		kgf/cm^2 / m		kgf/cm^2 / m		
			from (top)	to (bottom)	from (top)	to (bottom)	from (top)	to (bottom)	
N^3_2 ar	0	200	0,100	0,120	0,100	0,120	0,149	0,162	30
N^3_2 ap-N^3_2 ak-N^2_2 kg	200	1000	0,120	0,132	0,120	0,132	0,162	0,170	41
N^2_2 kg	1000	1800	0,132	0,150	0,132	0,150	0,170	0,182	56
N^2_2 kg	1800	2000	0,150	0,155	0,150	0,155	0,182	0,185	61
N^2_2 kg	2000	2200	0,155	0,165	0,155	0,165	0,185	0,192	66
N^2_2 kg	2200	2650	0,165	0,173	0,165	0,173	0,192	0,213	72

Table 2.

Index of the stratigraphic unit	Interval, m		Pressure gradient				Temperature at the end of the interval, ^{0}C
			reservoir		hydrostatic pressure		
	from (top)	to (bottom)	kgf/cm^2 / m		kgf/cm^2 / m		
			from (top)	to (bottom)	from (top)	to (bottom)	
N^3_2 ap	0	200	0,100	0,120	0,120	0,140	30
N^3_2 ap-N^3_2 ак-N^2_2 кг	200	1000	0,120	0,132	0,140	0,147	41
N^2_2 кг	1000	1800	0,132	0,150	0,147	0,161	56
N^2_2 кг	1800	2000	0,150	0,155	0,161	0,168	61
N^2_2 кг	2000	2200	0,155	0,165	0,168	0,174	66
N^2_2 кг	2200	2650	0,165	0,173	0,174	0,181	72

The calculation of hydrostatic pressure is based on the calculation, according to the instructions "Safety rules in the oil and gas industry".

The hydrostatic pressure during the opening of gas-oil-water-saturated formations should be determined for the horizon with the maximum gradient of reservoir pressure in the range of compatible conditions [11, 12].

The minimum excess of the hydrostatic pressure of the drilling mud column relative to the roof of the formation being opened is shown in Table 3, taking into account the depth of the well and the anomaly of the reservoir pressure.

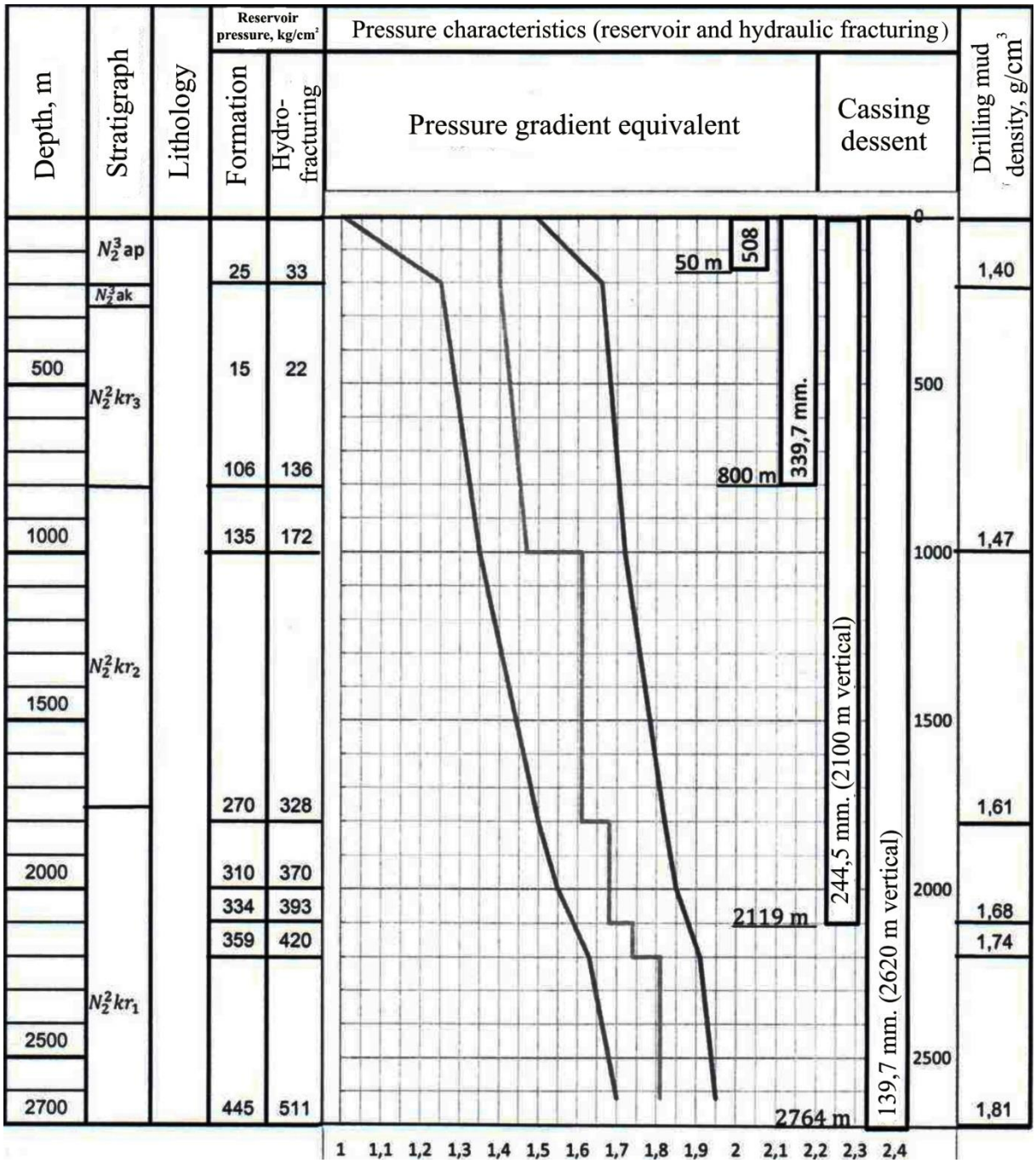


Figure 1. Combined graph of directional well No. 707 of the Western Cheleken field

** Note: According to the actual mining and geological conditions and the results of geophysical studies, the depth of the casing descent, as well as the density of the drilling mud may vary.*

Table 3.

Well depth (interval), m	Minimum excess of the hydrostatic pressure of the solution over the reservoir (repression), kgf/ cm^2	
	For oil-saturated reservoirs	For gas-bearing, gas-condensate formations and formations in unexplored intervals of exploration wells
0 -1000	10,0	15,0
1001 - 2500	15,0	20,0
2501 - 4500	20,0	22,5
4500 and more	25,0	27,0

Based on the calculation results obtained, a combined graph is constructed (Fig.1).

Based on the combined schedule, the following design was selected for overlapping incompatible sections for the directional production and evaluation well 707 on the Western Cheleken field, shown in Table 4.

Table 4.

№	Name	Casing diameter (mm)	Descent depth (vertical/ hole) (m)	The reason for the attachment
1.	Mining direction	708	7	Cement with butobeton. To eliminate the blurring of the wellhead.
2.	Elongated direction	508	50	For overlapping lightly cemented sandstones
3.	Conductor	339,7	800	For overlapping unstable layers of the horizons of Absheron, akchagyl and unstable water layers, as well as possible gas layers of the upper part of the horizon of the red-colored thickness
4.	Technical column	244,5	2100/2119	For overlapping in water and possibly gas layers of the middle, lower horizons of the red-colored strata, as well as for the purpose of controlling the anti-dew equipment in case of possible gas and oil water occurrences
5.	Operational column	139,7	2620/2764	For the exploitation of productive oil and gas horizons

The diameter of the casing strings is selected from the bottom up, starting from the production column.

Conclusions.

1. Analyzing complications, accidents, as well as geophysical materials of previously drilled wells and standard calculations carried out, the correct design of an obliquely directed operational evaluation well with difficult mining and geological conditions with abnormally high reservoir pressures was chosen.

2. Based on the calculations, the combined pressure graph made it possible for the casing strings to descend unhindered.

3. The design of the casing of the well in question is chosen correctly, this is proved by successful drilling of the well without complications to the design depth.

References:

1. (1973). *Metodicheskie ukazaniya po vyboru konstrukcij neftyanyh i gazovyh skvazhin, proektiruemyh dlya bureniya na razvedochnyh i ekspluatacionnyh ploshchadyah*, Moscow: Minnefteprom.
2. Nikitin, B.A. (1998). Osobennosti proektirovaniya naklonno-napravlennyh i gorizontal'nyh skvazhin s bol'shim otkloneniem ot vertikali pri razrabotke morskih, neftyanyh i gazovyh mestorozhdenij. *Tekhnika i tekhnologiya bureniya*, №7.
3. Nikishov, V.I. , Habibullin, R.A., Smetannikov, A.P., & Nizhevich, D.A. (2009). Karty primenimosti komponovok dlya sovmestnoj razrabotki dvuh ob"ektov. *Neftyanoe hozyajstvo*, № 11, pp. 45-47.
4. Harlamov, K.N., Erohin, V.P., Dolgov, V.G., Shenberger, V.M., & Zozulya, G.P. (1992). *Proektirovanie profilej s intervalom bezorientiruemogo nabora krivizny stvola skvazhiny*. Sb. tez. Mezhdunar. NKT Resursosberezhenie v toplivno-energeticheskom komplekse Rossii. (p.24). Tyumen'.
5. (1987). *Tekhnologicheskij reglament na provodku naklonnyh skvazhin po proektnomu profilyu: RD 39-0147276-512-78R*, Ufa: BashNIPIneft'.
6. Deryaev, A.R. (2022). *Konstrukciya gazokondensatnyh skvazhin i analiz tekhnologicheskih rezhimov ih raboty po ust'evym parametram.* Sbornik statej Mezhdunarodnoj nauchno-prakticheskoj konferencii “Instrumenty, mekhanizmy i tekhnologii sovremennogo innovacionnogo razvitiya”. (pp.41-43). Ufa: Nauchnoe izdanie: NIC “Aeterna”.
7. Deryaev, A.R. (2022). *Trebovaniya k konstrukciyam, provedeniyu burovyh rabot, metodom vskrytiya plasta i osoveniya skvazhin*. Sbornik statej V Mezhdunarodnoj nauchnoj prakticheskoj konferencii “Innovacionnyj diskurs razvitiya sovremennoj nauki i tekhnologij.” (pp.8-14). Petrozavodsk: Nauchnoe izdanie: MCNP “Novaya nauka”.
8. Deryaev, A.R., & [Gulatarov, H.G.]. (1998). *Tekhnologicheskie i tekhnicheskie problemy, svyazannye s provodkoj gorizontal'nyh skvazhin elektroburom i puti ih resheniya*. Cbornik statej. Modelirovanie processov razrabotki gazovyh mestorozhdenij i prikladnye zadachi teoreticheskoj gazogidrodinamiki. (pp.56-62). A: Ylym.
9. Deryaev, A.R., & [Gulatarov, H.G.]. (1998). *Issledovanie konstrukcii gorizontal'noj skvazhiny dlya dobychi nefti i gaza*. Sbornik statej. Modelirovanie processov razrabotki gazovyh mestorozhdenij i prikladnye zadachi teoreticheskoj gazogidrodinamiki. (pp.49-57). A: Ylym.
10. Deryaev, A.R., & [Gulatarov, H.G.]. (1998). *Osobennosti bureniya naklonno-napravlennyh skvazhin elektroburom*. Cbornik statej. Modelirovanie processov razrabotki gazovyh mestorozhdenij i prikladnye zadachi teoreticheskoj gazogidrodinamiki. (pp.62-70). A: Ylym.
11. Deryaev, A.R. (2012). Burenie naklonno-napravlennyh skvazhin na mestorozhdeniyah Zapadnogo Turkmenistana. / *Nebitgazylmytaslama institutynyň makalalar ýygyndysynyň* 2-nji (29) goýberilişi, A: Türkmen döwlet neşirýat gullugy, pp. 267-276.
12. (2001). *Pravila bezopasnosti v neftegazodobyvayushchej promyshlennosti*. (pp.190-191). Ashgabat: Sluzhba Gosudarstvennogo standarta Turkmenistana.

Impact Factor:					
	ISRA (India) = 6.317	SIS (USA) = 0.912	ICV (Poland) = 6.630
	ISI (Dubai, UAE) = 1.582	РИНЦ (Russia) = 3.939	PIF (India) = 1.940
	GIF (Australia) = 0.564	ESJI (KZ) = 8.771	IBI (India) = 4.260
	JIF = 1.500	SJIF (Morocco) = 7.184	OAJI (USA) = 0.350

SOI: 1.1/TAS DOI: 10.15863/TAS

International Scientific Journal

Theoretical & Applied Science

p-ISSN: 2308-4944 (print) **e-ISSN:** 2409-0085 (online)

Year: 2023 **Issue:** 03 **Volume:** 119

Published: 03.03.2023 **http://T-Science.org**

Issue Article

Annaguly Rejepovich Deryaev

Scientific Research Institute of Natural Gas of the State Concern „Turkmengas"

Candidate of Technical Sciences, Senior Researcher,

Ashgabat, Turkmenistan

annagulyderyayew@gmail.com

THE PROGRAM FOR SELECTING THE BOTTOM-HOLE ASSEMBLY FOR DRILLING FOR DRILLING IN AN ELONGATED DIRECTION AND UNDER THE CONDUCTOR OF THE DIRECTIONAL BOREHOLE

***Abstract**: The article presents the design of the bottom-hole assembly (BHA) of the elongated direction and the conductor of the directional production and evaluation well for the purpose of successful drilling of well No. 707 of the Western Cheleken field in the coastal zones of the coastal waters of the Caspian Sea.*

Materials from previously drilled wells and standard calculations, as well as safety rules in the oil and gas industry, were used to design the BHA of the extended direction drill string and the well conductor.

This work can be useful and used to perform the tasks set when drilling vertical wells and preventing trunk curvature, as well as bringing the wellbore to the vertical in case of its curvature in conditions of abnormally high reservoir pressures.

***Key words**: conductor, coupling, casing pipes, downhole engine, centralizer, calibrator, drill collar , bit, pressure drop, turbobur, electric drilling, mudstone.*

***Language**: English*

Citation: Deryaev, A. R. (2023). The program for selecting the bottom-hole assembly for drilling for drilling in an elongated direction and under the conductor of the directional borehole. *ISJ Theoretical & Applied Science, 03 (119),* 7-12.

Soi: http://s-o-i.org/1.1/TAS-03-119-2 ***Doi***: https://dx.doi.org/10.15863/TAS.2023.03.119.2

***Scopus ASCC**: 2209.*

Introduction

To ensure the design trajectory of the borehole, it is necessary to apply the most effective bottom of the bottom-hole assembly (BHA) for these drilling conditions.

The selection of the BHA should be made taking into account the provision of an effective diameter of the wellbore for the smooth passage of the casing string, the exclusion of ledges and guttering.

The optimal number of casing strings and the installation depth of their shoes in the design of wells is determined by the number of zones with incompatible conditions of the trunk wiring according to the gradients of reservoir (pore) pressures and hydraulic fracturing (absorption) pressures of formations, strength and stability of rocks [1].

The shoe of the last casing, overlapping the rock prone to fluidity, should, as a rule, be installed below their soles.

Prior to the opening of productive and pressure aquifers, it should be provided for the descent of at least one intermediate column or conductor to a depth that excludes the possibility of rock rupture after complete replacement of the drilling fluid in the well with reservoir fluid and sealing of the mouth.

For the obliquely directed operational evaluation well № 707 on the Western Cheleken field, the following design was provided for an elongated direction and a conductor, which is given in Table 1.

Table 1. Well design (characteristics of casing pipes and depth of descent).

Hole name	Descent depth (m)		Diameter of the open barrel (diameter of the bit) (mm)	Outer diameter, diameter wall thickness, strength group (mm)	Weight of casing pipes (tons)
	above	below			
Mining direction	0	7	914	720 x 10 St.3.	1,58
Elongated direction	0	50	660,4	508 x 11,13 J55	6,94
Conductor	0	800	444,5	339,7 x 9,65 J55	64,3

The required diameter difference between the walls of the well and the casing couplings should be selected based on the optimal values established by drilling practice and maximally ensuring unhindered descent of each casing to the design depth and their high-quality cementing [2].

The minimum allowable diameter difference between the casing couplings and the borehole wall is shown in Table 2.

Table 2.

Nominal diameter of casing pipes, mm	114 127	141 146 159	168 194	219 245	273 299	325 351	375 426
Diameter difference, mm	15	20	25	30	35	45	50

Deviations from these values should be justified in the project.

The minimum allowable diameter difference between the casing couplings and the borehole wall is created by choosing the appropriate BHA of the drill string for each interval of casing descent [3].

First of all, drill bits is selected from the bottom to the top in accordance with the diameter of the casing strings and, accordingly, according to calculations, choose drill collar, calibrators (centralizers), downhole motors, drill collar, translators.

The choice of bit types should be based on the physical and mechanical properties of rocks (hardness, education, plasticity, etc.), lithological section, rock movement, etc. In addition, it is necessary to know the intervals of core sampling and the characteristics of the selected rocks (loose, loose, hard, strong, etc.).

When choosing the type of bit, it is also necessary to take into account data on the possible durability of the bits and the mechanical speed obtained from the results of working out the bits in this area (by area); at the same time, the wear of the bits should be taken into account. If such materials are not available for this deposit, then in this case it is possible to use information on other areas with similar geological conditions [4].

A rational type of bit of this size for specific geological and technical drilling conditions is a type that, when drilling under the conditions under consideration, provides a minimum of operating costs per 1 m of penetration.

Diamond bits can be used for drilling limestones, mudstones, dense clays, clay sandstones, marls, anhydrites and other rocks in which the effectiveness of the use of roller bits is sharply reduced. In the intervals composed of flint limestones, quarried sandstones, highly abrasive siltstones and other hard abrasive rocks, it is not recommended to use diamond bits. The expediency of using diamond bits should be ensured by regulatory savings [5].

The main element for the BHA is weighted drill collar, which create rigidity to the layout and their weight axial load on the bit.

Table 3.

Bottom-hole assembly (BHA)	Diameter (mm)					
Bit	139,7–146	149,2–158,7	165,1–171,4	187,3–200	212,4–228,6	244,5–250,8
Drill collar: (weighted drill collar) under normal conditions	114	121 (133)	133 (146)	159	178	203
in complicated conditions	108	114	121	146	159	178
Bit	269,9	295,3	320	349,2	374,6-393,7	>393,7
Drill collar: under normal conditions	229	245	245	254	273	273
in complicated conditions	203	219	229	229	254	254

The calculation of the drill collar is reduced to determining their diameter and length. The diameter of the drill collar is determined based on the conditions for ensuring the greatest rigidity of the section in drilling conditions, and the length - based on the load on the bit.

Changing the BHA during drilling in the direction of increasing rigidity is not recommended. Each change in the stiffness of the BHA must be technologically justified, verified by calculation and recorded in the regime-technological map. In case of extreme necessity, an increase in stiffness is allowed only after careful study of the open borehole.

The ratio of the diameter of the drill collar to the diameter of the well should be possibly large (0.75-0.85 for bits with a diameter up to 295.3 mm, 0.65-0.75 with a diameter over 295.3 mm) [6].

Depending on the diameter of the bit and drilling conditions, according to Table 3, the diameter of the drill collar is selected.

For complicated drilling conditions, the diameter of the drill collar for bits with a diameter of more than 250.8 mm is allowed to be reduced to the nearest adjacent size.

In turbine and electric drilling, the diameter of the drill collar should not exceed the diameter of the turbobur or electric drill, therefore, the diameter of the submersible engine is taken as the largest size of the drill collar [7].

After selecting the diameter of the drill collar according to Table 4, we check whether the above-ground section of the drill collar provides the necessary rigidity of the casing string under which drilling is carried out. The rigidity of the drill collar section must be no less than the rigidity of the casing string (Table 4).

Table 4.

Pipes	Diameter (mm)											
Drill collar Casing	108 114	121 127	146 146	159 168	178 178	178 219	203 245	203 273	229 299	229 324	229 351	254 ≥377

After checking the rigidity according to Table 5, the diameter of the drill collar is selected depending on the diameter of the previous casing and the drilling method.

Table 5.

Pipes	Drilling method	Diameter (mm)										
Casing	Downhole engine	-	-	-	-	-	178	194	219	245	273	299
	The rotor	114	127	140	146	168	178	194	219	245	273	≥299
Casing	Downhole	-	-	-	-	-	89	102	114	127	140	140

	engine										146	146
	The rotor	60	60	73	73	89	89	102	114	127	140	140
Casing	Downhole engine	324	340	≥406	-	-	-	-	-	-	-	-
	The rotor	-	-	-	-	-	-	-	-	-	-	-
Casing	Downhole engine	140 146	140 146	168	-	-	-	-	-	-	-	-
	The rotor	-	-	-	-	-	-	-	-	-	-	-

If the casing is made up of pipes of two diameters, then the drill string can also be completed from pipes of two diameters [8, 9].

Having selected the diameter of the drill collar, we check its ratio (and if the column is made up of pipes of two diameters, then the ratio of the diameters of the pipes located above the drill collar) to the diameter of the drill collar. If this ratio is less than 0.75, then select drill collar of several diameters decreasing to the diameter of drill collar. The dimensions of the above-ground section of the drill collar must correspond to those specified in Tables 3 and 4.

Having determined the diameter of the drill collar, we calculate their length (rotary method) by the formula:

$$L_{dr.c.} = 1{,}25 P_{bit.} / q_{dr.c.} \qquad (1)$$

where P_{bit} is the load on the bit, MN;

$q_{dr.c}$ – weight of 1 meter drill collar, MN;

$L_{dr.c}$ – length of drill collar, meters.

When drilling with downhole motors, the length of the drill collar is determined by the formula:

$$L_{dr.c.} = 1{,}25 P_{bit} - G / q_{dr.c.} \qquad (2)$$

where G is the weight of the downhole engine, MN.

If the drill collar consists of pipes of several diameters, then their total weight should be equal to

$$q_{dr.c.1} L_{dr.c.1} + q_{dr.c.2} L_{dr.c.2} + \ldots\ldots q_{dr.c.n} L_{dr.c.n} = 1{,}25 P_{bit} \qquad (3)$$

or when drilling with downhole motors

$$q_{dr.c.1} L_{dr.c.1} + q_{dr.c.2} L_{dr.c.2} + \ldots\ldots q_{dr.c.n} L_{dr.c.n} = 1{,}25 P_{bit.} - G \qquad (4)$$

After that, we determine the axial critical load of the P_{cr}, according to the formula

$$P_{cr.} = \sqrt[3]{EIq^2} - P_0 F_0 \qquad (5)$$

where E is the elastic modulus (2.1 x 107 N/cm^2);

I is the equatorial moment of inertia of the pipe section, cm^4;

q is the weight of the unit of length of the drill collar, N/cm;

P_0 is the pressure drop on the bit, N/ cm^2;

F_0 is the total area of the bit holes, cm^2.

$$I = \pi/64\left(D^4 - d^4\right) \qquad (6)$$

If the critical load is less than the load on the bit, then in order to limit the transverse deformation of the drill collar and the contact area with the well, it is recommended to install intermediate profile cross-section supports on the drill collar, if necessary. The number of supports is calculated by the formula

$$m = P_{bit.} - Q_к / q^{\alpha}_{dr.c.} - 1 \qquad (7)$$

where Qa is the weight above the bit arrangement to combat the curvature of the wellbore, MN;

α is the distance between the supports (the number of supports should not be less than two), the value of α is given in Table 6.

Table 6.

Drill collar diameter (mm)	Distance between supports (in m) for different rotational speeds, in rad/s (rpm)			
	5,23 (50)	9,42 (90)	12,56 (120)	15,7 (150)
108 – 114	20,0	16,0	13,5	12,0
121	22,0	16,5	14,0	13,0
133	23,5	17,5	15,0	13,5
146	25,0	18,5	16,0	14,5
159	31,0	21,5	18,5	17,0
178	33,0	23,5	21,0	19,0

The types of centralizers (calibrators) for each interval are selected according to the drilling conditions and the dimensions should be correspondingly equal to the diameter of the bit. [10, 11].

Based on calculations for drilling an interval from zero to 50 meters for an elongated shaft direction with a diameter of 720 mm, the following BHA was selected.

Crab 914 mm- 0.6 m; calibrator 660.4mm – 1.3 m; drill collar 245mm – 6.5m; calibrator 660.4mm – 0.6 m; drill collar 229mm – 13m; calibrator 660.4mm – 0.6 m; drill collar 203mm – 18m.

BHA for drilling for a conductor with a diameter of 426 mm.

Interval 0-600 m:

Bit with a diameter of 444.5 mm-0.5 m; calibrator 444.5 mm – 1.3 m; drill collar 245 mm – 6.5 m; calibrator 444.5 mm – 1.3 m; drill collar 229 mm – 13 m; calibrator 444.5 mm - 1.3 m; drill collar 203 mm – 60 m; drill collar.

Drilling was carried out vertically by rotary method. A diamond bit was used for drilling under the conductor. The hydraulic well drilling program provided the most complete cleaning of the face and the borehole from the drilled rock with minimal hydraulic losses. The working pressure of pumping pumps was 0.75 – 0.8 of the permissible, for the applied sizes of cylinder bushings [12].

The specific consumption of drilling mud when drilling the interval under the elongated direction by the rotary method was within 0.035 – 0.05 l/s cm^2 of the face area, and when drilling under the conductor with a hydraulic downhole motor did not exceed 0.07 l/s cm^2. Upon reaching a depth of 800 meters, a complex of geophysical studies was carried out. The iklinometric data showed the verticality of the trunk, which corresponded to the project.

Conclusions.

1. The calculated selection of the BHA for the elongated direction and the conductor provided with their rigidity to successfully drill an obliquely directional operational and evaluation well, up to the provided design depth, ensuring the verticality of the trunk.

2. The correct selection of the BHA for the elongated direction and the conductor, which alternates with soft weakly cemented abrasive rocks, proves the verticality of the drilled trunk.

3. This method of collecting the BHA can be used when drilling deep wells with abnormally high reservoir pressures and can be useful to design engineers drilling oil and gas wells.

References:

1. Mel'nichuk, I.P. (1991). *Burenie napravlennyh i mnogostvol'nyh skvazhin*. Moscow: Nedra.
2. (1973). *Metodicheskie ukazaniya po vyboru konstrukcij neftyanyh i gazovyh skvazhin, proektiruemyh dlya bureniya na razvedochnyh i ekspluatacionnyh ploshchadyah*. Moscow: Minnefteprom.
3. Morozov, Yu.T. (1976). *Burenie napravlennyh i mnogostvol'nyh skvazhin malogo diametra*. Moscow: Nedra.
4. Deryaev, A.R. (2022). *Komponovka niza buril'noj kolonny dlya bureniya napravlennoj skvazhiny pri odnovremenno-razdel'noj ekspluatacii*. Sbornik statej VII Mezhdunarodnoj nauchno-prakticheskoj konferencii “Aktual'nye voprosy, dostizheniya i innovacii”. (pp.61-67). Penza: Nauchnoe izdanie: MCNS «Nauka i prosveshchenie».
5. Deryaev, A.R. (2022). *Tekhnologiya bureniya naklonno-napravlennoj skvazhiny s razdel'noj ekspluataciej odnovremenno neskol'kih gorizontov na mestorozhdenii Severnyj Goturdepe.* Materialy 83-j Mezhdunarodnoj nauchno-prakticheskoj konferencii “Aktual'nye voprosy nauki”. (pp.30-35). Moscow: OOO Izdatel'stvo Sputnik +.
6. Deryaev, A.R. (2022). Razrabotka konstrukcii naklonno-napravlennoj skvazhiny s cel'yu odnovremennoj razdel'noj ekspluatacii. Materialy XI mezhdunarodnoj zaochnoj nauchno-prakticheskoj konferencii “Sovremennye innovacii v Rossii i za rubezhom: proshloe, nastoyashchee, budushchee”. *Sovremennye innovacii*, №1 (41) - M: Izdatel'stvo “Problemy nauki”, pp.8-12.
7. Deryaev, A.R. (2022). *Tekhnologicheskie i tekhnicheskie problemy, svyazannye s provodkoj gorizontal'nyh skvazhin elektroburom i puti ih resheniya*. Sbornik nauchnyh trudov po materialam Mezhdunarodnoj nauchno-prakticheskoj konferencii “Perspektivy razvitiya sfery nauki, tekhniki i tekhnologij v XXI veke”. (pp.34-37). Belgorod: Izdatel'stvo: OOO Agenstvo perspektivnyh nauchnyh issledovanij (APNI).
8. Deryaev, A.R. (2022). *Raschety obsadnyh kolonn dlya odnovremenno razdel'noj ekspluatacii naklonno-napravlennoj skvazhiny №147 mestorozhdeniya Severnyj Goturdepe.* Sbornik statej XXIX mezhdunarodnoj nauchno-prakticheskoj konferencii “European scientific conference”. (pp.53-62). Penza: Nauchnoe izdanie: MCNS «Nauka i prosveshchenie».
9. Deryaev, A.R. (2022). *Spusk obsadnyh kolonn naklonno-napravlennoj skvazhiny dlya ORE na ploshchadi Severnyj Goturdepe.* Sbornik nauchnyh trudov po materialam Mezhdunarodnoj nauchno-prakticheskoj konferencii “Klyuchevye problemy estestvennyh, tekhnicheskih i gumanitarnyh nauk v sovremennoj Rossii”. (pp.19-23).

Belgorod: Izdatel'stvo: OOO Agenstvo perspektivnyh nauchnyh issledovanij (APNI).

10. Deryaev, A.R. (2022). *Sostavlenie pointerval'noj programmy vybora komponovki niza buril'noj kolonny dlya bureniya pod tekhnicheskuyu kolonnu naklonno-napravlennoj skvazhiny.* Sbornik statej nauchno-prakticheskoj konferencii “Informacionnoe obespechenie nauchno-tekhnicheskij progressa: analiz problem i poisk reshenij”. (pp.38-42). Ufa: Nauchnoe izdanie: NIC “Aeterna”.
11. Deryaev, A.R. (2022). *Sostavlenie pointerval'noj programmy vybora komponovki niza buril'noj kolonny dlya bureniya pod ekspluatacionnuyu kolonnu naklonno-napravlennoj skvazhiny.* Sbornik statej nauchno-prakticheskoj konferencii “Informacionnoe obespechenie nauchno-tekhnicheskogo progressa: analiz problem i poisk reshenij”. (pp.42-46). Ufa: Nauchnoe izdanie: NIC “Aeterna”.
12. Deŕyaýew, A.R. (2022). *Bottom - hole assembly for drilling of directional well with dual completion. “Breakthrough scientific research as an engine of science”.* Collection of articles of International scientific and practical conference. (pp.95-101). Rossia-Sterlitamak: Publishing: Agency of international research.

Impact Factor:					
	ISRA (India) = 6.317	SIS (USA) = 0.912	ICV (Poland) = 6.630
	ISI (Dubai, UAE) = 1.582	РИНЦ (Russia) = 3.939	PIF (India) = 1.940
	GIF (Australia) = 0.564	ESJI (KZ) = 8.771	IBI (India) = 4.260
	JIF = 1.500	SJIF (Morocco) = 7.184	OAJI (USA) = 0.350

SOI: 1.1/TAS DOI: 10.15863/TAS

International Scientific Journal

Theoretical & Applied Science

p-ISSN: 2308-4944 (print) **e-ISSN:** 2409-0085 (online)

Year: 2023 **Issue:** 03 **Volume:** 119

Published: 03.03.2023 **http://T-Science.org**

Issue Article

Annaguly Rejepovich Deryaev
Scientific Research Institute of Natural Gas of the State Concern „Turkmengas"
Candidate of Technical Sciences, Senior Researcher,
Ashgabat, Turkmenistan
annagulyderyayew@gmail.com

SELECTION OF THE BOTTOM-HOLE ASSEMBLY FOR DRILLING UNDER THE INTERMEDIATE TECHNICAL COLUMN OF THE DIRECTIONAL WELL

Abstract: *the article considers the design of the bottom-hole assembly (BHA) of the technical column of intervals (a set of zenith, rectilinear) of an obliquely directed operational evaluation well for the purpose of successful drilling of well № 707 at the Western Cheleken field in the coastal zones of the coastal waters of the Caspian Sea.*

Materials of previously drilled wells and standard calculations, as well as safety rules in the oil and gas industry, were used to design the BHA of the intermediate technical column of the well. The application of new downhole equipment for the selection of the zenith angle and logging operations during drilling in real time is described.

This work can be used to perform the tasks set when drilling directional wells in fields with difficult mining and geological conditions and abnormally high reservoir pressure.

Key words: *technical column, design, flushing fluid, drill string, bending, calibrator, compression, curvature, check valve, rotary controlled system, translator, nipple, clutch.*

Language: *English*

Citation: Deryaev, A. R. (2023). Selection of the bottom-hole assembly for drilling under the intermediate technical column of the directional well. *ISJ Theoretical & Applied Science, 03 (119),* 13-18.

Soi: http://s-o-i.org/1.1/TAS-03-119-3 ***Doi***: https://dx.doi.org/10.15863/TAS.2023.03.119.3

Scopus ASCC: *2209.*

Introduction

An important technological factor determining the curvature of the vertical borehole is the longitudinal stability of the drill string located above the bit. When the stability of the drill string is lost, a deflecting force appears on the bit, under the action of which the bit will destroy the face at a certain angle to the axis of the well and mill the barrel wall in the transverse direction, which will lead to a curvature of the well.

The correct selection (design) of technological and technical means, namely the bottom-hole assembly (BHA) (bits, drill string, rotating downhole motor, telesystems and deflectors), as well as drilling mud, are the fundamental factors ensuring successful (controlled) well wiring [1, 2].

When drilling wells, the following main methods are used to ensure the verticality of the hole:

- using the "pendulum" effect by creating the maximum possible deflecting force on the bit, directed in the direction opposite to the direction of curvature of the barrel, and increasing the intensity of milling the barrel wall with the side surface of the bit;
- maintaining the existing insignificant zenith angle of the borehole by centering the lower part of the BHA by placing the centering elements at the optimal distance from the bit;
- active reduction of the curvature of the barrel due to the deflecting force or a change in the direction of the axis of the bit.

These methods of wiring a vertical borehole are implemented by appropriate technical means:

- pendulum BHA;
- hard BHA;
- stepped BHA;
- RCS -s.

Therefore, the main task in calculating the BHA for drilling a vertical well is to find such a length of its guide section at which the total angle of rotation of the bit axis would be minimal with any combination of

technological factors [3]. The calculation scheme of such a rigid BHA is shown in Figure 1.

The minimum of the total angle ($\varphi_{tot.} = \varphi_{pr} + \varphi_{init}$) of rotation of the bit axis (Figure 1.) is the criterion for finding the optimal length of its guide section for vertical well conditions.

The length of the guide section of the BHA to prevent the curvature of the vertical well is determined by the formula (1), and the geometric and stiffness characteristics of the drill collar are given in Table 1.

$$l_{max} = 0{,}5 \cdot \sqrt[3]{\frac{EJ}{q}}. \quad (1)$$

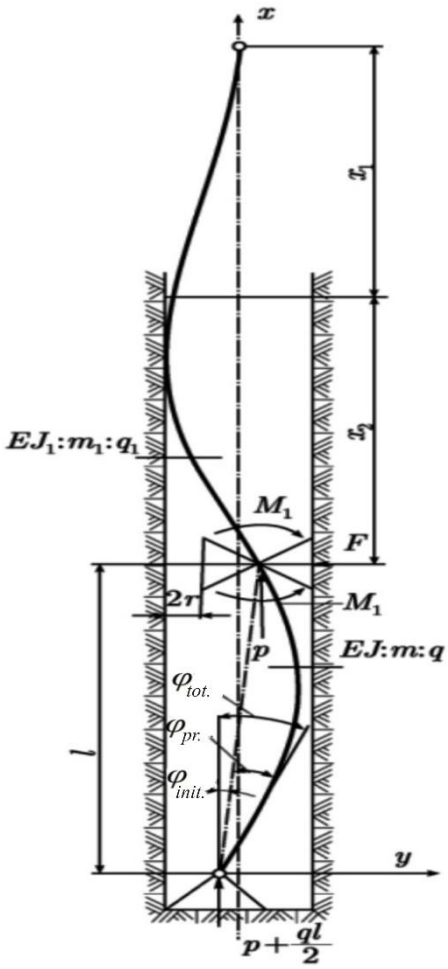


Figure 1. Calculation scheme of rigid BHA:

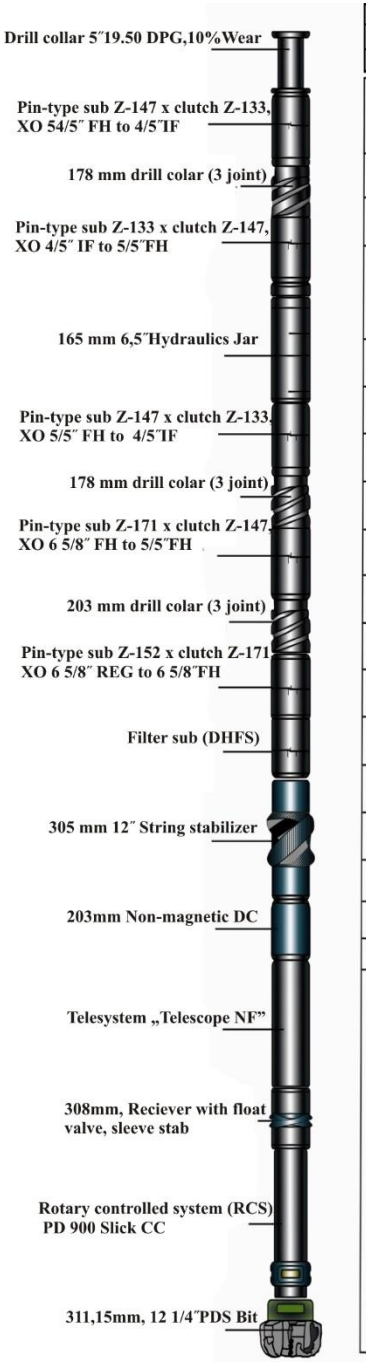
X_1 – length of the stretched part of the drill string;
X_2 - length of the compressed part of the drill string;
P is the axial reaction applied to the lower end of the drill string and equal in magnitude to the weight of the compressed part of the string;
M_1 – reactive bending moment;
F - lateral reaction on the support (centering element located at the upper end of the BHA);
EJ_1 - bending stiffness of the drill string;
q_1 is the weight of the unit length of the drill string in the flushing fluid;
l is the length of the rigid BHA;
EJ - bending stiffness (drill collar, downhole motor) of the BHA;
q is the weight of the unit length of the base of the BHA in the washing liquid.

Pendulum BHA are used to bring the hole of a curved well to the vertical. A typical pendulum BHA does not include support-centering elements [4].

Drilling of the directional operational evaluation well № 707 on the West Cheleken field with a depth of 1650 meters was planned to be drilled vertically and

a set of zenith angle to deepen obliquely correcting the azimuth angle with a trajectory towards the sea area.

The drilling data of the section for a technical column of 244.5 mm along the barrel interval are shown in Table 1.



Field Name	Turkmennebit/Turkmen	Borehole Name	707	Hole Size (in)	12.250
Structure Name	West Cheleken# 707	BHA Name	BHA 1 PowerDrive+MWD	Depth in (m)	1650.00
Well Name	Zapadny Cheleken# 707		311.15mm-6in Jar	Depth Out (m)	2114.00

	Desc.	Manu.	OD (in) / ID (in)	Max OD (in)	Bot Type / Top Type	Bot Gender / Top Gender	FN OD (in) / FN Length (m)	Length (m)	Cum. Length (m)	Cum. Weight (t)
1	311,15mm, 12 1/4″PDS Bit	Smith	8.000 / 3.250	12.250	6-5/8 REG	Pin		0.44	0.44	0.2
2	Rotary controlled system (RCS), PD 900 Slick CC	Schlumberger	9.000 / 5.125	12.125	6-5/8 REG / 6-5/8 FH	Box		4.21	4.65	1.3
3	308mm, Reciever with float valve, sleeve stab	Schlumberger	8.000 / 2.500	12.125	6-5/8 FH / 6-5/8 FH	Pin / Box		1.52	6.17	1.7
4	Telesystem „Telescope NF”	Schlumberger	8.250 / 5.109	8.410	6-5/8 FH / 6-5/8 REG	Pin / Box		7.53	13.69	3.3
5	203mm Non-magnetic DC	Schlumberger	8.228 / 2.835	8.228	6-5/8 REG / 6-5/8 REG	Pin / Box	7.992 / 9.42	9.40	23.09	5.5
6	305 mm 12″ String stabilizer	Schlumberger	8.250 / 3.000	11.500	6-5/8 REG / 6-5/8 REG	Pin / Box	0.000 / 0.00	2.30	25.39	6.0
7	Filter sub (DHFS)	Schlumberger	8.000 / 2.500	8.000	6-5/8 REG / 6-5/8 REG	Pin / Box		1.52	26.92	6.4
8	Pin-type sub Z-152 x clutch Z-171, XO 6 5/8″ REG to 6 5/8″FH	Schlumberger	8.228 / 2.835	8.228	6-5/8 REG / 6-5/8 FH	Pin / Box	0.000 / 0.00	1.00	27.92	6.6
9	203 mm drill colar (3 joint)	TN	7.992 / 2.835	7.992	6-5/8 FH / 6-5/8 FH	Pin / Box	0.000 / 0.00	28.20	56.12	12.9
10	Pin-type sub Z-171 x clutch Z-147, XO 6 5/8″ FH to /5″FH	TN	7.992 / 2.835	7.992	6-5/8 FH / 5-1/2 FH	Pin / Box	0.000 / 0.00	1.00	57.12	13.1
11	178 mm drill colar (3 joint)	TN	7.008 / 2.835	7.008	5-1/2 FH / 5-1/2 FH	Pin / Box	0.000 / 0.00	28.50	85.62	17.7
12	Pin-type sub Z-147 x clutch Z-133, XO 6 5/5″ FH to 6 4/5″IF	TN	6.750 / 2.250	6.750	5-1/2 FH / NC50 (4-1/2 IF)	Pin / Box		1.52	87.14	18.0
13	165 mm 6,5″Hydraulics Jar	Schlumberger	6.500 / 2.750	6.500	4-1/2 IF / 4-1/2 IF	Pin / Box		9.50	96.64	18.8
14	Pin-type sub Z-133 x clutch Z-147, XO 4/5″ IF to 5/5″FH	TN	6.750 / 2.250	6.750	4-1/2 IF / 5-1/2 FH	Pin / Box		1.52	98.17	19.0
15	178 mm drill colar (3 joint)	TN	7.008 / 2.835	7.008	5-1/2 FH / 5-1/2 FH	Pin / Box	0.000 / 0.00	28.50	126.67	23.7
16	Pin-type sub Z-147 x clutch Z-133, XO 54/5″ FH to 4/5″IF	TN	6.750 / 2.250	6.750	5-1/2 FH / NC50 (4-1/2 IF)	Pin / Box		1.52	128.19	23.9
17	Drill collar 5″19.50 DPG,10%Wear	TN	4.928 / 4.276	6.625	NC50 (4-1/2 IF) / NC50 (4-1/2 IF)	Pin / Box		9.45	137.64	24.2

BHA Comments

Sensor Offset from Bit (m)		Stabilizer Summary		
		Blade Mid-Pt to Bit (m)	Bl a	Blade Length (m)
MWD Gamma Ray	9.19	5.345	#	0.300
D+I	9.83	24.475	#	0.610

Bend Summary	
Bend Angle (deg)	Bend to Bit (m)

Total Length (m)	137.64
Total Weight in Air (t)	24.2
Total Buoyant Weight (t)	19.1
Buoyant Weight Below Jar (t)	14.3
Weight in Air Below Jar (t)	18.0

Mud Properties	
Mud Weight (g/cm3)	1.68
Mud Type	OBM
PV (cP)	40.00
YP (0.01 lbf/ft2)	30.00

BHA Nozzle Summary		
Component	Count x ID (1/32 in)	TFA (in2)
Bit	6 x 14	0.902
PD Flow Restrictor (1/32 in)		0.00
Rotor Bypass Nozzle (1/32 in)		

Date	14Jun2021
Designed By	DIR\PBabanyazov
Approved By	

Figure 2. BHA for drilling the interval of 1650-2100 m (vertically) 1650-2119 m (along the hole) of a set of zenith angle for a technical column

Table 1.

The interval of the barrel diameter 295.3 mm	800m – 2119m (along the hole) 800m – 2100m (vertical)
Interval length:	1319 m
Drilling barrel interval with a screw downhole motor:	800м – 2119m (along the hole) 800м – 2100 m vertical)

The length of the drilling interval with a screw downhole motor:	1319 m
Hole configuration:	Directional (vertical, angle set, straight-line stabilization)

For drilling all intervals, the following BHA is selected. The zenith angle was set by a rotary controlled system.

BHA for drilling with a diameter of 244.5 mm for a technical column.

Interval 800-1650 m (vertical part of the directional shaft):

For drilling under a technical column of 244.5 mm in the interval 800-1650 m.

Bit 311.15 mm; calibrator 311.1 mm – 1 piece; drill collar 245 mm – 5 m; calibrator 311.1 mm – 1 piece; drill collar 229 mm – 13 m; calibrator 311.1 mm – 1 piece; drill collar 203 mm – 80 m; BT.

For drilling the interval of 1650-2100 m (vertically) 1650-2119 m (along the hole) of the zenith angle set, the following BHA was designed.

311,15mm, 12 1/4 ´´ PDS Bit″

A bit with a diameter of 311.15 mm diamond; 308 mm. Rotary controlled system PD 900; calibrator with check valve 308 mm; drill collar 203 mm– 9.42 m; ARC LWD logging device during drilling; 214 mm Telescope 675 NF; drill collar 203 mm non–magnetic - 9.42 m; calibrator with check valve 305 mm; translator with filter 203 mm; pin-type sub Z-152 x clutch Z-171; drill collar 203 mm -28.2 m; pin-type sub Z-171x clutch Z-147; drill collar 178 mm -28.5 m; pin-type sub Z-147x clutch Z-133; hydraulic jar 165 mm; pin-type Z-133 x clutch Z-147; drill collar 178 mm -28.5 m; pin-type sub Z-147x clutch Z-133; drill collar 139.7 mm-9.5 m (thickened drill pipe).

The BHA for the interval of 1650-2100 m (vertically) 1650-2119 m (along the hole) of the set of the zenith angle for the technical column is shown in Fig. 2.

Drilling from a depth of 1650 m to 2100 m along the hole reached a zenith angle of 27 degrees with an azimuth of 250 degrees. From a depth of 2100 m to 2119 m, the interval is drilled stably with maintaining a zenith angle of 27 degrees and an azimuth angle of 250 degrees.

Drilling of the interval was carried out with a diamond drill bit with a diameter of 311.15 of the SDI519 brand manufactured by SmithBits, shown in Figure 3.

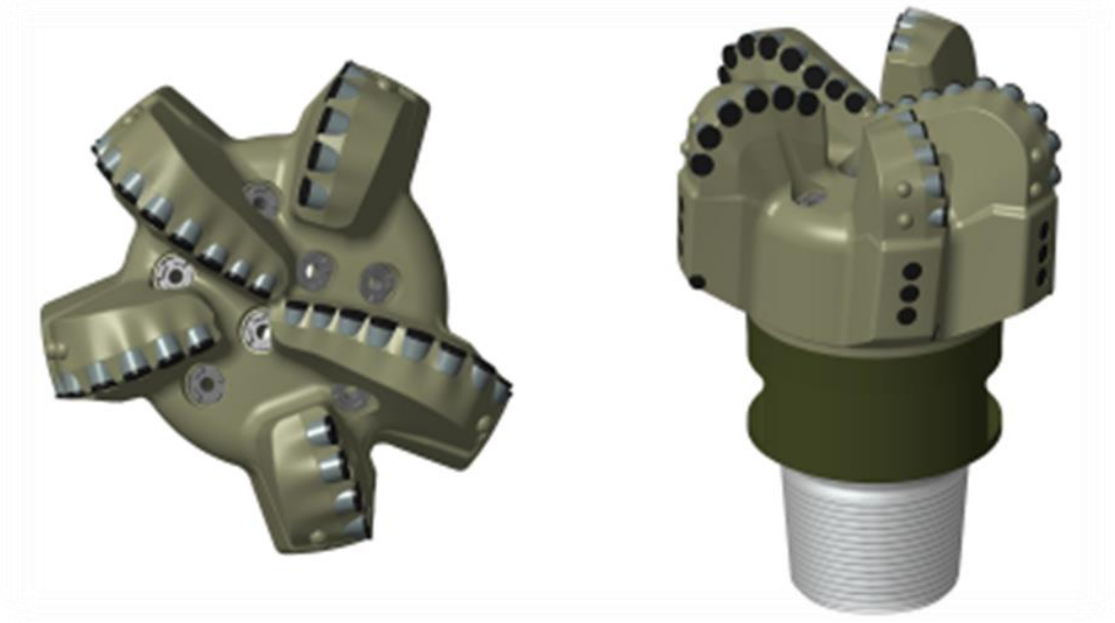


Figure 3. Diamond drill bit with a diameter of 311.15 of the SDI519 brand.

The diamond drill bit with a diameter of 311.15 of the SDI519 brand invariably provides excellent performance in directional positions, with the help of rotations by a rotary controlled system, when loaded on the bit with a turn in the required trajectory. Removable inserts of the Lo – Vibe type are mounted. It has an increased cleaning of the drilled rock, and also, with the help of permissible hydraulic flows, produces the necessary cooling of the bit and the complete lifting of the drilled rock to the surface. With minimal pump pressure, there is no risk of lumps forming at the bottom of the well. Side holes of the PX type, for the circulation of drilling mud, extend the service life of the bit by strengthening its calibration sections with diamond inserts of the DEI type made of wear-resistant tungsten carbide.

The designed BHA for drilling this section includes two important elements:

The PowerDrive X6 rotary controlled system (RCS) is a new generation of drilling equipment with increased reliability and productivity, which allows achieving greater penetration per chiseling, accurately following the planned trajectory of the hole while reducing drilling time [5,6].

All external elements of the system rotate, which ensures high uniformity and stability of the borehole, the transfer of the necessary load to the bit and, ultimately, minimizing the likelihood of the layout being seized at the bottom.

A system for measuring and transmitting data during drilling "Telescope", which is used for measuring the zenith angle and azimuth and transmitting data to the surface in real time by creating pressure pulses decoded by sensors installed on the drilling line.

The drilling procedure in the range of 1650-2119 m along the hole (angle set interval and stabilization) is as follows:

1. Before lowering the BHA for deflection, it is necessary to make sure that the face is clean of foreign objects.

2. Assemble and descend the BHA to a depth of 1650m along the hole for drilling in the range of 1650 – 2119m along the hole.

3. MWD measurements will be made during the descent of the BHA at an interval of 0-1650m to measure the zenith angle of the already drilled barrel, in the absence of measurements. To do this, you will need to increase the pump supply to 30-38 liters per second (500-600 gallons per minute).

4. Drilling in this interval will be carried out by the BHA with RCS. By setting and maintaining the zenith angle of 27 degrees to a depth of 2100 m along the hole (2083.53 m vertically). The planned drilling interval can be increased or reduced by the customer's decision.

5. When drilling with RCS, the minimum required rotation speed of the drilling column is 120-130 revolutions per minute. (The optimal rotation speed is 140 revolutions per minute) [7, 8, 9].

6. The commands of the RCS-s are given by varying the supply of drilling mud by pumps (allowed for the device minimum - maximum, maximum - minimum, etc.)

7. To assess the degree of cleaning and the condition of the wellbore, the volume of drilled sludge, as well as the torque value must be constantly monitored.

8. If there are landings or delays during drilling, work out the borehole of the drilling well. In case of critical landings and tightening, in order to avoid wear of the elements or loss of the BHA, perform a descent -lifting operation to change the BHA to a rotary one, and further study of the borehole. In the absence of problems along the hole, to lift the BHA for the subsequent implementation of the planned complex of geophysical exploration of the well [10].

9. At a depth of 2119 m of the hole of 311.15 mm (12.25”), flush the borehole until the sludge is completely washed out, and carry out a control descent-ascent into the shoe of the previous column. Flush the well, align the parameters of the drilling mud at the maximum possible feed rate and the corresponding rotor rotation speed (recommended at least 80 rpm), with simultaneous monitoring of the presence of sludge on the vibrating screens.

Drilling of the well was carried out on a hydrocarbon-based drilling mud with a specific gravity of 1.66 g/cm^3; the flow rate of drilling mud is 41 l/sec; the area of the bit nozzles is 582 mm^2; the pressure drop on the bit was 40 kg/cm^2; and the total pressure in the riser was 193 kg/cm^2 [11, 12].

Drilling was carried out in the following mode:

The load on the bit is 5-10 tons.

Rotation speed 120-130 rpm.

The pump capacity is 40-45 l/sec.

All procedures for setting the drilling mode and drilling mud were followed according to the developed program. The interval of the well (the set of the zenith angle and the stabilization of the zenith angle) with a zenith angle of 27 degrees and an azimuth angle of 250 degrees and an offset towards the sea area of 112 meters with the selected BHA was successfully drilled.

Conclusions

1. In order to ensure the provided design trajectory of the borehole, it is necessary to make the correct selection of the most effective bottom-hole assembly (BHA) for these drilling conditions.

2. Strict compliance with the hydraulic drilling program, in order to increase the mechanical drilling speed and complete cleaning of the drilled rock from the face.

3. The use of advanced technologies for the transmission of information in real time to determine the direction of the trajectory of the hole and the data of geophysical studies of the layers of the well from the bottom of the well to the surface of the well.

4. The correct selection of the BHA for the site of selection and stabilization of the zenith angle indicates the successful achievement of the well to the design depth in a given direction.

References:

1. Fedorov, V. S., et al. (1966). *Prakticheskie raschety v burenii*. (p.600). Moscow.
2. (2001). *Instrukciya po bureniyu naklonno napravlennyh i gorizontal'nyh skvazhin na severe Tyumenskoj oblasti: RD 00158-758-217*, Tyumen'.
3. (1985). *Instrukciya po bureniyu naklonno napravlennyh skvazhin v Bashkirii: STO 03-144-85*, Ufa.
4. (1986). *Instrukciya po bureniyu naklonnyh skvazhin s kustovyh ploshchadok na neftyanyh mestorozhdeniyah Zapadnoj Sibiri: RD 39-014870-6.027-86*, Tyumen': SibNIINP.
5. Akbulatov, T. O., & Levinson, L. M. (1997). *Raschety pri burenii naklonnyh skvazhin*. Ufa: UGNTU.
6. Aleksandrov, M. M. (1978). *Sily soprotivleniya pri dvizhenii trub v skvazhine*. - Moscow: Nedra.
7. Aliev, Z. S., & Sheremet, V. V. (1995). *Opredelenie proizvoditel'nosti gorizontal'nyh skvazhin, vskryvayushchih gazovye i neftyanye plasty*, Moscow: Nedra.
8. Baldenko, D. F., Baldenko, F. D., & Gnoevyh, A. N. (1999). *Vintovye zabojnye dvigateli*. Moscow: Nedra.
9. Basarygin, Yu. M., Butnikov, V. F., Bulatov, A. I., & Geraskin, V. G. (2000). *Stroitel'stvo naklonnyh i gorizontal'nyh skvazhin*. - Moscow: Nedra.
10. Basarygin, Yu. M., Butnikov, V. F., Bulatov, A. I., & Proselkov, Yu. M. (2001). *Tekhnologicheskie osnovy osvoeniya i glusheniya neftyanyh i gazovyh skvazhin*. Ucheb.dlya vuzov. Moscow: Nedra-Biznescentr.
11. Deryaev, A., & Mihajlyuk, V. (2012). Burenie naklonno-napravlennyh skvazhin v Zapadnom Turkmenistane. *Nauchnye aspekty razvitiya neftyanoj promyshlennosti Turkmenistana: Nebitgazylmytaslama*, vyp. 2 (29), Ashgabat: Ylym, pp.267-276.
12. (1967). *Osnovy neftyanogo i gazovogo dela.* so avt. V.M. Murav'ev, N.G. Sereda. - Moscow: Nedra.

Impact Factor:					
	ISRA (India) = 6.317	SIS (USA) = 0.912	ICV (Poland) = 6.630
	ISI (Dubai, UAE) = 1.582	РИНЦ (Russia) = 3.939	PIF (India) = 1.940
	GIF (Australia) = 0.564	ESJI (KZ) = 8.771	IBI (India) = 4.260
	JIF = 1.500	SJIF (Morocco) = 7.184	OAJI (USA) = 0.350

SOI: 1.1/TAS DOI: 10.15863/TAS

International Scientific Journal

Theoretical & Applied Science

p-ISSN: 2308-4944 (print) **e-ISSN:** 2409-0085 (online)

Year: 2023 **Issue:** 03 **Volume:** 119

Published: 03.03.2023 **http://T-Science.org**

Issue Article

Annaguly Rejepovich Deryaev

Scientific Research Institute of Natural Gas of the State Concern „Turkmengas"

Candidate of Technical Sciences, Senior Researcher,

Ashgabat, Turkmenistan

annagulyderyayew@gmail.com

SELECTION OF THE THE BOTTOM-HOLE ASSEMBLY FOR DRILLING UNDER THE PRODUCTION COLUMN OF THE DIRECTIONAL WELL

***Abstract**: the article considers the design of the bottom-hole assembly (BHA) for the production column of an inclined directional production and evaluation well in order to successfully drill well № 707 at the Western Cheleken field in the coastal zones of the coastal waters of the Caspian Sea.*

Materials of previously drilled wells and standard calculations, as well as safety rules in the oil and gas industry, were used for the design of the BHA for the purpose of drilling the interval for the production column.

This work can be used to perform the tasks set when drilling directional wells, in the fight against possible complications in the open hole in conditions of abnormally high reservoir pressures.

***Key words**: overhead centralizer, translator, deflector motor, bit, radius of curvature, angle of skew, bend, section, rigid link, telesystem, extension.*

***Language**: English*

***Citation**: Deryaev, A. R. (2023). Selection of the the bottom-hole assembly for drilling under the production column of the directional well. *ISJ Theoretical & Applied Science, 03 (119),* 19-26.*

***Soi**: http://s-o-i.org/1.1/TAS-03-119-4 **Doi**: crossref https://dx.doi.org/10.15863/TAS.2023.03.119.4

***Scopus ASCC**: 2209.*

Introduction

Based on the calculated optimal dimensions of the layout of the bottom of the drill strings (BHA), taking into account the size of the bit, the location of the centralizers (calibrators) and other technological elements of the BHA is determined.

When drilling by the rotary method, the length of the extension adapter (drill collar segment) is determined, which must be installed between the centralizer and the bit or calibrator, if the latter is included in the BHA, so that the length of the guide section is equal to the calculated (L_{op}) optimal value [1].

Figure 1 shows the calculation scheme of the BHA.

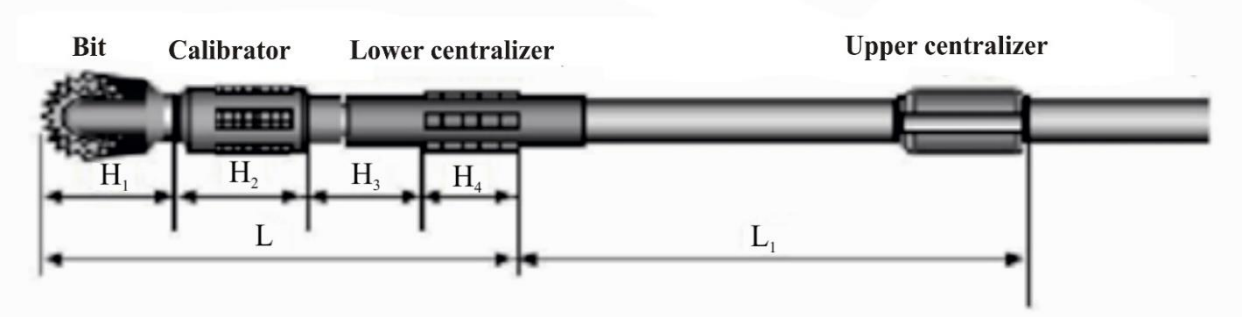


Figure 1 – Calculation scheme of the BSC with centralizers

The length of the extension sub is determined from the expression:

$$H_3 = L - H_1 - H_2 - H_4 , \quad (1)$$

where H_3 is the length of the extension sub, m;

L is the estimated length of the guide section of the BHA, m;

H_1 – bit height, m;

H_2 – length of the over-the-bit calibrator, m;

H_4 is the length of the centralizer, m.

When drilling with a downhole motor and using mobile centralizers, the installation location (the distance from the end of the shaft spindle translator to the centralizer) of the lower centralizer on the body of the downhole motor [2] is determined from the expression:

$$H_3 = L - H_1 - H_2 - H_4 \quad (2)$$

where H_3 is the distance from the lower end of the over–the-head shaft of the spindle shaft of the downhole motor to the centralizer, m;

L is the estimated length of the guide section, m;

H_1 – bit height, m;

H_2 – length of the over-the-bit calibrator, m;

H_4 is the length of the centralizer, m.

At the bottom-hole deflector motor, a curved translator or a curvature mechanism is located between the spindle section and the working section (Figure 2).

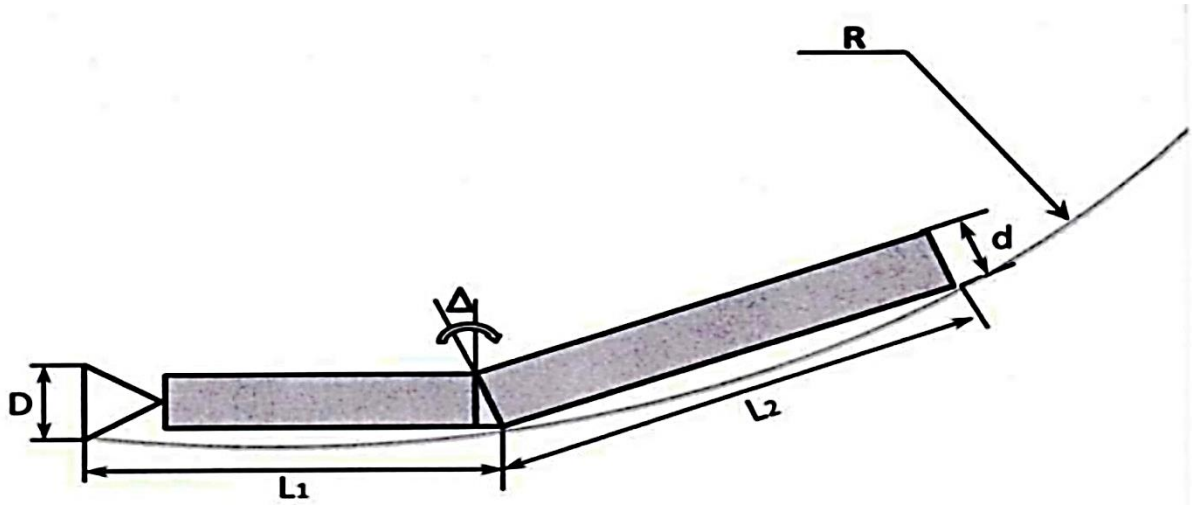


Figure 2 – Design scheme of the downhole diverter motor

In accordance with the specified radius (R) of the curvature of the borehole, the required angle (Δ) of bending of the curved translator or the curvature mechanism is calculated according to the formula:

$$\Delta = \arcsin\left[\frac{L_1 + L_2}{2R}\right] + \beta, \quad (3)$$

where R is the radius of curvature of the borehole, m;

L_1, L_2 - the length of the lower and upper sections of the downhole diverter motor, respectively, m;

$$\beta = \operatorname{arctg}\left[\frac{D - d}{2L_1}\right] + \beta,$$

D is the skew angle of the curved translator, deg;

where D, d is the diameter of the borehole and the body of the downhole diverter motor, respectively, m.

In this case, the following conditions must be met.

The length of each section must be less than the length (L_1) of the rigid link of the BHA, which is determined from the expression:

$$L_1 = \frac{4}{3} \cdot \sqrt[4]{\frac{(D - d) \cdot EJ}{g}}, \quad (4)$$

where D, d is the diameter of the bit and the section of the downhole motor, respectively, m;

EJ is the bending stiffness of the downhole motor section, kN*m^2;

g is the transverse component of the weight of the unit length of the downhole motor section, kN/m.

Geometric and stiffness characteristics of downhole motors are given in Table 1.

Table 1.

Type of downhole motor	Diameter, mm	Length, m	Weight, kN/m	Weight 1 m, kN/m	Bending stiffness, kN* m^2	$m = \sqrt[3]{\frac{EJ}{q}}$, m
Turbo drills						
ZTSSH-240	240	23,2	59,80	2,58	24000	21,0
A9GTSH	240	23,3	61,30	2,63	24000	20,9
ZTSSH -195	195	25,7	47,90	1,86	9000	17,5
A7 GTSH	195	25,0	44,30	1,77	9000	17,8
ZTSSH -172	172	26,3	35,30	1,36	6400	16,6
Screw downhole motors						
D-195	195	7,7	13,30	1,73	9000	17,7
D-172	172	7,0	10,00	1,26	5000	15,2

The maximum length (L_{Sp}) of a spindle with a bit, at which its insertion into a curved borehole with a radius of curvature R is ensured, is determined by the formula:

$$L_{sp.} = 2{,}4 \cdot \sqrt{R(D-d)}. \quad (5)$$

The working section of the downhole diverter motor must also fit into the curved borehole without deformation, and its length (L_s) must satisfy the ratio:

$$L_s \le 2{,}828 \cdot \sqrt{R \cdot (D-d)}. \quad (6)$$

Drilling of the directional operational evaluation well No. 707 on the Western Cheleken field from a depth of 2119 m was drilled with a set of a zenith angle of 38 degrees to a depth of 2389 m. From a depth of 2389 m to a design depth of 2765 m (along the hole), the well was deepened with a stable maintenance of the zenith angle of 38 degrees [3].

The drilling data of the section for the production column of 139.7 mm along the barrel interval are shown in Table 2.

Table 2.

The interval of the barrel diameter	2119 – 2765 (by hole)
215.9 mm	2100m – 2620m (vertical) 501 m
Interval length:	
Drilling barrel interval with a screw downhole motor :	2119 – 2765m (along the hole)
The length of the drilling interval with a screw downhole motor:	2100 m – 2620 m (vertical)

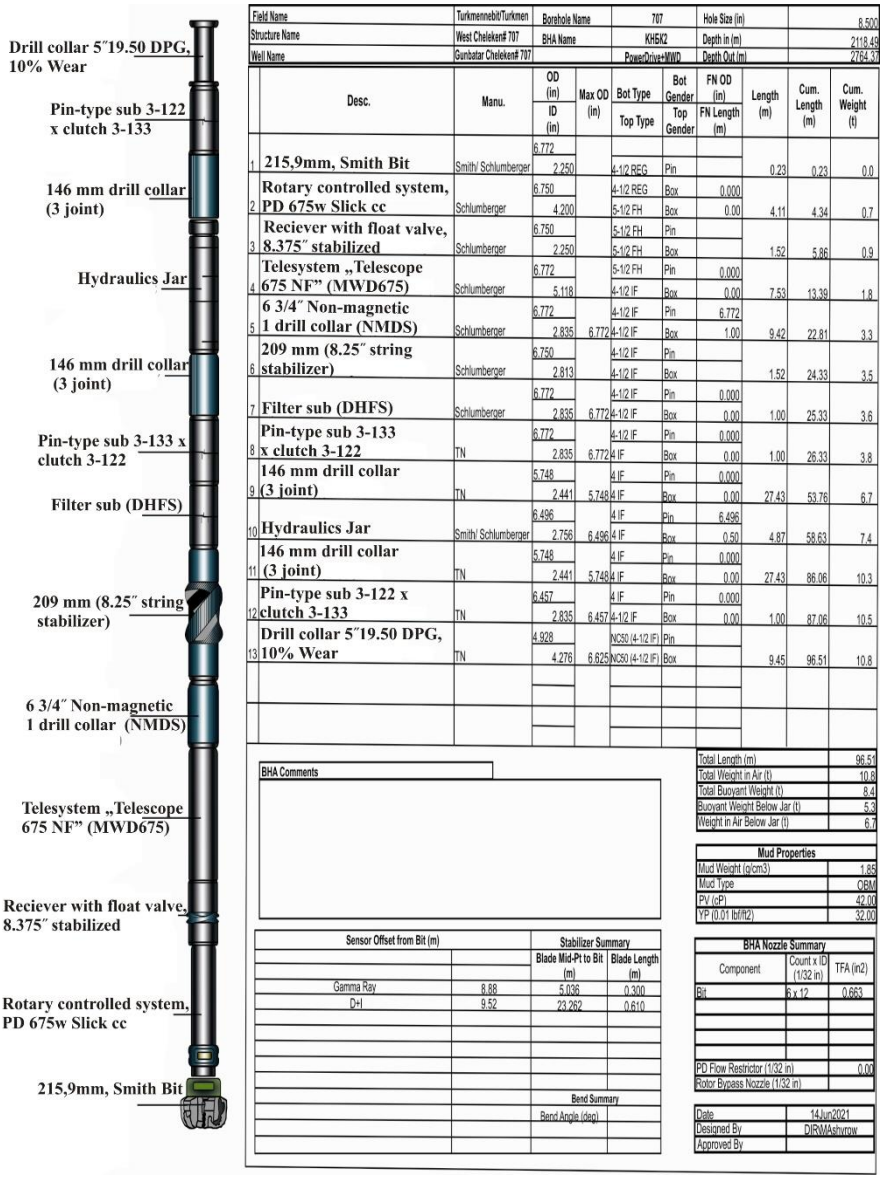
For drilling all intervals, the following layout of the bottom of the drill strings (BHA) is selected. The zenith angle was set by a rotary controlled system.

The actual position of the borehole in space during drilling and downhole in the productive horizon should be determined in accordance with the requirements of the project by inclinometric measurements during drilling, including using downhole telemetry systems [4].

Rotary arrangements are usually designed for drilling areas of set, drop, or stabilization of the zenith angle of the well. The behavior of any rotary arrangement is regulated by changing the diameter and position of the centralizers within the first 36 m from the face. Additional centralizers installed above will have little effect on the characteristics of the borehole. These layouts require deflection of the weighted drill pipe between the first and second centralizers. The deflection leads to the inclination of the bit, drill pipes and the creation of a lateral force on the bit directed towards the upper wall of the borehole. The intensity of the zenith angle set for this arrangement increases with increasing [5].

BHA for drilling with a diameter of 139.7 mm under the production column.

For drilling an interval of 2100-2620 m (vertically) 2119-2765 m (along the hole) of the zenith angle set, the following BSC was designed.



Field Name	Turkmennebit/Turkmen	Borehole Name	707	Hole Size (in)	8.500
Structure Name	West Chelekeni 707	BHA Name	KH5K2	Depth In (m)	2118.49
Well Name	Gunbatar Chelekeni 707		PowerDrive+MWD	Depth Out (m)	2764.37

	Desc.	Manu.	OD (in) / ID (in)	Max OD (in)	Bot Type / Top Type	Bot Gender / Top Gender	FN OD (in) / FN Length (m)	Length (m)	Cum. Length (m)	Cum. Weight (t)
1	215,9mm, Smith Bit	Smith/ Schlumberger	6.772 / 2.250		4-1/2 REG	Pin		0.23	0.23	0.0
2	Rotary controlled system, PD 675w Slick cc	Schlumberger	6.750 / 4.200		4-1/2 REG / 5-1/2 FH	Box	0.000 / 0.00	4.11	4.34	0.7
3	Reciever with float valve, 8.375″ stabilized	Schlumberger	6.750 / 2.250		5-1/2 FH / 5-1/2 FH	Pin / Box		1.52	5.86	0.9
4	Telesystem „Telescope 675 NF" (MWD675)	Schlumberger	6.772 / 5.118		5-1/2 FH / 4-1/2 IF	Pin / Box	0.000 / 0.00	7.53	13.39	1.8
5	6 3/4″ Non-magnetic 1 drill collar (NMDS)	Schlumberger	6.772 / 2.835	6.772	4-1/2 IF / 4-1/2 IF	Pin / Box	6.772 / 1.00	9.42	22.81	3.3
6	209 mm (8.25″ string stabilizer)	Schlumberger	6.750 / 2.813		4-1/2 IF / 4-1/2 IF	Pin / Box		1.52	24.33	3.5
7	Filter sub (DHFS)	Schlumberger	6.772 / 2.835	6.772	4-1/2 IF / 4-1/2 IF	Pin / Box	0.000 / 0.00	1.00	25.33	3.6
8	Pin-type sub 3-133 x clutch 3-122	TN	6.772 / 2.835	6.772	4-1/2 IF / 4 IF	Pin / Box	0.000 / 0.00	1.00	26.33	3.8
9	146 mm drill collar (3 joint)	TN	5.748 / 2.441	5.748	4 IF / 4 IF	Pin / Box	0.000 / 0.00	27.43	53.76	6.7
10	Hydraulics Jar	Smith/ Schlumberger	6.496 / 2.756	6.496	4 IF / 4 IF	Pin / Box	6.496 / 0.50	4.87	58.63	7.4
11	146 mm drill collar (3 joint)	TN	5.748 / 2.441	5.748	4 IF / 4 IF	Pin / Box	0.000 / 0.00	27.43	86.06	10.3
12	Pin-type sub 3-122 x clutch 3-133	TN	6.457 / 2.835	6.457	4 IF / 4-1/2 IF	Pin / Box	0.000 / 0.00	1.00	87.06	10.5
13	Drill collar 5″19.50 DPG, 10% Wear	TN	4.928 / 4.276	6.625	NC50 (4-1/2 IF) / NC50 (4-1/2 IF)	Pin / Box		9.45	96.51	10.8

BHA Comments

Total Length (m)	96.51
Total Weight in Air (t)	10.8
Total Buoyant Weight (t)	8.4
Buoyant Weight Below Jar (t)	5.3
Weight in Air Below Jar (t)	6.7

Mud Properties	
Mud Weight (g/cm3)	1.85
Mud Type	OBM
PV (cP)	42.00
YP (0.01 lbf/ft2)	32.00

Sensor Offset from Bit (m)		Stabilizer Summary: Blade Mid-Pt to Bit (m)	Blade Length (m)
Gamma Ray	8.88	5.036	0.300
D+I	9.52	23.262	0.610

Bend Summary: Bend Angle (deg)

BHA Nozzle Summary		
Component	Count x ID (1/32 in)	TFA (in2)
Bit	6 x 12	0.663
PD Flow Restrictor (1/32 in)		0.00
Rotor Bypass Nozzle (1/32 in)		

Date	14Jun2021
Designed By	DIRMAshvrow
Approved By	

Figure 3. BHA for drilling the interval 2119-2389 m (along the hole) in order to stabilize and set the zenith angle for the production column before the drilling tool is seized.

Diamond bit with a diameter of 215.9 mm; 212.7 mm Rotary controlled system PD675; calibrator with check valve 212.7 mm; 175 mm Telescope 675 NF; drill collar 172 mm non–magnetic - 9.42 m; calibrator with check valve 209 mm; translator with filter 172 mm; pin-type sub Z-133x clutch Z-122; drill collar 146 mm -27.43 m; hydraulic jar 165 mm; drill collar 146 mm -27.43 m; pin-type sub Z-122x clutch Z-133; BT 139.7 mm-9.45 m (thickened drill pipe).

The designed BHA for drilling this section includes two important elements:

- The PowerDrive X6 rotary controlled system (RCS) is a new generation of drilling equipment with increased reliability and productivity, which allows achieving greater penetration per chiseling, accurately following the planned trajectory of the hole while reducing drilling time. All external elements of the system rotate, which ensures high uniformity and stability of the borehole, the transfer of the necessary load to the bit and, ultimately, minimizing the probability of snapping the arrangement at the bottom [6, 7].

- The Telescope system for measuring and transmitting data during drilling, which is used for measuring the zenith angle and azimuth and transmitting data to the surface in real time by creating pressure pulses decoded by sensors installed on the drilling line.

Drilling procedure in the range 2119-2764m along the hole (angle set interval + stabilization)

1. Before lowering the BHA for deflection, drill the cementing valve check throttle (CVCT), cement cup and shoe and at least 5 meters of rock to ensure the purity of the face from foreign objects.

2. Assemble and descend the BHA to a depth of 2119 m along the hole for drilling in the range 2119 – 2764 m along the hole.

3. Drilling in this interval will be carried out by the BHA with RCS. Set from 27 to 39 of the zenith angle and maintaining the zenith angle of 39 degrees, together turning the direction from 250 degrees to 260 degrees, to the design depth of 2764 m along the hole (2620 m vertically). The planned drilling interval can be increased or reduced by the customer's decision.

4. When drilling with RCS, the minimum required rotation speed of the drilling column is 120-130 revolutions per minute. (Optimal rotation speed 140 revolutions per minute)

5. RCS commands are given by varying the supply of drilling mud by pumps.(min-max-min-max allowed for the device, etc.)

6. To assess the degree of cleaning and the condition of the borehole, the volume of drilled sludge, as well as the torque value must be constantly monitored [8].

7. If there are landings or delays during drilling, work out the borehole of the drilling well. In case of critical landings and tightening, in order to avoid wear of the elements or loss of the BHA, make a descent and lifting operations to change the BHA to a rotary one, and further study of the borehole. In the absence of problems along the hole, lift the BHA for the subsequent implementation of the planned GSW (geophysical studies of wells) complex.

8. At the design depth of the hole of 215.9 mm (8.5”), flush the borehole until the sludge is completely washed out, and carry out a control descent into the shoe of the previous column. Flush the well, align the parameters of the drilling mud at the maximum possible feed rate and the corresponding rotor rotation speed (recommended at least 80 rpm), with simultaneous monitoring of the presence of sludge on the vibrating screens [9].

From a depth of 2119 m to 2150 m, the interval is drilled stably with maintaining a zenith angle of 27 degrees and an azimuth angle of 250 degrees. Drilling from a depth of 2150 m to a depth of 2388 m was carried out with a set of zenith angle of 39 degrees with an azimuth angle correction from 250 to 260 degrees. After opening the shoe of the intermediate technical column at a depth of 2120 m, the specific gravity of the drilling mud was raised from 1.70 g/cm^3 to 1.74 g/cm^3. When reaching a depth of 2227 m at a zenith angle of 31.5 degrees and an azimuth angle of 254 degrees at a drilling mud density of 1.78 g/cm^3, the drilling tool was seized [10].

If the hydrostatic pressure in the borehole exceeds the reservoir pressure in the reservoir opened during drilling, the absorption of drilling fluid may occur. If the hydrostatic pressure in the borehole exceeds the reservoir pressure in the reservoir opened during drilling, the absorption of drilling fluid may occur. Violation of the borehole zone of the well during drilling is very dangerous, and often leads to accidents and costs a lot of money and time to eliminate it. Most of these complications occur when drilling clay rocks.

A timely increase in the density of the drilling mud and a decrease in the filtration rate to the required size contribute to the prevention of this complication.

To eliminate the seizure, it is necessary first of all to pace the column with cranking. If at the same time it is not possible to eliminate the tack, more complex methods of elimination are used: the installation of water, acid or oil baths, depending on the nature of the tack. At well № 707 on the Western Cheleken field, an oil and acid bath was installed twice to free the drilling tool from being seized, but the attempts were unsuccessful. When installing the third oil bath while pacing the drilling tool 160 ts, the tool was released. The reason for the seizure is a very large discrepancy in the density of the drilling fluid, which led to a pressure drop and, with partial absorption, sticking of the drilling tool to the wall of the well. After that, the density of the drilling mud was reduced to 1.62 g/cm^3. When drilling from a depth of 2227 m to a design depth of 2764 m, the BHA was changed with a decrease in stiffness (Fig. 4).

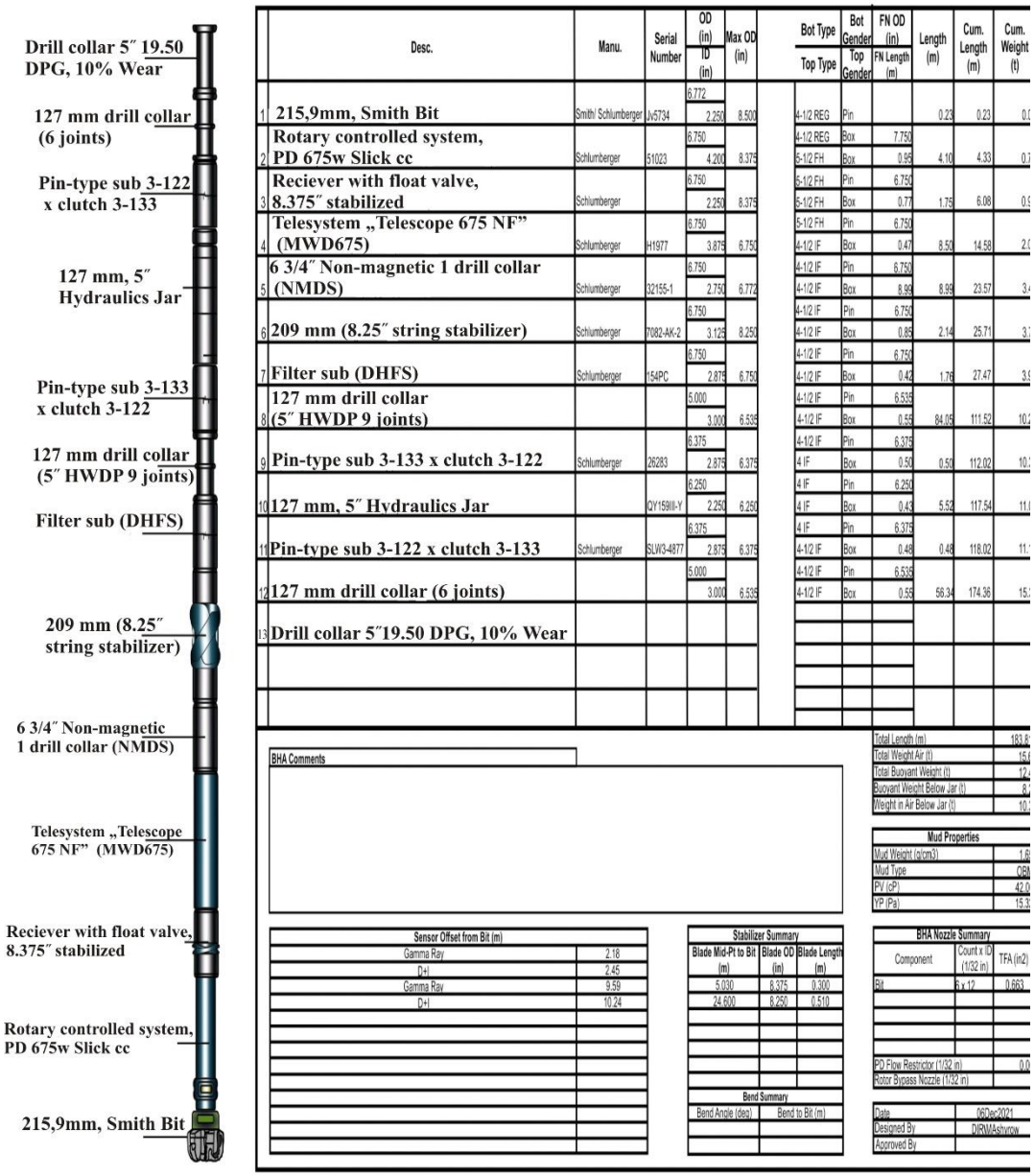


Figure 4. BHA for drilling the interval 2389-2765 m (along the hole) of the set and stabilization of the zenith angle for the production column after taking the drill tool.

Drilling to a depth of 2350 m was continued with a drilling mud of 1.62 g/cm^3 and a depth of 2350 m to a design depth of 2764 m on a drilling mud of 1.62 g/cm^3.

From a depth of 2388 m, the zenith angle reached 39 degrees and the azimuth angle 260 degrees. From a depth of 2388 m to a design depth of 2764 m, drilling was carried out by stabilizing the zenith angle of 39 degrees and the azimuth angle of 260.

Drilling of the interval under the production column was carried out with a diamond drill bit with a diameter of 215.9 mm of the MDI616 brand manufactured by SmithBits, shown in Fig. 5.

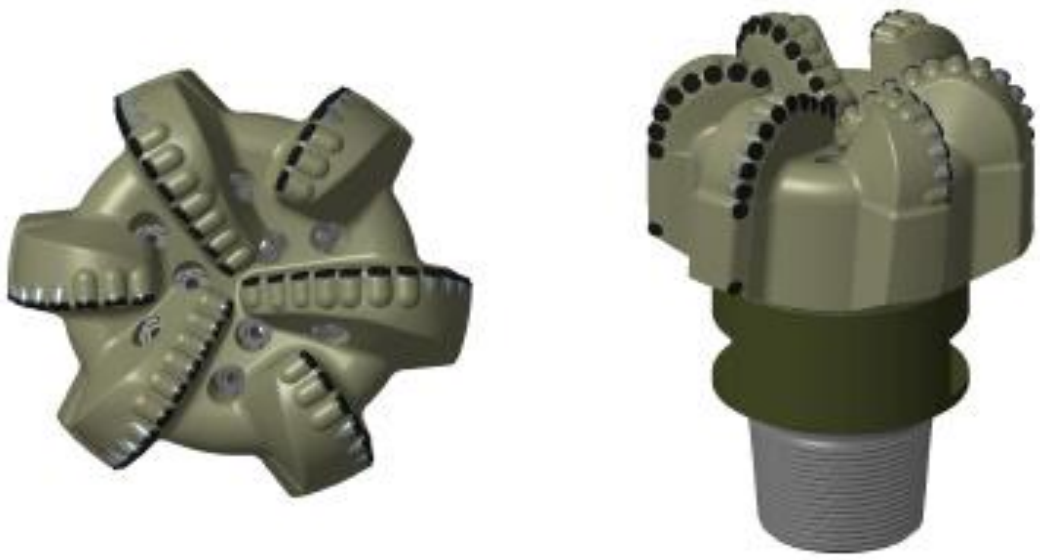


Figure 5. Diamond drill bit, diameter 215.9 mm of the MDI616 brand.

With a diamond drill bit with a diameter of 215.9 mm of the MDI616 brand, a six-bladed PDC bit with a matrix body (M) and a 16 mm cutter, specially designed for directional (D) drilling using a rotary controlled system (RCS) and a rotating downhole motor, which consistently provides excellent performance in directional positions under load, has an increased cleaning of the drilled rock, as well as with the help of permissible hydraulic flows, produces the necessary cooling of the bit and the complete lifting of the drilled rock to the surface. With minimal pressure supply by the pump, there is no risk of lumps forming at the bottom of the well [11].

Drilling of the well was carried out on a hydrocarbon-based drilling mud with a specific gravity of 1.66 g/cm^3; the flow rate of drilling mud is 28 l/sec; the area of the bit nozzles is 427.74 mm^2; the pressure drop on the bit was 40 kg/cm^2; and the total pressure in the riser was 180 kg/cm^2. Drilling was carried out in the following mode:

The load on the bit is 5-10 tons.

Rotation speed 120-130 rpm.

The pump capacity is 25-30 l/sec.

All procedures for setting the drilling mode and drilling mud were followed according to the developed program. The interval of the well (stabilization and a set of zenith angle) with a zenith angle of 39 degrees and an azimuth angle of 260 degrees and an offset towards the sea area of 491 meters with the selected BHA was successfully drilled to the design depth [12].

After fastening, perforation was made at depths of 2568 – 2572m; 2564 – 2568 m; 2549 – 2551m; 2552 – 2554m. During development, there was no inflow in the well. The intervals 2610 – 2612 m 2512 – 2518 m were re–fired and the interval 2564 - 2668 m was re-fired, an influx of oil into the waters with a flow rate of 30 tons /day was obtained.

Conclusions

1. When drilling wells with abnormally high reservoir pressures, in order to avoid complications, all the necessary parameters of the drilling fluid should be adjusted.

2. For the earliest possible release of the grip of the drilling tool, it is necessary to have oil on the drilling rig to install an oil bath.

3. It is necessary to select the right BHA for directional wells in order to avoid complications and accelerate the mechanical drilling speed.

4. When drilling wells with diamond drill bits, it is necessary to adhere to the design parameters of the hydraulic program and drilling mode.

References:

1. (1987). *Tekhnologicheskij reglament na provodku naklonnyh skvazhin po proektnomu profilyu: RD 39-0147276-512-78R*, Ufa: BashNIPIneft'.

2. Donkov, P.V., Leonov, V.A., Sivokon', I.S., & Ahtyamova, E.N. (2003). *Preduprezhdenie otricatel'nogo tekhnogennogo vozdejstviya na prizabojnuyu zonu plasta*. Intensifikaciya dobychi nefti i gaza: tr. Mezhdunar.tekhnol.simpoziuma. Moscow: In-t neftegazovogo biznesa.
3. Harlamov, K.N., Erohin, V.P., Dolgov, V.G., Shenberger, V.M., & Zozulya, G.P. (1992). *Proektirovanie profilej s intervalom bezorientiruemogo nabora krivizny stvola skvazhiny*. Sb. tez. Mezhdunar. NKT Resursosberezhenie v toplivno-energeticheskom komplekse Rossii, (p.24). Tyumen'.
4. Nikitin, B.A. (1998). Osobennosti proektirovaniya naklonno-napravlennyh i gorizontal'nyh skvazhin s bol'shim otkloneniem ot vertikali pri razrabotke morskih, neftyanyh i gazovyh mestorozhdenij. *Tekhnika i tekhnologiya bureniya*, №7.
5. Nikishov, V.I., Habibullin, R.A., Smetannikov, A.P., & Nizhevich, D.A. (2009). Karty primenimosti komponovok dlya sovmestnoj razrabotki dvuh ob"ektov. *Neftyanoe hozyajstvo*, № 11, pp. 45-47.
6. Kalinin, A.G. (2008). *Burenie neftyanyh i gazovyh skvazhin.* Moscow: "CentrLitNefteGaz".
7. Lisov, S.I. (1991). Opyt stroitel'stva gorizontal'nyh skvazhin na neftyanyh i gazovyh mestorozhdeniyah. *Inform.Sbornik «Nauchno-tekhnicheskie dostizheniya i peredovoj opyt, rekomenduemye dlya vnedreniya v neftyanoj promyshlennosti»,* vyp.№5.
8. (n.d.). *Patent №2078921 na izobretenie "Sposob kontrolya polozheniya otklonitelya pri zaburivanii naklonnyh uchastkov skvazhin i ustrojstvo dlya ego osushchestvleniya*". Avtory: Basarygin YU.M., Budnikov V.F., Bulatov A.I., Gers'kin V.G., Kul'chickij V.N., Majchub YU.M., Makarenko P.P., Sugak V.G. Prioritet ot 27.03.95, RU S 1.
9. Deryaev, A.R. (2022). *Sostavlenie pointerval'noj programmy vybora komponovki niza buril'noj kolonny dlya bureniya pod tekhnicheskuyu kolonnu naklonno-napravlennoj skvazhiny.* Sbornik statej nauchno-prakticheskoj konferencii "Informacionnoe obespechenie nauchno-tekhnicheskij progressa: analiz problem i poisk reshenij". (pp.38-42). Ufa: Nauchnoe izdanie: NIC "Aeterna".
10. Deryaev, A.R. (2022). *Sostavlenie pointerval'noj programmy vybora komponovki niza buril'noj kolonny dlya bureniya pod ekspluatacionnuyu kolonnu naklonno-napravlennoj skvazhiny.* Sbornik statej nauchno-prakticheskoj konferencii "Informacionnoe obespechenie nauchno-tekhnicheskogo progressa: analiz problem i poisk reshenij". (pp.42-46). Ufa: Nauchnoe izdanie: NIC "Aeterna".
11. Deryaev, A.R. (2022). *Rekomendacii po bor'be s pogloshcheniem pri burenii naklonno-napravlennyh skvazhin*. Sbornik statej Mezhdunarodnoj nauchno-prakticheskoj konferencii "Instrumenty i mekhanizmy sovremennogo innovacionnogo razvitiya". (pp.62-65). Ufa: Izdatel'stvo OOO "Omega sajns".
12. Deryaev, A.R. (2022). *Sostavlenie proektnogo profilya i programmy vybora komponovki niza buril'noj kolonny dlya bureniya naklonno-napravlennoj skvazhiny.* Materialy Sbornik nauchnyh trudov "Sovremennye obrazovatel'nye tekhnologii i aktual'nye modeli rasprostraneniya nauchnoj informacii" (Materialy Mezhdunarodnyh nauchno-prakticheskih meropriyatij). (pp.23-39). Kazan': Nauchnoe izdanie: «Obshchestvo nauki i tvorchestva».

Impact Factor:					
	ISRA (India) = 6.317	SIS (USA) = 0.912	ICV (Poland) = 6.630
	ISI (Dubai, UAE) = 1.582	РИНЦ (Russia) = 3.939	PIF (India) = 1.940
	GIF (Australia) = 0.564	ESJI (KZ) = 8.771	IBI (India) = 4.260
	JIF = 1.500	SJIF (Morocco) = 7.184	OAJI (USA) = 0.350

SOI: 1.1/TAS DOI: 10.15863/TAS

International Scientific Journal

Theoretical & Applied Science

p-ISSN: 2308-4944 (print) **e-ISSN:** 2409-0085 (online)

Year: 2023 **Issue:** 03 **Volume:** 119

Published: 05.03.2023 **http://T-Science.org**

Issue Article

Gayrat Abatbaevich Allamuratov
Karakalpak State University
Senior lecturer, department of karakalpak literature, PhD

VESTAL PORTRAIT IN ROMAN-TETRALOGY OF "XALKHABAD" BY SH.SEYTOV

Abstract: *The article deals with the artistic portrait in the context of the image of the hero helps in harmony with the color of the period, national customs, social circumstances and individual character.*

Key words: *portrait, criticism, national customs, evolution, artistic justification.*

Language: *English*

Citation: Allamuratov, G. A. (2023). Vestal portrait in roman-tetralogy of "Xalkhabad" by Sh.Seytov. *ISJ Theoretical & Applied Science, 03 (119),* 27-29.

Soi: http://s-o-i.org/1.1/TAS-03-119-5 ***Doi***: https://dx.doi.org/10.15863/TAS.2023.03.119.5

Scopus ASCC: *1208.*

Introduction

Today's achievement of world Romanesque experiments will reflect the image of man in various areas of the angle. An artistic portrait in the context of the image of the hero helps in harmony with the color of the period, national customs, social circumstances and individual character.

In world literary criticism, poetic activity was investigated, the significance of portrait in works of art in various scientific aspects. N. Schneider, E.D. Schmidt, M. M. Bakhtin, G.V. Satarova, M. Simov, Yu. I. Mineralov, M.N. Zhornikova, L.N. Dimitrievska worked in this direction studies by G. Kuligin, P.V. Trofimov, E.M. Kaurov, S.N. Kolosova, etc.

In the literary criticism of Turkic people: B. Maitanov, H. Abdibaev, S. Zh. Tattimbetova, G. Smagulova, Uzbek literary critic H. Yububov, M. Sultonova, M. Olimov, M.A. In the scientific research work of M. Abdurakhmonova, S. Mirvalieva, U. Nosirov. portrait studied to a certain extent as a scientific object. The scientist J.T. Kurbanov specifically explores the skill of the famous Uzbek writer O. Yokubov.

Karakalpak literary criticism interprets the poetic nature of the portrait in a number of monographs and dissertations by S. Bakhadirova, Z. Bekbergenova, Zh.Kaniyazov. The opinion of the Russian scientist L. N. Dmitrievsky: "A portrait in a work of art is a special form of understanding reality and through the appearance of the hero's image in accordance with the individual style of the writer, its brightness, internal content, one of the tools for describing the heart" [1.90] is approved during the scientific study of the portrait. In this case, it is mainly necessary to take into account the leadership task of the content described through the form (appearance).

In the process of creating the image of the hero described by the writer, he pays attention to the structure of the body, clothes or behavior (facial expressions). "Depending on the lexical nature of the words used in the composition of the hero's image, portraits are divided into somatic, vestal and kinetic types [2].

1. In somatic (Greek word "body") portraits, the writer draws attention to the creation of the body of characters and describes its special features. The portrait mainly depicts human bodies: head, hair, eyes, arms, legs, fingers and others.

2. The vestal (Latin for "garment") portrait is used mainly to express the social origin, financial position of the hero, or his underwear.

3. On the kinetic (Greek language "movement") portrait pay attention to the specific, often reflective actions of the heroes, who, through their facial expressions, distinguish him from others. For the sake of compactness based on laconism, the concepts of a word with the movement of eyes, ash or head are given. The artistic service of the Vestal Portrait-Detail, performed when describing the image of the

hero, is clearly visible in the novel. The character's clothes are of great importance in his social origin, the description of time and space in the novel, as well as the discovery of the ideological and aesthetic service performed in the romance plot of the character's image. According to literary critic A. G. Kuligina, clothing depicts the hero, talks about him, helps to reveal his character and motives. In most cases, the very term of clothing will be enough to accurately describe the character, environment, as well as the inner world [3.18]. Kazakh scientist G. Smagulova cites [4.144] that "when depicting a human appearance, that is, the hero's body, fur terms, somatic terms are expressed, they depict clothes in vestal."

Such poetic features of an art portrait perform their functions in all types of literature. However, a detailed description of the hero's portrait is characteristic of epic works. Having conducted research on the issue of artistic psychologism in modern Uzbek novels by I. Sh. Botirov in the season of her dissertation work on the portrait issue on the movement of portrait in drama and epic: "In drama, the author is mainly limited to showing details related to the character's age in remark, his position in the list of persons in motion. A characteristic feature of the epic is the description of the character in fine detail, it is in epic works that the portrait of the hero takes on an unusually detailed appearance, is expressed in its state and character in society "[5.93].

In modern Karakalpak novels, we see that the vestal portraits depicted in the image of the character are created in accordance with the ideological and aesthetic goals of the writer. A characteristic feature of the epic is the description of the character in fine detail, it is in epic works that the portrait of the hero takes on an unusually detailed appearance, is expressed in its state and character in society "[5.93].

In modern Karakalpak novels, we see that the vestal portraits depicted in the image of the character are created in accordance with the ideological and aesthetic goals of the writer. With a complete description of the time and space set forth in the plot of the novel, the display of the functions performed in the Romanesque poetry of the image of the hero, as well as the attitude of the writer to the character, he turns to the outer clothes of the hero - to the famous portrait.

In the novel by the writer Sh. Seytov, we see that the hero's clothes are represented by artistic content based on strokes in accordance with the methodological specifics of the author. For example, ***«Aqtore sal otpey zamildey bir jigitti izine ertip keldi. Ayaginda aq pushta etik, basinda qirpiq qara malaqay,beshpentinin sirtinan moresi tusinkiregen duwxat shapan kiygen, shapannin ishinen buwgan enli, askeriy qamarinin mis togasi jiltirap turgan, asholen,juqa juzli, qullasi , xat qalemnin jigitine usadi.***

Onsha jalbiraqlaw, dagi etiw,qimsiniw joq,ustemlew, kemsaliyqalaw salemlesti, bunisin Sayimbet : « joqaridan keldi»ge joridi» [6.44]. In the plot of the novel, a young man (Allekum Nagaybil Baplaganov) from a group of printers, who came in order not to interfere with the builders of the collective farm, changes his outer clothes and comes with a special "mask." Collective farmers who evaluate outer clothing do not feel that it is from printers. In this Western portrait of the writer ***«shapannin ishinen buwgan enli, askeriy qamarinin mis togasina »*** loading poetic content (lies), causing collective farmers to fall and unconditional trust. Thus, a vestal portrait has an important function when presenting a character as a member of a particular group or community. When drawing a famous portrait of the hero, the writer is also surprised to describe the relationship between the character and the character, without describing the relationship between the character and the writer. At the same time, we see the power of the influence of the western portrait on the psychology of the hero. In the novel, Talibay is that police officer whose name Jakhan who served as a Tasmanian, providing a poetic service to the vestal of a Talibay portrait when he arrived at the prison: ***«– Artina bir qarap jiber, yasulli,-degen Lakhannin dawisi shiqti. Qarasa , janagi Jakhan emes, basqa Jakhan. Ustindegi shekpendi, basindagi qatinlardikindey etip, burkengen shimshiq koz oramaldi sipirip taslagan. Omirawlari arshinlangan qayis, belinde «bawir», jiltir qasnaqli, bes juldizli shapek. Tap Fedotovtin ozi bolipti da qalipti. Jana korgende-aq : « bul nege oramal burkenip jur, jurtqa tanilmaw ushin soytken-aw, sadaliqtan ayirilayin degen eken» dep oylap edi, endi gellesi hesh narseni oylawdan da qalip qoyganday ,nagannin gozewli turgan ungisina xureylenip qaradi da tarsa qatip qaldi»*** [6.297]

When the Tolibay saw Jakhan in military attire, the power of the plot's emotional impact waned. Chakmani over Jakhan, the rumoli on his head is an attempt not to glorify the Tolibay. Without them, Jakhan immediately learned that the events were not so sharp and interesting. The image of the Tolibay during the removal of the ferocious nut from the ramol, hiding the appearance of the Jakhan.

When giving out the color of the period described in the novel, the writer is attentive to the famous portrait of the characters. In the novel you can see the influence of the ethno-culture of the Russian nation on the culture of local people during the period of collectivization. When drawing a female portrait, the writer tries to portray him in international special clothes, and not in national clothes. In the novel, the Kazakh daughter of the village of Suliushash (daughter of Chupan) studies in the city and begins to work in government positions. When Suliushash spoke about political news in the Halkabad market, his appearance is characterized as follows: ***«Wazshi***

bastan ayagina barine qara xromnan kiyip algan shaqildagan gana qiz eken. Ayagindagi etigi de, kelte toni da, shapegi de xrom ,shapeginen shashirap shiqqan qap-qara shashi tolqinlana jayilip, eki iyigin jawip tur. GPUdin adamlarinday shiginqi omirawin arshinlap, beline qayis buwip nagan asinip alipti» [7.156].

The writer cites the evolution of the image of Suliushash using the example of a modern image. Suliushash, studying in the city, is depicted as a typical representative of women of that time, combining the first knowledge and culture of the new time.

The vestal portrait also describes the social origin and condition of the character, without setting the color of the period. In the plot of the novel, the hero gives each movement of Ashbay and the manner of speech in a typical image of the gods. Depicts him in the clothes of the rich. ***«*Usi pursatta atinin tanawin jelbiretip, ozi faetonda shalqayip taslap, eltiri tonga shimqangan, tulki malaqayin koz aynekli kozine basip kiygen Eshbay, dukannin aldina arbasin kese tartti»** [8.331].

Eltiri-tun - "Eltirisin mut bermes hash who o a," Utesh was considered as night in which the poet puts on a rich layer in Karakalpak people. When drawing a fictional picture of a rich image in Karakalpak classical literature, as well as in realistic literature, the well-known detail "smile of the night" is used. Writer Sh. Seytov also depicts this garment denoting Eshbay's wealth. If you remember the fox dressed on Eshbay on an elegant night, then the image and facial expressions of the hero portraying the writer will be carried away by eyes. We understand its typical features. In the image of Eshbay, the reader sees a man, Kalandimog character, but, nevertheless, Eshbay is portrayed as a character who has not lost confidence in himself even during the period when he was attacked. We see that the writer gave an objective assessment of the typical image and detailed neutral shortcomings. They create an artistic image in modern life terms, not from the antipathic point of view of "it's rich" based on a social concept.

Summing up, the vestational portrait performs significant poetic tasks in the plot of the novel in accordance with the origin, social situation of the hero, as well as his functions performed in society. In the course of the study of the famous portrait of the writer Sh. Seytov, we see that they were not used without artistic justification, as an artistic action in revealing the aesthetic content of a certain plot, the image of the hero in the novel.

References:

1. Dmitrievskoy, L.N. (2005). *Peyzaj I portret: problema opredeleniya I literaturnogo i literaturnogo analiza (peyzaj i portret v tvorchestve Z.N.Gippius).* Monografiya, (p.90). Moskva.
2. Starikova, G.V. (1984). *Leksika portretnix opisaniy.* Diss … kand. filol. nauk, Leningrad.
3. Kuligina, A. G. (2008). *Poetika portreta v Povestiyax Belkina A.S.Pushkina*. Diss… kand. filol. nauk. (p.18). Nijniy Navgorod.
4. Smagulova, G. (1995). *Maginalas frazeologizmderdin ulttiq-madeniy aspektleri*. Filol.gil.kand. diss. (p.144). Almati.
5. Botirova, Sh.I. (2019). *Xozirgi uzbek romanlarida badii psixologism (Ulugbek Xamdamning «Muvozanat», «Isiyon va itoat », «Sabo va Samandar»romanlari misolida)*. Filol. fan. fals. dokt. (PhD). .diss. (p.93). Qarshi.
6. Seytov, Sh. (1977). *Xalqabad. Roman-tetralogiya. Birinshi kitap. Shar buziw*. (p.44). Nokis: Qaraqalpaqstan.
7. Seytov, Sh. (1981). *Ekinshi kitap. Masahaqatli asirimlar*. (p.156). Nokis: Qaraqalpaqstan.
8. Seytov, Sh. (1989). *Xalqabad. Roman-tetralogiya. Ushinshi kitap. Ordek qirginnan son. Tortinshi kitap. Atlanshap.* - Nokis:Qaraqalpaqstan.
9. (n.d.). Retrieved from Ziyonet.uz

Impact Factor:					
	ISRA (India) = 6.317	SIS (USA) = 0.912	ICV (Poland) = 6.630
	ISI (Dubai, UAE) = 1.582	РИНЦ (Russia) = 3.939	PIF (India) = 1.940
	GIF (Australia) = 0.564	ESJI (KZ) = 8.771	IBI (India) = 4.260
	JIF = 1.500	SJIF (Morocco) = 7.184	OAJI (USA) = 0.350

SOI: 1.1/TAS DOI: 10.15863/TAS

International Scientific Journal

Theoretical & Applied Science

p-ISSN: 2308-4944 (print) **e-ISSN:** 2409-0085 (online)

Year: 2023 **Issue:** 03 **Volume:** 119

Published: 06.03.2023 **http://T-Science.org**

Issue Article

Sayatxan Uzaqbaevna Fayzullaeva
Nukus branch of Uzbekistan state institute of arts and culture
teacher
mobile phone:+998913944394
sayfayuz20@mail.ru

ARTISTIC REFLECTION OF THE NATURE OF THE EVENING IN KARAKALPAK POETRY

Abstract*: The article is dominated by the nature of the lyrical evening, poetic features of karakalpak literary science, the work of poets is studied, the opinions of scientists are expressed in a lyrical evening.*

Key words*: lyrical evening, content, form, description, poem.*

Language*: English*

Citation: Fayzullaeva, S. U. (2023). Artistic reflection of the nature of the evening in Karakalpak poetry. *ISJ Theoretical & Applied Science, 03 (119),* 30-32.

Soi: http://s-o-i.org/1.1/TAS-03-119-6 ***Doi***: https://dx.doi.org/10.15863/TAS.2023.03.119.6

Scopus ASCC*: 1200.*

Introduction

The lyrics became the most influential genre in the genres of fiction. Everyone knows that his poetry is especially high in the spiritual world of our Karakalpak people. [Distribution. 1]

An artistic reflection of the nature of parties in Karakalpak poetry is found in small works of literary science. Issues such as skillful ability and the personal methodological nature of creators of artistic culture are developing in new research trends in karakalpak literary science. In this regard, the scientific works of scientists K. Dzharimbetov, K.Orazimbetov, K.Mambetniyazov, M.Orazimbetov, U.Ǵaylieva, D. Tileuniyazova.

The poet at different periods adheres to the requirements of social life, the ideal of the people, the spiritual world, enriches the content of the lyrics and continuously develops their text. Therefore, the poet enjoys special respect among the people. A lyrical evening in the poetry of each poet occupies a huge role. When studying the theoretical issues of the development of evening nature in karakalpak lyrical works, it is necessary to take into account the theoretical achievements achieved by literary science as a whole in the literary genre. At the same time, in the works of karakalpak poets, it is based on the scientific conditions of studying the nature of the lyrical supper, that is, in the poetry of poets, the question of studying theoretical achievements that have achieved generally amazing success is considered.

A lyrical work of the poet's spirit, which laid the foundation for an instant mood, if the poet's spirit does not connect to another mood, he will fight and will not return. [Belinskiy.2.]. In karakalpak literature, K. Hudaybergenov in his essay "Epoch and Farz" expresses the opinion: In poets, one of the phenomena can develop into another. However, each of them wakes different feelings. If the poet is not exposed to life, he "refrains" from opening the inner heart and something is limited to counting, describing the external signs of events, then one poet notes that not the second poet, but even spontaneous repetition is mummy, [3]. Another scientist B. Genzhemuratov in one of the articles: "In our opinion, the heart of any poet who cannot convey his heart to nature, to the whole world, separates us from the great harmony of the world, looks at the whole world ignorantly. This is a kind of limitation, "[4]. Contradictions in the realities of real life with dreams in the spirit of a blasphemous poet can cause poems in which belated feelings of various content are given. [5] The study of the nature of the lyrical evening has been happening since ancient times. Despite the fact that the nature of the lyrical evening is understood as a new look, of its main requirements there are aesthetic views that have

formed from an early time. For example, the great Greek philosopher Aristotle highlights the following features of creative ineptitude:

- expediency
- accuracy
- harmony
- determined his affiliation. Because a poetic work does not come to light.

Poetic works are influenced by appearing of the poem and its general content, according on their nature. He will tell us about the poet's aesthetic world. Evening lyric poetry is the driving force and basis, its content. [6]

Overcomes several stages so that the feeling becomes late. Real lyrics, like any other poetry, must prove the true content of the human heart. The poem, like other examples of fiction. Judging by the observations, the main importance in the creation of the poem is influenced by feelings and parties. "Real lyrics, like any other real poetry, should emphasize the true content of the human heart" [7].

Beginning in the 30s of the XX century, poetry began to go out of print, and research began to be carried out in the 1930s and 40s. In this direction, a significant part of the scientific works of K. Kudaybergenov, T. Mambetniyazov, A. Nasrullaev. At this time, I. Yusupov, T. Zhumamuratov, Ǵ.Seytnazarov became critics of poetry. Of course, the samples of poetry of these years are a worthy legacy for the older generation and the future generation.

Each poet has one aspect that is not very suitable for other poets [8]. The creative talent of poets is diversed, and the style of writing is also different. Because the ability to live, understand the state is one country in each. Poetry of poets is not formed by itself.

In the poem of the late period, a number of gossip. Special attention is paid to human emotions, psychological delays, updates that they belong in poetry. As you know, demanding new content and form, he adheres to theoretical views on research. This year, various research works were carried out. In this regard, attention is increased to the events that determine its meaning, feeling. These events in literary criticism are called the lyrical evening. The main factor determining the relevance of the topic is the theoretically involuntary study of the lyrical evening, a slight increase in its strength to date. The term lyrical parties is used in the research work of Uzbek scientists, karakalpaks in terms of emotions, moods, parties. However, it is known that in work of parties was done as a separate part of poetic art and poetic circumstance.

In karakalpak literature, the poetic analysis in which he played this role may at birth some time. In a brief review of the history of the study of poetry of the 20th century, which arose in karakalpak literary science, K. Orazimbetov noted the need to study the process of developing lyrical works of the 80s, their amateur performances. The work of the scientist refers to the work for the study of the process of development of national poetry, its lyrical genres in certain decades. "The current Belarusian poetry, creative solitary and literary process" by V.V. Gnilomedov, doctoral dissertation by N.K. Rakhimzhanov "The tendency of the development of modern Uzbek poetry (70s-80s)," "The development of modern Azerbaijan lyrics by R.N. Aliev" trend (70s) from karakalpak scientists T.M. Mambetniyazov, K.Hudaybergenova gives the names of several works. The work of the scientist emphasizes that due to the emergence of different people in literary science in different years, they received conflicting opinions, scientific evidence, which in some cases do not coincide [9].

Special research work in lyrical evening literature will be carried out by B. Turdimov. In karakalpak literary science, this topic has become the subject of special research. There were few problems in the research work of scientists. However, none of the scholars who have worked in the field of lyrics specifically comment on the lyrical evening. It is worth noting that in the evening in the work of poets, life events experienced by a person came to the fore.

The artistry of the poem determines his genre, idea, content, creative skill of the poet. In general, the attitude of the lyrical genre to the psychological evening relies on literary legislation in each form. It is difficult to find in the poem one or another metaphor that was not given to one level or another to the influence of great poets. Of course, from every creator who came to the field of creativity, it is difficult to expect from the same defect, poems that cleans our soul. The poet may not always write good poems, but he does not write good poems and the poet himself. The good poem is written itself. The exploration of form, style in literature and art is caused by the desire for impeccable development of creativity.

The lyrical work consists of fluctuations in the author's inner feelings, joy and feelings. Therefore, it is called lyrical poetry or poetry. [10]

The essence and content of the lyrical evening in the poem is projected on the creative example of modern poets.

- every detail in the poem serves the concept of parties. Many of these details highlight the complexity of the nature of the lyrical evening;
- landscapes and poetic images are considered the best methods in proving a lyrical evening.

In conlusion, in the works of poets who fluctuate in the literature of the current period, the most significant issues of today are the involvement of the nature of the lyrical supper from the scientific side, therefore, the question that we raise, due to the fact that science is an evolving process, requires deep research. Therefore, a new poem rebirths in poetry requires further study. Summing up, in the works of poets who fluctuate in the literature of the current

period, the most significant issues of today are the involvement of the nature of the lyrical supper from the scientific side, therefore, the question that we raise, due to the fact that science is an evolving process, requires deep research. Therefore, a new poem rebirthing in poetry requires further study.

References:

1. Orazımbetov, Q. (2018). *Tańlamalı shıǵarmalar toplamı*. I tom. (p.4). Nókis: «Bilim».
2. Belinskiy, V.G. (1955). *Tanlangan asarlar*. (p.184). Toshkent.
3. Xudaybergenov, K. (1987). *Dáu'ir hám parız*. (p.84). Nókis.
4. Genjemuratov, B. (1991). *Ámiu'dáriya jurnalı.* № 11, 1991, pp.122-123.
5. Turdimov, J.B. (1999). *Lirik kechinma tabiati*. Fil.fan.nom.diss. .avoref. (p.13). Tashkent.
6. Grinberg, R.F. (1971). *Ob iskusstve*. (p.137). Moscow.
7. Gegel, V.F. (1971). *Estetika*. (p.504). Moscow.
8. Mambetniyazov, T. (1985). *Poeziya haqqında oylar*. (p.5). Nókis.
9. Orazımbetov, Q. (2018). *Tańlamalı shıǵarmalar toplamı I tom*. (p.6). Nókis: Bilim.
10. Mámbetov, K. (1995). *Ádebiyat teoriyası*. (p.171). Nókis.

Impact Factor:					
	ISRA (India) = 6.317	SIS (USA) = 0.912	ICV (Poland) = 6.630
	ISI (Dubai, UAE) = 1.582	РИНЦ (Russia) = 3.939	PIF (India) = 1.940
	GIF (Australia) = 0.564	ESJI (KZ) = 8.771	IBI (India) = 4.260
	JIF = 1.500	SJIF (Morocco) = 7.184	OAJI (USA) = 0.350

SOI: 1.1/TAS DOI: 10.15863/TAS

International Scientific Journal

Theoretical & Applied Science

p-ISSN: 2308-4944 (print) **e-ISSN:** 2409-0085 (online)

Year: 2023 **Issue:** 03 **Volume:** 119

Published: 07.03.2023 **http://T-Science.org**

Issue Article

A.A. Kozlov
Togliatti State University
Associate Professor, Candidate of Technical Sciences

FORMATION OF THE DESIGN AND TECHNOLOGICAL COMPETENCE OF THE FUTURE PROCESS ENGINEER

Abstract: *in this article, the formation of professional competencies is considered on the example of bachelor engineers in the field of training «Design and technological support of machine-building industries». The results of the research showed that the integration of the practical part of the disciplines forming professional competencies with CAD, SAM, SAE systems, form the student's skills in the field of development and improvement of design documentation and modern technological processes, which meets the requirements of employers.*

Key words: *engineer, higher education, CAD, CAD, SAM, SAE -systems, FGOS, professional competencies.*

Language: *Russian*

Citation: Kozlov, A. A. (2023). Formation of the design and technological competence of the future process engineer. *ISJ Theoretical & Applied Science, 03 (119)*, 33-36.

Soi: http://s-o-i.org/1.1/TAS-03-119-7 ***Doi***: crossref https://dx.doi.org/10.15863/TAS.2023.03.119.7

Scopus ASCC: *3303.*

ФОРМИРОВАНИЕ КОНСТРУКТОРСКО-ТЕХНОЛОГИЧЕСКОЙ КОМПЕТЕНЦИИ БУДУЩЕГО ИНЖЕНЕРА-ТЕХНОЛОГА

Аннотация: *в данной статье рассмотрено формирование профессиональных компетенций на примере бакалавров-инженеров направления подготовки «Конструкторско-технологическое обеспечение машиностроительных производств». Результаты исследования показали, что интеграция практической части дисциплин, формирующих профессиональные компетенции с CAD, CAM, CAE-системами, формируют у студента навыки в области разработки и совершенствования конструкторской документации и современных технологических процессов, что отвечает требованиям работодателей.*

Ключевые слова: *инженер, высшее образование, САПР, CAD, CAM, CAE -системы, ФГОС, профессиональные компетенции.*

Введение

Деятельность современного инженера в настоящее время является очень сложной и дифференцированной, это связано с развитием технологий, новыми тенденциями и факторами в сфере инжиниринга. В данной статье рассмотрено формирование профессиональных компетенций на примере бакалавров-инженеров направления подготовки 15.03.05 «Конструкторско-технологическое обеспечение машиностроительных производств».

В рамках освоения программы бакалавриата выпускники готовятся к решению задач профессиональной деятельности следующих типов: производственно-технологической; организационно-управленческой; проектно-конструкторской; сервисно-эксплуатационной [9, 10].

Схематично модель формирования компетенций будущего инженера-технолога представлена на рис. 1.

Результат сформированных компетенций - готовность выпускника к выполнению практических функций, в области разработки и совершенствования конструкторской документации и современных технологических процессов, направленных на создание конкурентноспособной машиностроительной продукции, а также совершенствование национальной технологической среды.

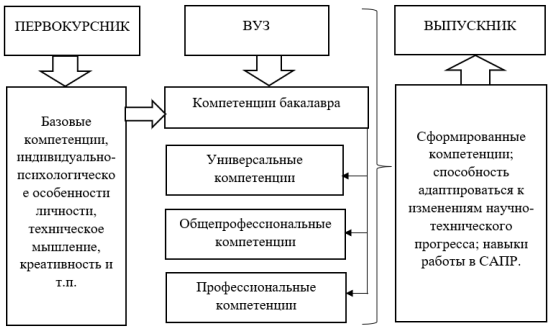


Рисунок 1. Модель формирования компетенций будущего инженера.

В настоящее время, существует противоречие в подготовке инженеров - научно-технический прогресс развивается достаточно быстро, программное обеспечение, являющееся одним из основных инструментов для работы инженера, постоянно обновляется, добавляются новые опции, инструменты, библиотеки, появляются новые программные продукты [1, 3, 4]. Чтобы устранить это противоречие, профессиональная подготовка инженера в вузе должна обеспечивать высокий уровень конструкторско-технологической компетенции и формировать практический опыт ее реализации, поскольку, согласно ФГОС, будущий инженер-технолог должен уметь производить разработки конструкторской, технологической и технической документации комплексов механосборочного производства с использованием специализированного программного обеспечения [2].

Конструкторско-технологическая компетенция является интегральной составляющей профессиональных компетенций (табл. 1). Под понятием конструкторско-технологической компетенцией понимается способность и готовность обучающегося к деятельности, связанной с разработкой конструкторско-технологической документации и проектированию технологической оснастки механосборочного производства.

Проектирование технологической оснастки и разработка конструкторско-технологической документации выполняется с применением систем автоматизированного проектирования (САПР). Навыки работы с системами САПР студент получает при работе в CAD, CAM, CAE-системах (чаще всего в вузах обучают студентов работать в таких программах САПР, как: Компас 3D, AutoCAD, T-FLEX, PowerShape, PowerMill и т.д.). Это важные навыки, формирующиеся при выполнении различных практических заданий в программах САПР, в процессе обучения [2]. Однако, практика показывает, что наблюдается дефицит учебных часов, отведенных на изучение дисциплин, формирующих данный навык. Для решения указанной проблемы предлагаем интегрировать практическую часть дисциплин, формирующих профессиональные компетенции с CAD, CAM, CAE-системами [1, 2, 6]. В табл. 1 представлена матрица формирования конструкторско-технологической компетенции с интеграцией практической части дисциплин, формирующих профессиональные компетенции с CAD, CAM, CAE-системами.

Таблица 1. Матрица формирования конструкторско-технологической компетенции будущего инженера-технолога.

Конструкторско-технологическая компетенция		
Наименование профессиональной компетенции	Дисциплины учебного плана	Индикаторы достижения компетенций
Способен проектировать сложную технологическую оснастку механосборочного производства	Металлорежущие инструменты и инструментальная оснастка	Осуществляет оформление комплекта конструкторской документации на технологическую оснастку
	Оборудование и технологическая оснастка машиностроительного производства	
Способен разрабатывать конструкторско-технологическую документацию по автоматизации и механизации технологических операций	Технологии сборочного производства	Разрабатывает конструкторско-технологическую документацию. Формирует предложения по автоматизации и механизации технологических операций.
	Автоматизация технологических процессов в машиностроении	

Конструкторско-технологическая компетенция		
Наименование профессиональной компетенции	Дисциплины учебного плана	Индикаторы достижения компетенций
механосборочных производств		
Способен осуществлять автоматизированное проектирование технологических процессов изготовления деталей из различных конструкционных материалов	Компьютерное моделирование в машиностроении Технология машиностроения	Проектирует технологические процессы изготовления деталей из различных конструкционных материалов. Осуществляет внесение изменений в технологические процессы изготовления машиностроительных изделий и документацию на них.

Таким образом, сформулировано определение «конструкторско-технологической компетенции», как составляющей профессиональной компетенции будущего инженера. Формирование конструкторско-технологической компетенции предложено с помощью интеграцией практической части дисциплин, формирующих профессиональные компетенции с CAD, CAM, CAE-системами.

Результаты исследования показали, что интеграция практической части дисциплин, формирующих профессиональные компетенции с CAD, CAM, CAE-системами, формируют у студента навыки в области разработки и совершенствования конструкторской документации и современных технологических процессов, что отвечает требованиям работодателей.

References:

1. Ugarova, L.A. (2010). *Formirovanie proffessionalnoi kompetentnosti budushih bakalavrov tehnologicheskogo obrazovania*. avtoreferat dissertatsii na soiskanie uchenoi stepeni kandidata pedagogicheskikh nauk. Toliatti.
2. (2020). *Prikaz Ministerstva nauki i vysshego obrazovaniya Rossiyskoy Federatsii ot 17 avgusta 2020 g. № 1044 «Ob utverzhdenii federal'nogo gosudarstvennogo obrazovatel'nogo standarta vysshego obrazovaniya - bakalavriat po napravleniyu podgotovki 15.03.05 «Konstruktorsko-tekhnologicheskoye obespecheniye mashinostroitel'nykh proizvodstv»*.
3. Kiseleva, E.A., Karavanskaya, L.N., Romanova, M.L., & Teruha, R.V. (2012). Integraccia teoreticheskoi i prakticheskoi podgotovki budushih inszenerov. *Uchenye zapiski universiteta imeni P.F. Lesgafta. St.Peterburg*, № 8(90), pp. 29-35.
4. Ugarova, L.A. (2008). Meszhpredmetnaya integraccia disciplin pri podgotovke bakalavrov tehnologicheskogo obrazovania. *Pedagogicheskoe obrazovanie i nauka*, №6, pp. 45-47.
5. Ugarova, L.A. (2010). *Formirovanie proffessionalnoi kompetentnosti budushih bakalavrov tehnologicheskogo obrazovania*. dissertatsiia na soiskanie uchenoi stepeni kandidata pedagogicheskikh nauk. Toliatti.
6. Levashkin, D.G., Loginov, N.U., Kozlov, A.A., & Gulyaev, V.A. (2017). *Obrazovatelnaya model proectno-orientirovannoi podgotovki molodyh specialistov inszenerno-tehnicheskih napravlenii v koncepcii industrya 4.0*. Virtualnoe modelirovanie, prototipirovanie i promyshlennyi dizain. IV Meszdunarodnaya nauchno-prakticheskaya konferenciya. (pp. 345-351).
7. Ugarova, L.A. (2007). Meszhpredmetnaya integraccia obshetehnicheskih disciplin kak factor formirovaniya tehnicheskogo myshleniya bakalavrov tehnologicheskogo obrazovania. *Vestnik psihoterapii*, № 24 (29), pp. 184-187.
8. Umatova, E.G. (2022). Meszdisciplinarnaya podgotovka budushih bakalavrov v usloviyah cifrovizaccii inszenernogo obrazovaniya. *Sovremennye problem nauki i obrazovaniya*, № 4. https://science-education.ru/ru/article/view?id=31908
9. (2022). *Prikaz Ministerstva truda i sotsial'noy zashchity Rossiyskoy Federatsii ot 21 aprelya 2022 goda № 235n «Ob utverzhdenii professional'nogo standarta «Spetsialist po avtomatizatsii i mekhanizatsii tekhnologicheskikh protsessov termicheskogo proizvodstva»*.

10. (2022). *Uchebnyy plan po programme bakalavriata napravleniya podgotovki 15.03.05 «Konstruktorsko-tekhnologicheskoye obespecheniye mashinostroitel'nykh proizvodstv». Napravlennost' (profil'): Tekhnologiya mashinostroyeniya, Tol'yattinskiy gosudarstvennyy universitet.*

Impact Factor:					
	ISRA (India) = **6.317**	**SIS** (USA) = **0.912**	**ICV** (Poland) = **6.630**
	ISI (Dubai, UAE) = **1.582**	**РИНЦ** (Russia) = **3.939**	**PIF** (India) = **1.940**
	GIF (Australia) = **0.564**	**ESJI** (KZ) = **8.771**	**IBI** (India) = **4.260**
	JIF = **1.500**	**SJIF** (Morocco) = **7.184**	**OAJI** (USA) = **0.350**

SOI: 1.1/TAS DOI: 10.15863/TAS

International Scientific Journal

Theoretical & Applied Science

p-ISSN: 2308-4944 (print) **e-ISSN:** 2409-0085 (online)

Year: 2023 **Issue:** 03 **Volume:** 119

Published: 09.03.2023 **http://T-Science.org**

Issue **Article**

Nazerke Zhenisbekovna Zhenesbekova
TFI
student of the MMT-22 group

N. Yuldasheva
TFI
Scientific supervisor, PhD., assoc.

FINANCIAL TECHNOLOGIES (FINTECH) - A TRANSFORMER OF THE LANDSCAPE OF THE FINANCIAL SECTOR

Abstract: *In the article, the author examines the economic essence of financial technologies, their direct dependence on economic laws, shows the role of financial technologies in creating inclusive and efficient financial services and promoting economic development. Modern types of financial technologies are analyzed, their areas of application are shown, ways for their further implementation are proposed.*

Key words: *financial technologies, fintech, blockchain, banking, digitalization, service, payments.*

Language: *Russian*

Citation: Zhenesbekova, N. Zh., & Yuldasheva, N. (2023). Financial technologies (fintech) - a transformer of the landscape of the financial sector. *ISJ Theoretical & Applied Science, 03 (119)*, 37-43.

Soi: http://s-o-i.org/1.1/TAS-03-119-8 ***Doi***: https://dx.doi.org/10.15863/TAS.2023.03.119.8

Scopus ASCC: *2000.*

ФИНАНСОВЫЕ ТЕХНОЛОГИИ (FINTECH)- ТРАНСФОРМАТОР ЛАНДШАФТА ФИНАНСОВОГО СЕКТОРА

Аннотация: *В статье автором рассматривается экономическая сущность финансовых технологий, их прямая зависимость с экономическими законами, показана роль финансовых технологий в создании инклюзивных и эффективных финансовых услуг и содействия экономическому развитию. Проанализированы современные виды финансовых технологий, показаны сферы применения их, предложены пути по их дальнейшему внедрению.*

Ключевые слова: *финансовые технологии, финтех, блокчейн, банкинг, цифровизация, сервис, платежи.*

Введение

Финансовые технологии, или как часто сейчас употребляется в обиходе финтех возникли на в результате сочетания двух слов: финансы и технология. В последние годы стремительное развитие финансовых технологий, привлекло значительное внимание в финансовой индустрии. Многие наблюдатели приветствовали рост финтеха, утверждая, что новые технологии обладают потенциалом радикально преобразовать финансовые услуги, сделав транзакции менее дорогостоящими, более удобными и более безопасными. Во всем мире быстро растет внешнее финансирование развития финтеха.

По своей природе финтех носят двоякую природу, то есть в одно время стремятся помочь как клиентам, с другой стороны способствуют развитию предприятий в эффективном управлении своими финансовыми системами и процессами с помощью специализированных технологий, алгоритмов и программного обеспечения. Проведённые научные исследования показывают, что за последние 10 лет наблюдается значительное увеличение количества финтех-компаний, работающих по всему миру, а люди активно внедряют финансовые технологии в свою жизнь. Финтех предоставляет альтернативу традиционным финансовым секторам, таким как

банковское дело, обработка платежей и кредитование, предлагая продукты и услуги, ориентированные на пользователя. Финтех не является чем-то совершенно новым с точки зрения сервиса. В той или иной форме финансовые технологии существуют так же долго, как и финансовые услуги. Само слово было впервые опубликовано в 80—х годах XX века - газета Sunday Times опубликовала статью Питера Найта под названием «Финтех». Он использовал это слово для описания бота, который внес изменения в его электронную почту.

Современные финансовые технологии прошли следующие этапы становления и развития.

Рис.1. Эволюция современных финансовых технологий

Последствия глобального финансового кризиса 2008 года послужили катализатором процесса роста и развития финтех-компании и значительно изменили многие передовые отрасли финансовой сферы, в том числе коммерцию, инвестиции, управление активами, страхование и операции с ценными бумагами. Благодаря финтеху стало возможным существование таких криптовалют, как Биткоин. После кризиса 2008 года появились тысячи стартапов, осознавших, что доверие потребителей финансовых услуг к старому формату было разрушено и назрела потребность в новых финансовых бизнес-моделях. Крупные корпорации начали инвестировать в финтех-бизнесы, которые воспринимались как альтернатива старым бизнес-моделям финансового сектора. С другой стороны, у традиционных банков были миллионы клиентов, которые требовали новых стандартов обслуживания. Первыми людьми, которым понадобился финтех, были стартапы. ИТ-команды и энтузиасты разрабатывали новые финансовые решения, чтобы помочь обычному пользователю отказаться от традиционного, «нечестного» банковского обслуживания, сохранив при этом его возможности. Lending Club, первая в мире и в настоящее время крупнейшая пиринговая торговая площадка, которая напрямую соединяет заемщиков и инвесторов, позволяет вам занимать до 40 000 долларов без поручителей и залогового обеспечения.

На протяжении многих лет финтех рос и менялся в ответ на события в более широком технологическом секторе. В 2022 году этот рост определялся несколькими преобладающими тенденциями:

Мобильный банкинг: Сегодня в мире насчитывается более шести миллиардов мобильных телефонов, и из 1,7 миллиарда небанковских граждан 66% владеют мобильными телефонами. [1] Это означает, что эти устройства являются ключевой целью для банков и других финансовых служб, стремящихся передать свои услуги в руки (в буквальном смысле) клиентов.

Все чаще, когда мы совершаем покупки, это делается посредством телефона как онлайн формате, так и офлайн, поскольку многие из нас отказываются от привычки носить пластик в кошельках в пользу мобильных платежных сервисов. Это всего лишь еще один способ, с помощью которого общество становится все более цифровым и взаимосвязанным, и для большинства из нас наши телефоны являются основным интерфейсом между цифровым миром и реальным

миром. Нигде это не проявляется так ярко, как в сфере финансовых услуг, где каждый банк и страховая компания заинтересованы в том, чтобы мы загружали и устанавливали их приложения. А также при установлении приложений, функционирующие переводы денежных средств, владелец создаёт аккаунт, к которому можно иметь доступ из разных устройств с требованием логина и пароля. Это предоставляет преимущества, как доступ к своим деньгам можно иметь всегда и везде.

Искусственный интеллект (AI) и машинное обучение (ML): Технологии искусственного интеллекта и ML-технологий изменили масштабирование финтех-компаний, переопределив услуги, которые они предлагают клиентам. Искусственный интеллект и ML могут снизить операционные расходы, повысить ценность, предоставляемую клиентам, и выявлять мошенничество. По мере того как эти технологии становятся все более доступными, приходится ожидать, что они будут играть все более важную роль в дальнейшем развитии финтеха — особенно по мере того, как все больше обычных банков переходят на цифровые технологии.

Блокчейн: Технология блокчейн позволяет осуществлять децентрализованные транзакции без участия государственного органа или другой сторонней организации. Технология и приложения блокчейна быстро развивались в течение многих лет, и эта тенденция, вероятно, сохранится по мере того, как все больше отраслей переходят на усовершенствованное шифрование данных. Быстрый, по-настоящему глобальный по охвату и с низкими комиссиями за обработку, блокчейн остается на пути к полному изменению облика финансовых транзакций по всему миру. У нее есть потенциал увеличить мировую экономику до 1,76 трлн долларов в течение следующего десятилетия, при этом две ведущие страны — Китай (440 млрд долларов) и США (407 млрд долларов) — получат наибольшую выгоду от технологии (PwC, 2020). [2]

Когда дело доходит до сектора, который имеет самое высокое распределение рыночной стоимости блокчейна, банковская отрасль правит с долей 29,7%. Далее следуют технологическое производство (11,4%), дискретное производство (10,9%) и профессиональные услуги (6,6%) (IDC, 2020). Бычий порыв инвесторов расширить охват блокчейн-сервисов, конечно, легко сочетается с постоянно растущим числом пользователей блокчейн-кошельков, число которых сейчас составляет 40 миллионов по всему миру. [3] Чтобы дать представление, в 2016 году этот показатель составлял всего 11 миллионов. Другой анализ PwC предполагает, что 2025 год станет переломным моментом, когда технологии блокчейна будут внедрены в масштабах всей экономики по всему миру.

Рис.2.Топ 10 стран, принявших криптовалюту

Индустрия финтех-технологий выросла и разрослась. Финтех сегодня состоит не только из стартапов, но и из множества опытных компаний, которые предлагают широкий спектр финансовых услуг и работают на глобальной арене.

Потребителям нравится то, что они видят. Внедрение финтех-услуг неуклонно растет: с 16% в 2015 году, когда был опубликован наш первый индекс внедрения финтех-технологий, до 33% в 2017 году и 64% в 2019 году. Осведомленность о финтехе даже среди тех, кто его не использует, сейчас очень высока. Например, во всем мире 96% потребителей знают по крайней мере об одном альтернативном финтех-сервисе, который помогает им переводить деньги и совершать платежи. [4]

Рис.3 Результаты опроса глобального потребительского внедрения финансовых технологий

Адаптируясь к быстрому развитию этой динамичной и инновационной отрасли, глобальная команда EY по финтеху провели онлайн-интервью с более чем 27 000 потребителями на 27 рынках на шести континентах, по сравнению с 20 рынками в 2017 году. Десять из 27 рынков в этом году являются развивающимися рынками, что является признанием ведущей роли, которую многие из этих развивающихся рынков играют во внедрении финтеха.

Малые и средние предприятия по всему миру стали значительными пользователями финтеха.

На пяти рынках, которые были обследованы, Китай демонстрирует самый высокий уровень внедрения финтеха - 61%, за ним следуют США - 23%. Уровень внедрения во всем мире составляет 25%. Это означает, что за последние шесть месяцев каждый четвертый МСП во всем мире воспользовался услугами, предоставляемыми финтехом во всех четырех категориях. Когда малые и средние предприятия используют финтех, это, по сути, означает, что они выбрали этот финтех в качестве поставщика. Поскольку МСП выделяют ресурсы и персонал для выбора своих поставщиков, решение об использовании финтеха является обдуманным и принимается в профессиональном контексте. Малые и средние предприятия используют финтех для решения конкретных бизнес-проблем и предоставления надежных решений. Таким образом, 25% - это высокий показатель внедрения, когда речь заходит о компаниях, внедряющих новые технологии.

Финтех сталкивается с несколькими ключевыми препятствиями. Чтобы обеспечить долгосрочный успех, компаниям необходимо делать все, что в их силах, для решения этих проблем. Со среднегодовыми темпами роста почти в 25% индустрия финансовых технологий является одной из самых быстрорастущих в мире. Глобальный уровень внедрения финтеха вырос до 64% в 2020 году.

Однако за таким улучшением могут последовать непреднамеренные последствия, самым большим из которых являются новые проблемы безопасности. Киберпреступность находится на подъеме, новые атаки происходят каждые 39 секунд. И, к сожалению, финтех-компании являются одной из наиболее распространенных целей хакеров. Это не должно вызывать удивления - люди все чаще полагаются на управление цифровыми деньгами, поэтому финтех-компании теперь имеют больше ценных данных для защиты, чем когда-либо прежде. Из-за этого даже крупные авторитетные учреждения,

такие как национальные кредитные бюро и ведущие форекс-брокеры, могут пострадать от утечек данных. Так было в случае с Pepperstone, ведущей австралийской брокерской компанией, чьи клиентские данные были украдены в августе 2020 года. [5]

Среди 13 измеренных преступлений два самых тревожных для американцев - это киберпреступления. 72% опасались, что компьютерные хакеры получат доступ к их личной информации, кредитной карте или финансовой информации, а 66% беспокоятся о краже личных данных. [6] Каждый год, начиная с 2001 года, денежный ущерб, причиняемый киберпреступностью, растет в геометрической прогрессии. В 2020 году он уже достиг примерно 4,2 миллиарда долларов. Это число не включает ущерб от незарегистрированных случаев. (IC3, 2020) Соединенные Штаты подверглись самым громким кибератакам - 156 отдельных инцидентов в период с мая 2006 по июнь 2020 года. Германия, Индия, Австралия и Соединенное Королевство также стали объектами серьезных нападений за последние 14 лет. Эти атаки на разные страны включали нападения на оборонные ведомства, правительственные и федеральные системы, а также известные технологические компании. В первой половине 2020 года было зафиксировано 4,83 миллиона DDoS-атак. [7]

Обмен данными и интеграция на основе безопасности данных являются важной предпосылкой для совершенствования финансовых технологий. Предпосылкой науки и техники, способствующей усовершенствованному развитию финансов, является реализация обмена данными и интеграции на основе защиты конфиденциальности и безопасности данных, улучшение возможностей контроля рисков за счет анализа данных различных измерений и повышение точности и прозрачности контроля рисков в режиме реального времени. Благодаря непрерывному повторению анализа рисков данных и модельных алгоритмов мы можем предоставлять пользователям персонализированные услуги и продукты. Это непреодолимая и важная связь в развитии финансовых технологий с интеллектуальными финансами, но то, как правильно использовать технологии и как найти баланс между предотвращением рисков, защитой конфиденциальности и доступом к финансовым услугам, должно стать проверкой мудрости регулирующих органов, поставщиков финансовых услуг и сторон, предъявляющих спрос.

Здоровое и устойчивое развитие финансовых технологий должно основываться на обслуживании реальной экономики. В настоящее время финансовые технологии широко применяются в сфере личных кредитных услуг, в то время как они в меньшей степени используются в обслуживании реального сектора экономики и стимулирующих отраслей. С благословения Интернета легко произвести чрезмерную кредитную экспансию и расширить пространство для будущих финансовых услуг, что делает экономика из реальности в реальность.

Развитие экономики тесно связано с подъемом и падением реальной промышленности. Финансы должны быть точно подкреплены наукой и технологией, чтобы сформировать циклическое и здоровое развитие всей экосистемы. Личный кредит, связанный с потреблением, недолговечен, и для получателей кредитных услуг он не может генерировать богатство. Он только потребляет богатство и не может формировать долгосрочное устойчивое развитие.

Соответствие государственным нормативным актам является препятствием в развитии финтех. Финансы - один из наиболее регулируемых секторов. Государственное регулирование будет вас беспокоить, даже если у вас более традиционное программное обеспечение для финтеха, которое не использует блокчейн и другие еще не проверенные технологии. Проверьте ваше программное обеспечение и внутренние процессы на соответствие законодательству и, при необходимости, наймите юридического консультанта, который ознакомит вас со всеми деталями.

Отсутствие опыта в области мобильных устройств и технологий одна из проблем в развитии финтех индустрии. Во многих странах финансы очень традиционны, и большинство банков не имеют надлежащего мобильного банкинга или других финтех-сервисов, удобных для пользователей. Некоторые производители банковских приложений пытаются копировать веб-сайты, но мобильное программное обеспечение сильно отличается. Недостаток опыта в разработке мобильных приложений финтех приводит к созданию не удобных для пользователя приложений, которые не используют мобильные устройства в полной мере. Финтех - банк способен предоставить выдающийся опыт использования этих технологий. Благодаря инфраструктуре, встроенной в физические банки, улицы и магазины, банковское приложение становится мощным инструментом. Создайте свой собственный отдел разработки или наймите разработчиков из аутсорсинговой компании для создания приложения FinTech products с учетом лучших практик мобильной разработки. [8]

В недавнем исследовании Джиллиан Гренна , профессор финансов в Школе бизнеса Фукуа

Университета Дьюка , исследует нормативно-правовую базу США, связанную с так называемыми финтехами, такими как цифровые платежи, блокчейн, криптовалюты и финансовые приложения искусственного интеллекта (ИИ). Поскольку финтех представляет собой «рождение новой технологии, нового инструмента для предпринимательства, нового класса инвестиционных активов и нового способа контроля финансовых решений», Греннан утверждает , что финансовое регулирование не может идти в ногу с этой редкой областью инноваций. По словам Греннана, юридические споры между теми, кто заключает смарт-контракты на блокчейн-платформах, представляют собой очень традиционные проблемы договорного права и защиты прав потребителей, поскольку потребители пытаются оспорить неудовлетворенные ожидания пользователей. Но сложности возникают , когда судам и регулирующим органам необходимо определить, несут ли создатели децентрализованных протоколов ответственность в случае возникновения проблем между пользователями на их платформах. Греннан далее описывает трудности, связанные с привлечением разработчиков к ответственности, что создает дополнительные проблемы для регулирования. [9]

Банк систематично находится в центре финансового мира. Меняющаяся нормативно-правовая среда и стремительный рост объема данных позволили финтех-фирмам захватить долю рынка в традиционных банковских сферах, таких как платежи, кредитование, инвестиции и финансовое планирование. Фирмы, не имеющие базы активов или унаследованной банковской инфраструктуры, добились значительного проникновения в проблемные банки в своих основных сферах деятельности. Банки различными способами реагировали на эти вызовы с разной степенью успеха, но только те, кто активно сотрудничает с финтех-пионерами и поддерживает их, получили конкурентное преимущество.

Финтех тесно связан с архитектурами открытых сервисов, использующими интерфейсы прикладного программирования (API) наряду с бизнес-моделями, присущими цифровой-экономике. На первом этапе финтех рассматривался как разрушитель для крупных устоявшихся финансовых компаний. Теперь, когда эти компании, а также регулирующие органы реагируют на повышение уровня защиты клиентов, мы находимся на пороге следующей волны, когда финансовые учреждения становятся платформами, принимающими и взаимодействующими с новыми, более мелкими игроками. Без сомнения, финансовая индустрия изменит свою технологическую модель и будет способствовать интеграции услуг до тех пор, пока сохраняется защита клиентов.

Технология стала источником структурных изменений для бирж. В последние годы темпы изменений резко возросли, поскольку сочетание факторов регулирования, капитала и бизнес-модели нарушило экосистему финансового рынка. В нем рассматривается увеличение стоимости, которое может быть достигнуто за счет партнерских отношений между финтех-фирмами и участниками рыночной инфраструктуры, с точки зрения подключения, дистрибуции, технической и нормативной экспертизы в областях, которые являются ключевыми для будущего хорошо функционирующей финансовой системы.

Согласно отчету Statista Worldwide FinTech, в 2022 году цифровые платежи станут крупнейшим сегментом на рынке. Эксперты ожидают, что выручка neobanking вырастет на 39,9%, а число пользователей цифровых платежей к 2025 году вырастет до 4929,55 млн. [10]

В этих условиях конкуренция новых стартапов и финтех-гигантов возможна только в том случае, если первые готовы предложить клиентам принципиально новые решения для повышения безопасности денежных транзакций и облегчения жизни пользователей. Однако, несмотря на стремительный рост популярности цифровых платежей, удовлетворение потребности пользователей не намечается, если не соответствовать текущим тенденциям рынка. Основными из них являются:

- Постоянно растущий потребительский спрос на цифровизацию. Платформа должна быть подготовлена к резкому увеличению числа пользователей и быстрому масштабированию.

- Интеграция ниши рынка денежных переводов и обработки платежей. Эта тенденция актуальна как для новых стартапов, так и для существующих систем. Возможности платежной индустрии могут быть использованы для более быстрых и прозрачных транзакций, что позволяет снизить комиссии.

- Полное выполнение нормативных актов. Из-за негативных последствий пандемии для финансового рынка правительства всех стран будут более строги в отношении регулирования любых финансовых операций. Поэтому очень важно обратить внимание на автоматизацию контроля за выполнением любых правил.

- Цифровые технологии для клиентов. Любые реализации должны соответствовать ожиданиям пользователей, а система онлайн-переводов денег должна быть удобной для пользователей с разным уровнем технологического комфорта.

Таким образом вышеперечисленное позволяет сделать следующие выводы:

Во-первых, участники рынка будут реагировать различными способами, чтобы создать новое видение рынков капитала завтрашнего дня. Силы регулирования, изменения структуры рынка и перераспределения участников рынка капитала будут продолжаться в течение следующего десятилетия. [11].

Во-вторых, тенденции в цифровизации будут ускоряться, и задача для признанных технологических фирм и операторов рынка будет заключаться в поиске правильных средств сотрудничества с новыми бизнес-моделями и инновационными технологиями. Одновременно партнерские отношения расширяются, и финтехи привлекают все больше и больше талантов из мира брокеров-дилеров и инвестиционно-банковских услуг для работы над созданием новых моделей для следующей волны инноваций.

В третьих, участникам рынка необходимо постоянно развивать и внедрять инновации в свои бизнес-модели. Финтехи могут помочь сотрудникам перейти к новому бизнес-моделям и получить доступ к дополнительным карманам для роста.

References:

1. (n.d.). Retrieved from http://www.itu.int/-Mezhdunarodnyj_souz_jelektrosvjazi
2. (2020). Global`nyj ezhegodnyj obzor PwC.
3. (n.d.). Retrieved from http://www.statista.com
4. (2019). EY Global FinTech Adoption Index 2019.
5. (n.d.). Retrieved from https://www.coinbureau.com/review/pepperstone/
6. (n.d.). Retrieved from https://www.gallup.com/workplace/321725/gallup-q12-meta-analysis-report.aspx
7. (2020). Spravka Net Security.
8. (n.d.). HEDGETHINK By Simon Pearson.
9. (n.d.). Retrieved from https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4045057
10. (2022). Statista Worldwide FinTech 2022.
11. (n.d.). Retrieved from https://cdto.wiki

SOI: 1.1/TAS DOI: 10.15863/TAS

International Scientific Journal

Theoretical & Applied Science

p-ISSN: 2308-4944 (print) **e-ISSN:** 2409-0085 (online)

Year: 2023 **Issue:** 03 **Volume:** 119

Published: 10.03.2023 **http://T-Science.org**

Issue Article

Abdurakhman Abdulahatovich Mirisaev
Tashkent Architecture and Civil Engineering University, Alfraganus University
PhD in Economics, Associate Professor, (TACEI), «Economics and Real Estate Management» Department,
Tashkent, Republic of Uzbekistan,
abdurahmonm@mail.ru

Sanjarbek Olimjon son Kholboev
Tashkent Architecture and Civil Engineering University
master, (TACEI), «Economics and Real Estate Management» Department,
Tashkent, Republic of Uzbekistan,
Danya3559559@gmail.com

ANALYSIS OF LOANS ALLOCATED BY BANKS TO CONTRACTOR ORGANIZATIONS IN UZBEKISTAN

Abstract: *This article analyzes the role of construction-contracting organizations in providing the population with affordable housing and the loans granted by commercial banks today. Also, based on the improvement of the housing supply system, the issues of satisfying the population's demand for housing were also analyzed.*

Key words: *This article construction of low-cost housing, economic foundations of housing construction, analysis of the state of housing construction, issues of bank loans for housing.*

Language: *English*

Citation: Mirisaev, A. A., & Kholboev, S. O. (2023). Analysis of loans allocated by banks to contractor organizations in Uzbekistan. *ISJ Theoretical & Applied Science, 03 (119)*, 44-52.

Soi: http://s-o-i.org/1.1/TAS-03-119-9 ***Doi***: crossref https://dx.doi.org/10.15863/TAS.2023.03.119.9

Scopus ASCC: *2000.*

Introduction

Today, it is an urgent task to build high-quality and modern housing for the population of Uzbekistan and to provide the population with large-scale housing. As a result of the construction of houses, owning one's own apartment has been raised to the level of value in our nation since ancient times. In this case, housing is treated not just as real estate or temporary shelter, but as a miraculous homeland within a homeland. Therefore, every family in our country has the right to have their own house, regardless of their financial conditions, social status and level.

Therefore, wherever you go to any region of our republic, you can't help but be surprised by the ongoing creative work, the construction of modern housing and buildings. Now, in place of the old city, there are new and modern houses - places and the high quality of service of the infrastructure facilities that serve the population.

In this regard, in the address of the President of our country to the Oliy Majlis, special attention is paid to the issues of reforming the social sphere, and the implementation of the adopted programs is being ensured step by step. This, in turn, shows the relevance of the chosen topic by increasing the responsibility of contractors in construction organizations and optimizing other costs in the construction process.

Analysis of literature on the topic

Russian scientists A.N.Asaul, M.N.Starovoytov, R.A.Faltinsky, I.S.Stepanov thought about construction costs and the factors affecting them, and studied them by linking them to factors such as the duration of construction, the share of the main costs. Also, in their works, the main idea that it is necessary to optimize the main costs in construction, so that other costs will reduce by themselves, is highlighted.

O. V. Sorvina, A. N. Asaul, M. G. Kvitsiniyas have also given a number of opinions and comments on cost reduction and optimization in their scientific works and works. In particular, they explained cost optimization in connection with their management methods. At the beginning of the process, it is possible to achieve cost reduction with the help of carefully calculated cost norms and selected effective method.

However, until now, the role and importance of the contractor's "other expenses" in the formation of the price of construction objects have not been researched by the economists, scientists and the above-mentioned scientists of our region.

Research methodology

Empirical research method was mainly used in the implementation of the research, that is, the issues of increasing the social well-being of the population based on housing construction were considered, the issues of crediting housing construction were mentioned in detail, and conclusions and proposals were developed regarding the improvement of the sector.

Analysis and results

In the following years, large-scale works were carried out in the republic to improve the architectural appearance of rural settlements, to raise the standard and quality of life of rural residents due to the construction of individual houses according to model projects, to rapidly develop engineering and transport communications, and social infrastructure facilities in the countryside.

It should be noted that in order to develop "New Uzbekistan" massifs and meet the population's demand for housing, in 2023: 1

• Annual volumes of new housing construction in 53 "New Uzbekistan" areas and 161 other areas, including private contracting organizations, will be doubled to 90,000;

• In 2022, 44,000 apartments were built and put into use, and as a result of the implementation of the specified measures, the number of apartments to be built in 2023 will increase by at least 100 percent compared to last year.

Sufficient funds from the State budget will be allocated to 26,000 citizens for mortgage loans based on market principles, as well as for 11,000 citizens to allocate subsidies to cover part of the initial contribution and interest payments.

As a result, in 2023, a subsidy in the amount of 1 trillion soums will be allocated to cover part of the initial contribution and interest payments within the framework of mortgage loans.

As part of the new procedure of providing the population with housing through mortgage loans on the basis of market principles, the "My first house" program was developed and launched as a pilot program in Tashkent region for citizens who do not have housing based on property rights. will cry.

Due to the issuance and placement of mortgage bonds of the "Uzbekistan Mortgage Refinancing Company" on the international and local stock exchanges, the company's charter fund will be increased to the equivalent of 100 million dollars.

In this case, the funds raised for the placement of mortgage bonds are placed in banks as a resource for mortgage loans. As a result, additional 3,000 mortgage loans will be allocated to the population.

Therefore, the state of financial support of contracting organizations for the construction of multi-apartment housing in our country. Today, the development of the mortgage market, in addition to encouraging the population to purchase housing through mortgage loans, is also the reason for the development of multi-apartment housing by contracting organizations. require financial support for place-making projects.

1.2 trillion in 2020 for the construction of multi-apartment houses by commercial banks to contracting organizations. 2 trillion soums in 2021. soums, and 2.1 trillion in 2022. loans amounting to 2.8 trillion soums have been allocated, and as of January 1, 2023, their balance is 2.8 trillion. amounted to soum.

In 2022, the construction of 37.9 thousand apartments by commercial banks to contracting organizations will cost 2.1 trillion. Soums or 4% more loans (87.4 billion soums) compared to the same period last year.

In 2022, 1.2 times more (2.8 thousand) multi-apartment apartments were built and put into use than in 2021 due to the allocated loan funds (Table 1).

Table 1. General information on financial support of contracting organizations by commercial banks[2]

Amount of allocated loans, bln. in soums	In 2020	In 2021	In 2022
	1 248,6	2 011,6	2099
- the number of the contracting organization	199	261	430
- the number of houses to be built	591	763	840

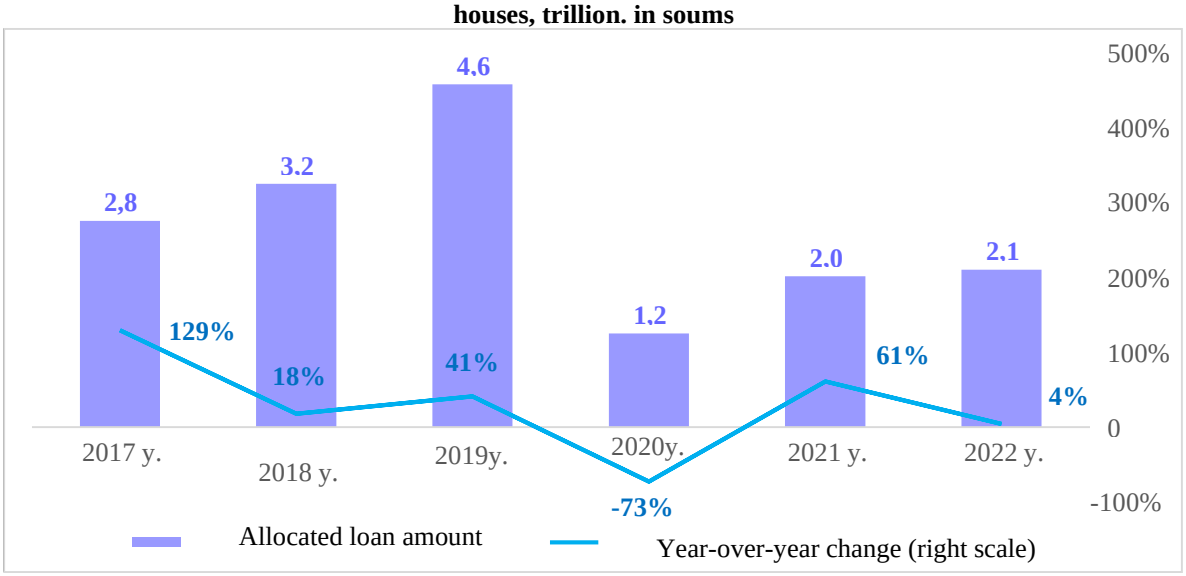
[1] https://daryo.uz/k/2023/02/09/ozbekistonda-2023-yilda-ipoteka-kreditlari-uchun-1-trln-som-subsidiya-ajratiladi

[2] https://cbu.uz/upload/iblock/1a4/y4o4tv5e4mtycqhi5cuej7jp2imhjl05/Mortgage-report_2022.pdf

- the number of apartments to be built	31 895	36 788	37 868
The balance of allocated loans,	01.01.2021	01.01.2022	01.01.2023
billion in soums	1 906,5	2 455,1	2815,8
- the number of the contracting organization	215	314	546
- the number of built houses	444	628	1 021
- the number of built apartments	27 091	33 975	50 901
The amount of guarantee compensation given by the fund, bln. in soums	176,3	124,3	456
The average loan amount is bln. in soums	10,2	6,6	5,5
Average loan percentage			
(provided by the fund compensation is not	20,5	21,3	22,3
taken into account)			
Average loan term (in months)	27,3	20,1	22,7
Houses commissioned for use			
- number of houses	461	252	322
- the number of apartments	20199	11 015	13 823
Unfinished houses			
- number of houses	140	374	846
- the number of apartments	8 904	17 514	44 461

In 2017-2022, the total amount of loans allocated by commercial banks to contracting organizations is 15.9 trillion. soums or 3% of loans allocated to legal entities (Fig. 1).

Figure 1. The amount of loans allocated to contracting organizations for the construction of multi-apartment houses, trillion. in soums



During this period, the high demand for these loans in the region was formed in the city of Tashkent (26% of allocated loans), Surkhandarya region (12%) and the Republic of Karakalpakstan (9%), and relatively less in Navoi (2%), Khorezm (2.2 percent), Bukhara (3.9 percent) regions.

It is noteworthy that in 2022, 14.9 percent (313 billion soums) of the loans allocated to contracting organizations (2.1 trillion soums) will go to Surkhandarya, 13.6 percent (286 billion soums) to Andijan regions and 10.5 percent (219 billion soums) was contributed by the Republic of Karakalpakstan, and there were changes in the structure of the share of the regions in allocated loans compared to previous years (Figure 2).

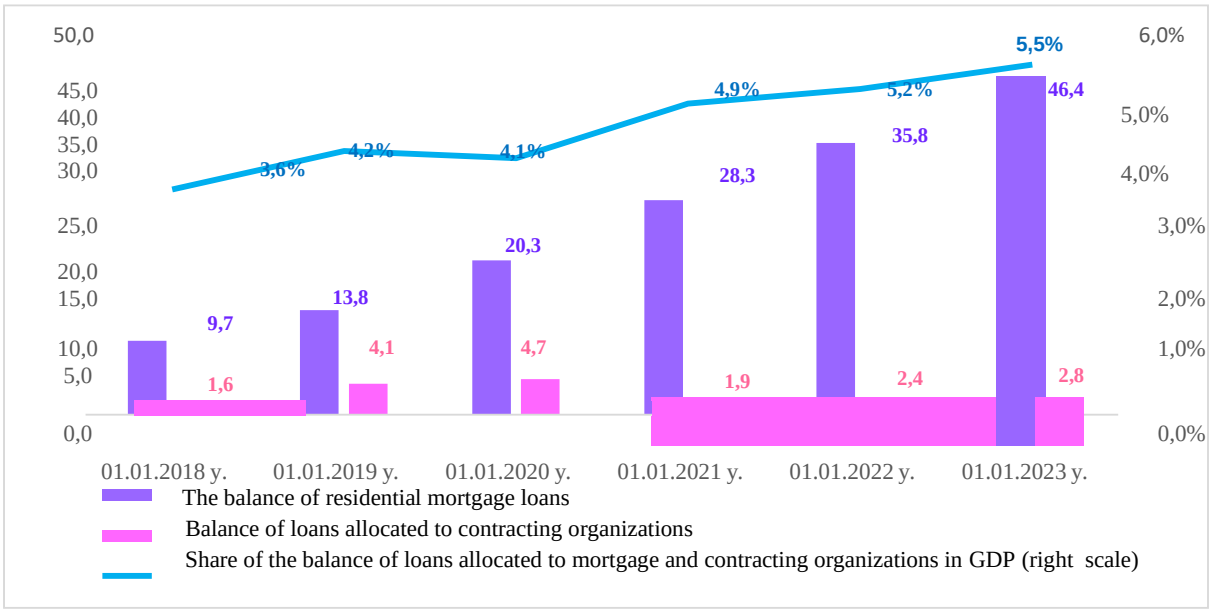
Also, 23 percent of the allocated loans (478.9 billion soums) were directed to finance the

construction of 221 housing units with 6,731 apartments in the "New Uzbekistan" massifs.

As of January 1, 2023, the balance of loans allocated to contracting organizations is 2.8 trillion. soums (increased by 15% compared to last year), the balance of mortgage loans allocated to the population is 46.4 trillion. amounting to soums (30 percent increase), the share of funds directed to the country's housing market in the gross domestic product reached 5.5 percent, having increased by 1.9 percentage points compared to January 1, 2018.

As of January 1, 2020, the balance of loans allocated to contracting organizations is 2.8 trillion compared to the corresponding period of 2019. decreased by 1.9 trillion soums. amounted to soum. This decrease is primarily due to the decrease in economic activity due to the global pandemic, and the total cost of housing completed at the expense of bank loans is 4.8 trillion. sale of 23.7 thousand soums, as well as a total of 7.4 trillion soums. can be explained by the extinguishment of loans in the amount of soums (9.7 times more than in 2018).

Figure 2. The share of the balance of mortgage loans allocated to contracting organizations and the population in GDP



As of January 1, 2023, the main part of the balance of loans in the regional segment is Surkhandarya (18 percent), Samarkand (10.4 percent), Tashkent city (10 percent), and in the segment of banks, Qishloqkurilishbank (31 percent), Milliybank (11 percent) and Ipotekabank (11 percent) is contributing.

Figure 3. The balance of loans allocated to contracting organizations is the share of territories, in percentage

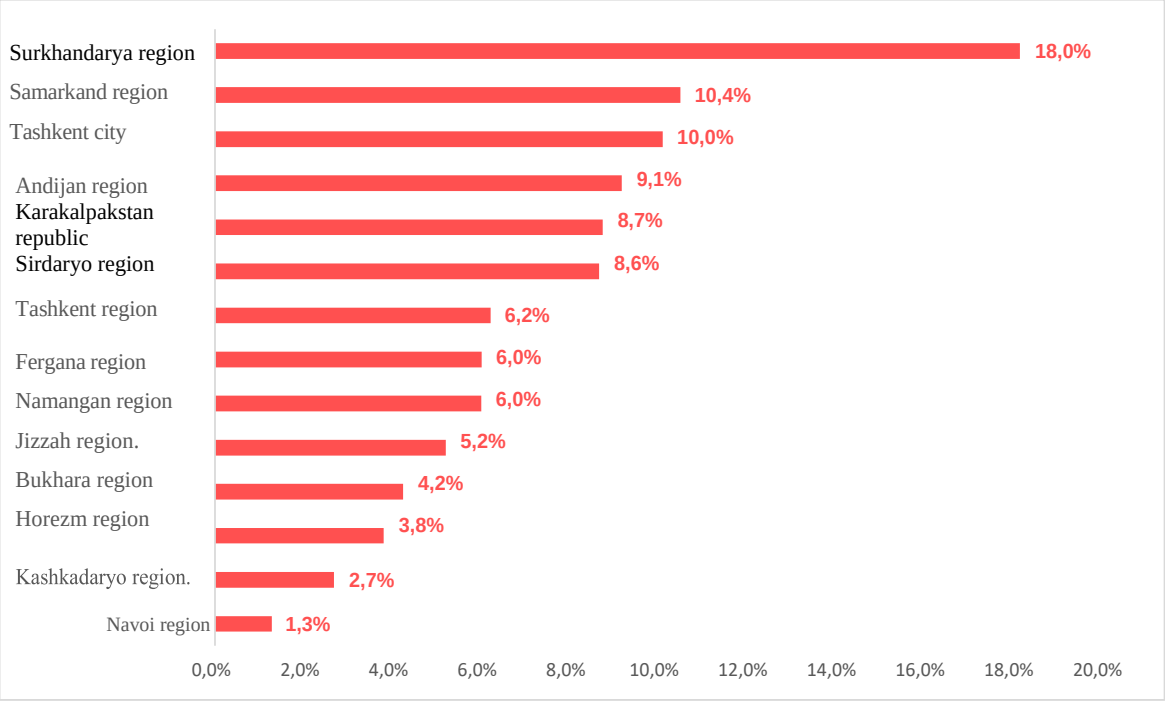
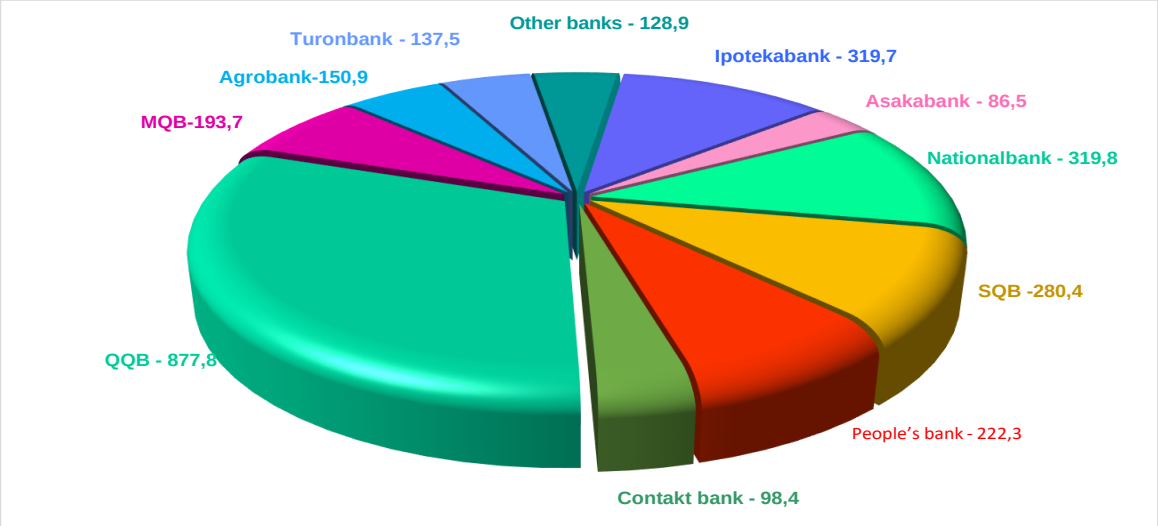


Figure 4. Banks' share and profits in the balance of loans allocated to contracting organizations for the construction of multi-storey houses in 2017-2022

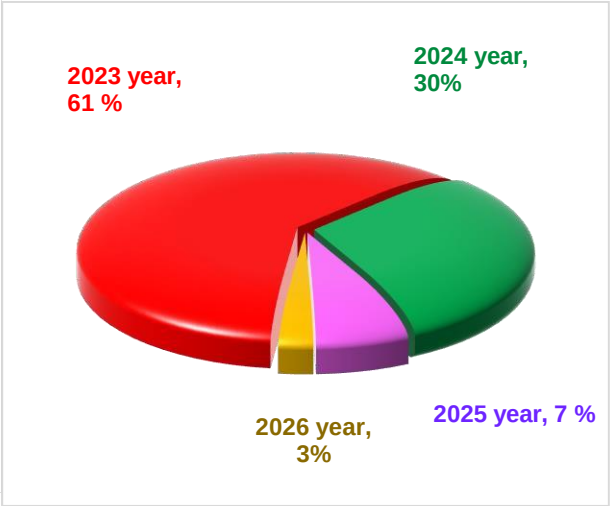


Analyzing the balance of allocated loans by terms, it can be seen that 5% of them were allocated in 2017-2019, 47% in 2020-2021 and 48% in 2022. Also, 61 percent of these loan balances are expected to be closed by the end of 2023, 30 percent by 2024, 7 percent by 2025, and 3 percent by the end of 2026, according to the schedule established in the contract.

Figure - 5.

The balance of loans allocated to contracting organizations by terms analysis

Maturity periods of loans allocated to contracting organizations analysis of



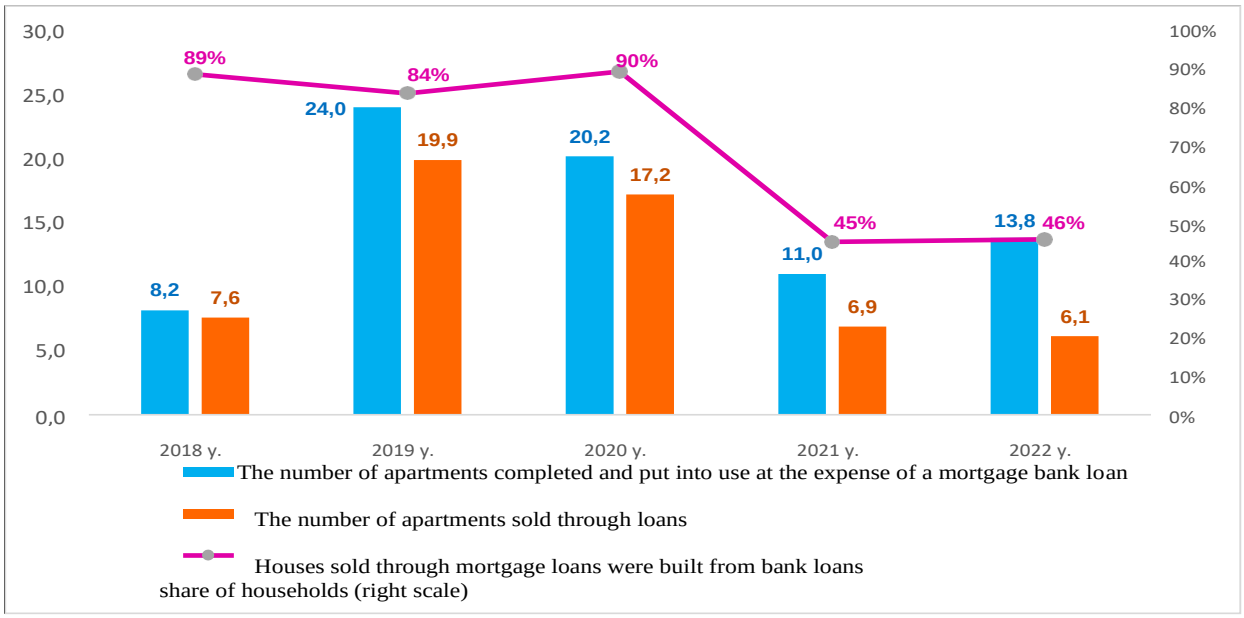
It should be noted that over the last 6 years, the construction of 121 miig apartments was financed from the loans allocated to contracting organizations by commercial banks. In 2022, the share of apartments whose construction was financed by a bank loan in the total number of commissioned apartments increased by 5 percentage points compared to 2021 and amounted to 50 percent (37.9 thousand). This, in turn, shows that the weight of contracting organizations participating in the housing construction market with bank loans is increasing.

In 2017-2022, 48.6% (886) of the 1,824 houses built and put into use at the expense of bank loans were 1-5-story, 29.6% (539) 6-9-story, and 21.8% (399) consisting of 10-story and higher houses.

In 2022, among the 13,800 houses built and put into use at the expense of a bank loan, the share of houses sold to citizens through a mortgage loan increased by 1 percentage point compared to 2021 and amounted to 46% (6,100), but it decreased by 2 times compared to 2020.

This decrease can be explained by the increase in the tendency of the population to buy houses built at the expense of bank loans with cash funds. Taking this trend into account, commercial banks need to further improve monitoring mechanisms and reassess existing risks in terms of timely repayment of loans allocated to contracting organizations.

Figure 6. In 2018-2022, the number of apartments completed and put into use at the expense of bank loans and sold through mortgage loans, thousand

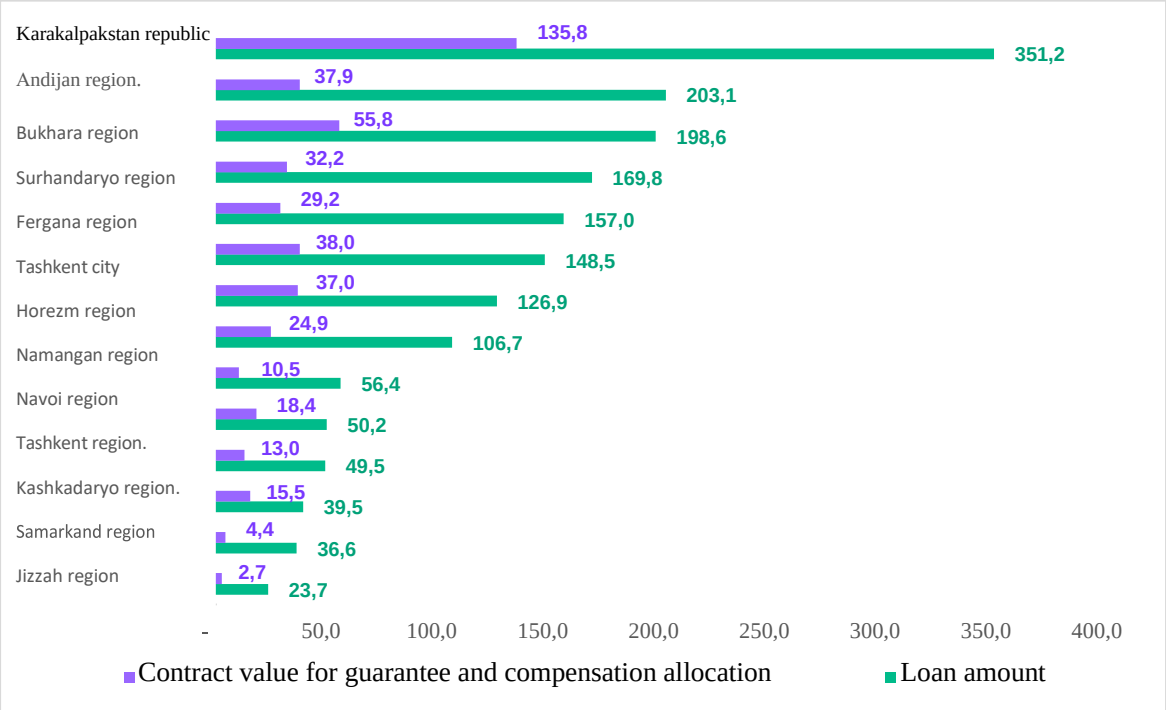


The continuous increase in the population's demand for housing leads to a rapid increase in the rate of construction of residential areas by contracting organizations not only in cities, but also in rural areas. In 2017, the share of houses financed by bank loans was only 5% (1,037), but by 2022 this indicator will reach 54% (8,160).

In accordance with the decision of the President of the Republic of Uzbekistan No. PQ-4701 of May 1, 2020, the loan interest rate allocated by the State Fund for the Support of Entrepreneurial Activities does not exceed 1.5 times the Central Bank's main interest rate. compensation is provided during the term of the loan up to 24 months to cover the part exceeding the rate, but not more than 30% of the basic rate.

In 2022, 1.7 trillion was allocated to 469 contracting organizations by the State Fund for the Support of Entrepreneurial Activities. a total of 456 billion soums (82% of loans allocated in 2022) for loans. Soums of guarantees (317 billion soums) and compensation (139 billion soums) were signed.

Figure 7. The amount of guarantees and compensations allocated to contracting organizations by region



The highest share of guarantee and compensation funds goes to the Republic of Karakalpakstan (29.8 percent), Bukhara region (12.2 percent) and Tashkent city (8.3 percent).

In addition, in 2022, 1.8 trillion soums or 23% more loans than in 2021 were extinguished by foreign contractors. In particular, 16.7 percent and 16.4 percent of loans were extinguished in Tashkent city and Jizzakh region, respectively, and a high percentage of total returned loans was recorded.

Conclusion and suggestions

From the information in the above table, it can be concluded that the terms of sale to young families, residents of old houses and other categories of citizens who need to improve their housing conditions are set for a period of 20 years, taking into account the well-being of our population, and that the initial contribution is not required. The introduction of a preferential interest rate lower than the refinancing rate of the Central Bank and the setting of a 36-month period ensure a positive result of the reforms. At the same time, allotment of land areas for the construction of affordable multiapartment houses is carried out by the Council of Ministers of the Republic of Karakalpakstan, regional and city hokims based on the orders of "Uzshakhar Qurilish Invest" LLC and participating commercial banks only in the areas where the demand is high among the population. As a result of the conducted research, the following scientific and practical recommendations were developed:

- firstly, to improve the monitoring of the work carried out in the regions and districts regarding the provision of affordable housing to the population in the regions of our republic;
- secondly, to ensure the continuous operation of the commissions established under the authorities to provide the population with affordable housing and to reduce the number of required documents;
- thirdly, studying foreign experiences in providing the population with affordable housing and paying attention to the issue of extending the loan term;
- fourthly, to establish a separate department in regional authorities to provide the population with affordable housing and to form a base of the population's requirements for housing;
- fifthly, to ensure a decrease in the cost of model houses built at the expense of optimization of costs of construction-contracting organizations for construction materials and items.

In addition, the affordability of houses is achieved due to the provision of tax, customs relief and other benefits for program (contractor) participants. In addition, the affordability of houses is achieved due to the provision of tax, customs relief and other benefits for program (contractor) participants. In conclusion, it should be said that the social well-being of our population will increase as a result of the fair policy of the President, economic and social support of the population, and wide-scale reforms to provide the population with affordable housing.

References:

1. (2020). *Decree of the President of the Republic of Uzbekistan dated 27.11.2020 N PF-6119 "Decree on approval of the strategy of modernization, rapid and innovative development of the construction network of the Republic of Uzbekistan for 2021-2025.*
2. (2017). President of the Republic of Uzbekistan Shavkat Mirziyoyev's speech at the extended meeting of the Cabinet of Ministers dedicated to the main results of socio-economic development of our country in 2016 and the most important priorities of the economic program for 2017. *People's word, 2017. 16.01.*
3. (2017). Decree of the President of the Republic of Uzbekistan "On the strategy of actions for the further development of the Republic of Uzbekistan". *People's word 2017. 08.02. No. 28 (6722).*
4. (2017). *Address of the President of the Republic of Uzbekistan Shavkat Mirziyoyev to the Oliy Majlis. Xalqsozi 2017. 23.12.*
5. (2020). *Decision PQ-2728 of the President of the Republic of Uzbekistan dated January 13, 2017 "On additional measures to effectively implement the program of construction and reconstruction of affordable multi-apartment houses in cities in 2017-2020".*
6. (2021). *Decision of the President of the Republic of Uzbekistan dated October 21, 2016 "On the program for building affordable housing in rural areas according to updated model projects in 2017-2021".*
7. (2020). *Resolution PQ-3350 of the President of the Republic of Uzbekistan dated October 23, 2017 "On additional measures to effectively implement the program of construction and reconstruction of affordable multi-apartment houses in cities in 2017-2020".*
8. (2020). *Decision PQ-2660 of the President of the Republic of Uzbekistan dated November 22, 2016 "On measures to implement the Program for the construction and reconstruction of affordable multi-apartment houses in cities in 2017-2020".*
9. Mirisaev, A.A., & Kholboev, S.O. (2022). "The role of contractor organizations in the construction of affordable houses for the population of uzbekistan". *International Scientific Journal Theoretical & Applied Science*, p-ISSN: 2308-4944 (print) e-ISSN: 2409-0085 (online) Year: 2022 Issue: 07 Volume: 111.
10. (n.d.). Retrieved from Retrieved from www.stat.uz
11. (n.d.). Retrieved from Retrieved from www.norma.uz
12. (n.d.). Retrieved from Retrieved from www.lex.uz

Impact Factor:					
	ISRA (India) = 6.317	SIS (USA) = 0.912	ICV (Poland) = 6.630
	ISI (Dubai, UAE) = 1.582	РИНЦ (Russia) = 3.939	PIF (India) = 1.940
	GIF (Australia) = 0.564	ESJI (KZ) = 8.771	IBI (India) = 4.260
	JIF = 1.500	SJIF (Morocco) = 7.184	OAJI (USA) = 0.350

SOI: 1.1/TAS DOI: 10.15863/TAS
International Scientific Journal
Theoretical & Applied Science
p-ISSN: 2308-4944 (print) **e-ISSN:** 2409-0085 (online)
Year: 2023 **Issue:** 03 **Volume:** 119
Published: 12.03.2023 **http://T-Science.org**

Issue Article

S. U. Zhanatauov
Noncommercial joint-stock company «Kazakh national agrarian research university»
Academician of International Academy of Theoretical and Applied Sciences (USA),
Candidate of physics and mathematical sciences,
Department «Iinformation technologies and automatization», Professor,
Kazakhstan
sapagtu@mail.ru

A COGNITIVE MODEL RECOGNIZING A FARMER'S DREAM

Abstract: *The model of the initial offer (free unmanned tractors, combine harvesters) is considered with subsequent profit from future sales (spare parts for robotic equipment), from mandatory service contracts, from taxes, fines. The essence of the analyzed project is the free introduction by the state agency of unmanned tractors and combines with technological advantages. Taking into account the quantities of individual amounts of the balance sheet value of tractors, combines from the fleet of one farmer. Verbal, symbolic, mathematical, semantic, cognitive models were built at minimal cost from the investor of project No. 2. An algorithm for modeling weights for the balance sums of tractors, combines has been developed, the sums of weights are equal to the corresponding amounts of balance tractors, combines. The priority of participation in project No. 2 is given to farmers with the largest amount of the current value of the declared balance equipment. Calculations in the cognitive model were carried out using (when solving in the Inverse Problem 2) the Solver procedure from the "Search for a Solution" add-in of ET Excel with an objective function that minimizes the investor's costs for 3 unmanned tractors and 2 unmanned harvesters introduced free of charge.*

Key words: *cognitive model, the state of the farmer's technique.*
Language: *Russian*
Citation: Zhanatauov, S. U. (2023). A cognitive model recognizing a farmer's dream. *ISJ Theoretical & Applied Science, 03 (119),* 53-61.
Soi: http://s-o-i.org/1.1/TAS-03-119-10 ***Doi***: https://dx.doi.org/10.15863/TAS.2023.03.119.10
Scopus ASCC: *2600.*

КОГНИТИВНАЯ МОДЕЛЬ, ПОЗНАЮЩАЯ МЕЧТУ ФЕРМЕРА

Аннотация: *Рассматривается модель первоначального предложения (бесплатные беспилотные тракторы, комбайны) с последующим получением прибыли от будущих продаж (запасных частей к робототехнического оборудования), от обязательных контрактов на сервисное обслуживание, от налогов, штрафов. Суть анализируемого проекта: бесплатное внедрение госорганом беспилотных тракторов и комбайнов, обладающих технологическими преимуществами. С учетом количеств индивидуальных сумм балансовой стоимости тракторов, комбайнов из парка техники одного фермера. Построены словесная, символьная, математическая, смысловая,когнитивная модели при минимальных затратах со стороны инвестора проекта №2. Разработан алгоритм моделирования весов для балансовых сумм тракторов, комбайнов, суммы весов равны соответствующим количествам балансовых тракторов, комбайнов. Приоритетом участия в проекте №2 наделены фермеры с наибольшей суммой текущей стоимости декларируемой балансовой техники. Расчеты в когнитивной модели проведены с применением (при решении в Обратной задачи 2) процедуры Solver из надстройки «Поиск решения» ЭТ Excel с целевой функцией, минимизирующей затраты инвестора на бесплатно внедренных 3 беспилотных тракторов, 2 беспилотных комбайнов.*

Ключевые слова: *когнитивная модель, состояние техники фермера.*

Введение

Фермер после посевной кампании (когда дорог каждый день) ждет дождливой поды и сенью (перед уборкой урожая) ждет ясной погоды - как манны небесной. Фермеры еще не знают: им доступна другая манна небесная - беспилотные тракторы и комбайны. Они работают без зарплаты и больничных, перекуров и выходных, днем и ночью, в туман и дождь. Предлагается бесплатно передать фермеру БТ=3 беспилотные тракторы и 2 беспилотных комбайнов взамен на папку бухгалтерских документов о наличии на балансе фермерского хозяйства 35 единиц тракторов и комбайнов (балансовой техники с надлежащей историей) и договор взаимных обязательствах. В районах наступит (через некоторое время) рай. Есть генетический фактор: казахи любят то, что быстро передвигается. В 90-ые годы в Казахстане при 100%-ой инфляции бизнесмены брали 40%-ый кредит, покупали в Японии автомобили Toyota Land Cruiser, за свой счет перевозили в Казахстан, где покупатели их быстро покупали, записывались в очередь для покупки из очередной партии машин.

Назначенный оператор (государственная или частная структура) применит модель «убыточного лидерства» — субсидируемое, даже первоначально убыточное предложение с расчетом на получение прибыли от последующих продаж. Мы опишем привлекательность идеи первоначального предложения (бесплатные тракторы, комбайны) с последующим получением прибыли от будущих продаж (запасных частей к робототехническим оборудованиям), от обязательных контрактов на сервисное обслуживание, от налогов, штрафов, включенных в договор взаимных обязатель ствах. Суть анализируемого ниже проекта аналогична «практике предлагать мобильный телефон бесплатно вместе с контрактом на обслуживание» [1]. Вначале операторы теряют деньги, раздавая мобильные телефоны, но потом легко покрывают свои убытки за счет ежемесячных платежей. Бесплатное предложение — приманка, благодаря которой оператор потом получает регулярный доход. Ключ модели - тесная связь между бесплатным первоначальным продуктом и покупкой других товаров, на продаже которых компания получает существенную прибыль. Рассмотрим актуальный проект, практическое применение когнитивной модели которого возможно одновременно с роботизацией земледелия.

Технологические преимущества беспилотных тракторов и комбайнов

Имеются беспилотные тракторы, комбайны, производимые разными заводами. «Беспилотные тракторы – это универсальные солдаты на сельскохозяйственном поле, которые в скором времени полностью заменят человека. Они работают без зарплаты и больничных, перекуров и выходных, днем и ночью, в туман и дождь. Их глазами являются камеры, а мозгом – интеллектуальная система, способная полностью контролировать и управлять движениями и функциями техники»[1].

Умные тракторы «совершают необходимые маневры, выполняют задания с минимальными погрешностями, определяют границы поля. Причем роботы могут работать круглосуточно, а управлять ими можно с помощью планшета. Различают мнимые препятствия от настоящих. Например, сенсоры узнают высокие стебли подсолнечника или кукурузы, не воспринимая их в качестве преграды движению. Могут передвигаться по системе «следуй за мной». Один автономный трактор под управлением человека координирует движение нескольких беспилотников на поле, задает им нужную скорость и направление движения. Концепт трактора-беспилотника от компании Case IH был представлен в США, на выставке Farm Progress. Он сразу же привлек к себе внимание благодаря своей необычной форме – у техники полностью отсутствует традиционная кабина»[1]. ««Беспилотные трактора Case IH американской компании New Holland вовсе не похожи на гостей из будущего – на первый взгляд они ничем не отличаются от традиционных моделей. Однако умная система управления лишает тракториста возможности упорно и тяжко трудится на полях – за него все делает машина. Все, что остается оператору – отдыхать в кабине (мечта фермера – Ж.С.), ведь она здесь еще присутствует, в отличие от тракторов Case IH»[1]. Возможности интеллектуального трактора: «Он умеет определять ширину колеи дороги и границы поля. Точно рассчитывает количество удобрения или семян при посеве. Самостоятельно выбирает курс направления движения. Автоматически направляется в гараж после выполнения задачи. Распознает препятствия, оповещает о них оператора или сам ищет путь, как их преодолеть. Пока прототип проходит испытания на полигонах и в условиях реального фермерского поля, однако в ближайшем будущем компания New Holland планирует наладить серийное производство роботизированных тракторов»[1]. «Японские тракторы, которые отправят фермеров на пенсию» уже создан компанией Kubota, она умеет: «анализировать состояние почвы и на основе

[1] https://bespilot.com/tip/bespilotnye-traktora

полученных данных вносить соответствующие удобрения. Вспахивать землю и сеять семена в любое время суток. Самостоятельно собирать урожай различных сельскохозяйственных культур. Ориентироваться на поле, видеть препятствия и автоматически парковаться»[1]. «Компании Avrora robotics и Cognitive Technologies уже представили и протестировали свои прототипы беспилотной сельхозтехники. Теперь дело за малым – усовершенствовать, наладить серийное производство и сделать цену доступной для отечественных аграриев.»[1] .

Беспилотный комбайн показал в уборке завод Ростсельмаш. «Беспилотный комбайн – это разработка — часть инновационного проекта «Автономная ферма»[1]. Проект направлен на массовое использование беспилотных технологий и высокоточной навигации в сельском хозяйстве. Представитель компании отмечает, что комбайн в онлайн режиме получает карту-задание на бортовой компьютер. Задание формируется в системе Agrotronic при помощи системы RSM Router, которая благодаря алгоритму, используя геометрию поля, а также характеристики машин создает максимально оптимальный маршрут движения в поле для одной или нескольких машин. При этом, для зерноуборочных комбайнов формируются заранее места выгрузки по признаку полного бункера и эта информация передается водителю машины перегрузчика. Таким образом, можно существенно оптимизировать логистичес кий процесс. Комбайн при этом двигается по заранее намеченной траектории, придерживаясь заданного маршрута с точностью до 2,5 см, а при обнаружении на пути препятствий автопилот автоматически останавливает машину. Автоматизированы также функция управления скоростью, благодаря системе RSM AutoCrop. Также, полностью автоматизировано управление жаткой: перед въездом в загонку жатка автоматически опускается, а при выезде поднимается. Задача оператора только отслеживать параметры процесса обмолота»[2].

«Система РСМ Маршрутизатор (Роутер) выстраивает наиболее эффективную маршрут передвижения транспортных средств в поле, позволяет производить в срок уборку без потерь и повышает производительность на 15-20%. Система представляет собой алгоритм, который производит расчеты в рамках конкретных характеристик поля и культуры. Основная цель данной системы координировать работу машин через создание карт-заданий и передачу их в бортовой компьютер машины»[2]. По ходовым свойствам этот беспилотный комбайн (система RSM Оптимакс) аналогиен трактору. «Система при помощи диалоговых окон в процессе «общения» с человеком-оператором определяет наиболее оптимальные настройки комбайна. Решение об изменении принимает оператор - система только предлагает. После получения подтверждения от оператора об изменении, система применяет изменения. В последствии предлагаемые настройки будут приходить на бортовую систему одновременно с заданием на работу»[2]. «На основании информации от установленных в бункере сенсорных датчиков, система РСМ Контроль уровня отображает уровень наполнения зерном. Если в бункере более 25% зерна, система не разрешит ему закрыться, что позволит избежать повреждений элементов крепления конструкций в бункере»[2]. Возможности агрегатов комбайна подробно изложены в статье[2], которое завершается фразой «Все остальное берет на себя умная система автовождения»[2].

Исходные данные

Государство объявило конкурс на участие в проекте: бесплатно передать фермеру БТ=3 беспилотные тракторы и БК=2 беспилотных комбайнов взамен на папку бухгалтерских документов о наличии на балансе фермерского хозяйства 35 единиц тракторов и комбайнов (балансовой техники с надлежащей историей). Преобразование сути проекта в словесную модель и далее преобразование ее объектов в другие типы моделей изложено в [1]. Требуется разработать словесную, символьную, математическую, смысловую, поведенческую, когнитивную модели, когнитивно познающие дополнительные факты, рациональные субъективные мотивы поведения фермера, объективно значимые интересы государства, социальне интересы государства, позиционирующего себя в качестве бога над манной небесной.

Применяемые модели: словесная, символьная, математическая, смысловая, поведенческая модели [1].

Словесная модель №2, количественная модель №2

Словесная модель проекта №2: «Внедрим бесплатно в вашем хозяйстве 3 БТ, 2 БК. Если ваш парк тракторов и комбайнов в 7 раз превышает указанные количества БТ и БК. При этом на балансе должно иметься не менее 1 списанного трактора и 1 комбайна. Преимуществом в конкурсе обладают фермеры, предоставившие

[2] https://rostselmash.com/media/news/rostselmash-pokazal-v-uborke-bespilotnyy-kombayn/

документы с максимальной суммой балансовой стоимости парка техники».

Проведем анализ фраз Словесной модели №2. Фраза «если ваш парк тракторов и комбайнов в 7 раз превышает указанные количества БТ и БК» выражает наличие в модели числа 7*(3+2)=35. Так как смысл(3)=3 БТ, смысл(2)=2БК, то смысл (7*(3+2))=смысл(7*(3))⊕смысл(7*(2))= 7*смысл(3)⊕7*смысл(2). Следовательно верны равенства для числовых переменных: (7*3)Т+(7*2)К=21Т+14К. Правая часть равенства смысл(2+3)= смысл(5)=2БК+3БТ имеет смысл «суммарное количество беспилотной техники» и этому смыслу соответствует 5 единиц беспилотной техники. Тогда равенство смысл(7*(3+2)=смысл(35) эквивалентно равенству 21Т+14К=смысл(35). Равенство смысл(35)=21Т+14К означает: парк тракторов и комбайнов у фермера должен быть равен 35 и состоит из 21 тракторов и 14 комбайнов.

Символьная модель №2: (3+2,7)=>(?) (21,14,7,2+1,1+1) отлична от символьной модели №1 из [1], символьная модель №1 не отражает динамику своих объектов (как в [2,3]), а символьная модель №2 содержит только 6 цифр. Определим смысли 6 цифр и смысли других целевых цифр\чисел, опознаннных в приведенных в [1] моделях разных типов, сконструированных из Символьной модели №1 [1]:(2/5,1/7)=>(?). Соответствующая количественная модель имеет имеет входными параметрами 4 символа 1,7,2,5, изображающие 2 числа 1\7 и 2\5.

Мы нашли количественную модель вида (2,3,1\7)=>(5,2/(3+2),3/(3+2),21,14,35) и смысловую модель вида (3БТ,2БК,1\7)=>(21Т,14К,35ТК).

Моделирование весов балансовых тракторов, комбайнов

Когнитивная модель должна отражать (в цифрах, в смыслах) состояние техники в хозяйстве фермера. Для реализации будущей когнитивной (познающей) модели нужны понятность, логичность, обоснованность (релевантность) операций, то есть нужна проверенная анализом состоятельность выдвинутой теории. Мы опираемся на детали примеров из [4,5,6,7,8,9,10], где приведены субъективные действия индивидов в разных ситуациях. Рассмотрим один из способов такого отражения. Для 21 балансовых стоимостей тракторов поставим в соответствие 21 значений весов Т1=1, Т2=1, Т3=0, Т4=….=….=Т21=19/18. Для 14 балансовых стоимостей комбайнов поставим в соответствие 14 значений весов К1=1, k2=0, k3=….=k14=13/12.

Пусть 2 трактора работают в данное время, 1 трактор – списан. Работающим тракторм Т1,Т2 присвоим веса, равные 1: Т1=1, Т2=1.Один трактор Т3 списан по стандартам бу вследствие окончания амортизации. Он имеет подтвржадающие документы об 100%-ом износе, трактор Т3 является бывшим в прошлое время работавшим трактором, поэтому полагаем нулевым его вес: Т3=0. Этим мы увеличиваем на 1 количество тракторов, входящих в исходные данные Обратной задачи 2. Остальным 18 тракторам Т4,…, Т21 назначим одинаковые веса: Т4=19/18,…,Т21=19/18. сумма весов будет равна 21:Т1+Т2+Т3+Т4+…+Т21=1+1+0+18*(19/18) =21.

Работающий, но выделенный для проекта комбайны К1 и 1 списанный комбайн К2 имеют веса К1=1, К2=0, количество весов равно К1+К2=1+0=1. По бухгалтерским данным 1 комбайн К2 списан с бухучета, остальным комбайнам присвоим веса К3=13/12,…, К14=13/12, хотя они имеют разные балансовые стоимости. Комбайны как оборудование амортизируются с даты их признания в бухучете, а прекращается амортизация с даты их списания. По правилам ФСБУ 6/2020 базой для начисления амортизации является разница между балансовой и ликвидационной стоимостью Основных Средств. Принимается любой из способов: линейный, способ уменьшаемого остатка, способ списания стоимости пропорционально объему продукции (работ) или способ списания стоимости по сумме чисел лет срока полезного использования. Чтобы определить балансовую стоимость для К3=13/12,…,К14=13/12, следует посмотреть, по какой цене оно числится на балансе организации (фермера). Такое значение формируется путем вычитания из первоначальной цены приобретения оборудования суммы накопленной амортизации за период, прошедший после его ввода в эксплуатацию, а также суммы обесценения. В нашей модели наличие балансовые стоимости комбайна означает наличие веса комбайна, значения весов равны 13/12. Один списанный комбайн К2 должен иметь подтвржадающие документы об 100%-ом износе, комбайн К2 является бывшим в прошлое время работавшим комбайном (фермера поощряем за длительную эксплуатацию комбайна), поэтому полагаем К2=0. Этим мы увеличиваем на 1 количество комбайнов, входящих в исходные данные Обратной Задачи. Остальным 12 комбайнам К3,…, К14 назначим одинаковые веса: К3=13/12,…,К14=13/12. Сумма весов будет равна 14: К1+К2+К3+К4+…+К14 =1+0+12*(13/12) =14. Наличие одного «бывшего» трактора Т3 и одного «бывшего» комбайна К2 являются ключевым государственным критерием для участия в конкурсе (тендере) фермеров. Таких фермеров, готовых документально подтвердить этот критерий, будет немного. На практике подобную технику разбирают «на запчасти», а остатки - сдают на металлолом. Применим ОЗ из статьи [1]. Для этого немного переформулируем словесную

модель из [1]. Вместо словесной модели из [1] нами сформулирована выше новая словесная модель 2. Словесная мель 2, количественная модель №2 используются ниже для разработки познающей когнитивной модели.

Когнитивная модель, отражающая состояние техники фермера

Когнитивная модель, дополненная поведенческой, смысловой моделями использует минимальность количества беспилотных тракторов, комбайнов, поставляемую фермеру.

Когнитивная модель нового проекта оснащена новой целевой функцией, отличающейся новыми смыслами переменных. Оптимизационная задача содержит другие смысловые параметры, переменные, только их количества те же, что рассматривались в количественной модели из [1].

Прямая задача 1. Тройка чисел (2,3,35) соответствует вычисленненным значениям БТ=3, БК=2 при минимизации другой целевой функции Требуется найти минимальное значение функции φ(c1,c2)= (X+Y)→min при ограничениях c1≥2; c2≥2;y=35*(2/c2); x=35-y; x,y – целые; X=(x+y)/c1; Y=(x+y)/c2. найденное решение c1=c2=5. Если заданные количества беспилотной техники БТ=3, БК=2, а сумма балансовых тракторов и комбайнов равно 35. Схема ПЗ 2: (3,2,35)=>(21,14). Схема ОЗ 2: 21,14) =>(3,2).

Из решения Прямой задачи 1 сформулируем необходимую нам Прямую задачу 2, нужной для постановки Обратной задачи 2.

Прямая задача 2. При заданных количествах беспилотной техники БТ=3, БК=2 и Т=35 единицах балансовой техники требуется найти количества **a** балансовых тракторов и **b** - балансовых комбайнов, удовлетворяющих условиям: a,b,a/(a+b], b/(a+b) целые числа, смысл(a) =«количество балансовых тракторов», смысл(b)=«количество балансовых комбайнов».

Введем неизвестные переменные X/(X+Y), Y/(X+Y), где целое число X- неизвестное количество балансовых тракторов, целое число Y- неизвестное количество балансовых комбайнов, Тогда (X+Y)- количество балансовой техники. X/(X+Y) - целое, Y/(X+Y) - целое.

Для известных целых величин (БТ,БК), неизвестных целых величин (X,Y) выполняются условия: X=[БТ/(БТ+БК)]*(X+Y) - количество, Y=Б[K/(БТ+БК)]*(X+Y), Целевая функция имеет вид f(X,Y)=(X+Y). Смысл(X+Y)=«количество балансовой техники». Согласно смылу(X+Y) функция f(X,Y)=(X+Y)Б как целое число может максимизироваться, минимизироваться или быть равной заданному числу. Эти 3 предельные значения целевой функции 3 раза (как разные целевые ячейки 3-х программ-таблиц) введем в окно надстройки Поиск решения. Три расчета по трем прораммам-таблицам дают 3 результата: пару чисел (ХБУ)=(21,14). Только при (X+Y) →35 процедура Solver находит решение X=21, =14 и выдает сообщение «решение найдено. Все ограничения и условия оптимальности выполнены». В остальных случаях процедура не решает задачу, а выдает сообщение «»значения целевой ячейки не сходятся». Этот выбор единственного решения из 3-х вариантов означает: количество балансовых тракторов равно X=21 , количество балансовых комбайнов Y=14 соответствует назначенным значениям БТ=3, БК=2 и Т=35.

Прямая задача 2 позволяет решить Обратную задачу 2

Прямая **задача 2.** При заданных количествах балансовых тракторов Т=21, балансовых комбайнов К=14 требуется найти количества беспилотных тракторов и комбайнов. Оптимизационная задача, рещаемая для Прямой задачи 2 реализоана в программе-таблице (Таблиц 1, Рисунки 1, 3,6).

Обратная задача 2. пусть x – неизвестнjt количество беспилотных тракторов, y - неизвестное количество беспилотных комбайнов. Тогда x/(x+y) - доля беспилотных тракторов, y /(x+y - доля беспилотных комбайнов.

Для заданных значений: а) балансовых тракторов Т=21, либо б) балансовых комбайнов К=14 должны выполняться ограничения: x/(x+y)=T, (y/(x+y =K. Целевая функция (14)*(y/(x+y)→ min (или 21*(x/(x+y))→min, минимизируется при условии: значения x и y целые (Рисунок 2). Оптимизационная задача, решаемая для Обратной задачи 2 реализована в программе-таблице (Таблиц 2, Рисунки 2,3,6).

Только при минимизации целевых функций (14)*(y /(x+y)→ min (или 21*(x/(x+y)) → min процедура Solver находит решение X=21, Y=14 и X+Y=35 выдает сообщение «Решение найдено. Все ограничения и условия оптимальности выполнены» (Рисунок 4). В случае (14)*(y /(x+y) → max (или 21*(x/(x+y)) → max) процедура выдает такое же сообщение. Схема ОЗ 2: 21,14)=>(3,2) нашей Обратной задачи 2 реализует нахождение оптимума целевой функции при строгом условии: значения x и y целые. Это условие соответствует другому условию, выполняемого внутри процедуры Solver: первая производная от функции (14)*(y /(x+y) или функции (21*(x/(x+y) равна 0.

В Обратной задаче 2 вычисляются количество балансовых тракторов Т=21, балансовых комбайнов К=14 и количество балансовой техники X+Y=35. Решаемая в Обратной задаче 2 (при решении в Обратной задачи 2) процедуры Оптимизационная задача отличается от Оптимизационной задачи из [1]. Расчеты в когнитивной модели проведены с

применением Solver из надстройки «Поиск решения» ЭТ Excel (Таблица 1, Рисунки 1-6).

Программа Оптимизационной задачи [1] приведена на Рисунке 5. Она находит минимальное значение функции φ(c1,c2)=(1/7)*(x*c1+ y*c2)=(1/7)*(u+v)→min при ограничениях c1≥2; c2≥2;y=35*(2/c2); x=35-y; 3/c1+2/c3=1; u=(3/c1)*x; v=y*(2\c2). Задача минизации функции φ(c1,c2)= (1/7)*(x*c1+y*c2)=(1/7)*(u+v) эквивалент на задаче минимизации функции 7*φ(c1,c2)=(x*c1+y*c2) =(1/7)*(u+v). Это сокращает вид Схемы задачи (35,2,3,1,7)=>(c1,c2,y,x,u,v) до укороченного вида (35,2,5)→(3,x,y,u,v). Если реализовать эту схему (35,2,3,1,7)=>(c1,c2,y,x,u,v), то количество техники 35 делится на соотношение двух переменных 3/c1,2/c2, удовлетворяющих соотношениям y=35*(2/c2); x=35-y; 3/c1+2/c3=1; u=(3/c1)*x; =y*(2 /c2) из математической модели. Схема (35,2,5,1,7)=>(3,x,y,u,v) решаемой в математической (количественной) модели преобразова лась в схему (35,2,5)=>(3,x,y,u,v) задачи, решаемой в когнитивной модели. При этом целевая функция Оптимизационной Задачи теряет две цифры 1 и 7. Эти цифры имели существенное значение в Математической Модели, а в Когнитивной Модели они не используются -лишние.

Таблица 1.

ПЗ 2			ОЗ 2	
3	**0,6**		3	**0,60**
2	**0,4**		2	**0,40**
	21			**21**
	14			**14**
	35,0000			**35**

Здесь смысл(3)=«значение числителя дроби 3/5», смысл(2)=«значение числителя дроби 2/5», смысл(3)=«неизвестное количество беспилотных тракторов»смысл(2)=«неизвестное количество беспилотных комбайнов».

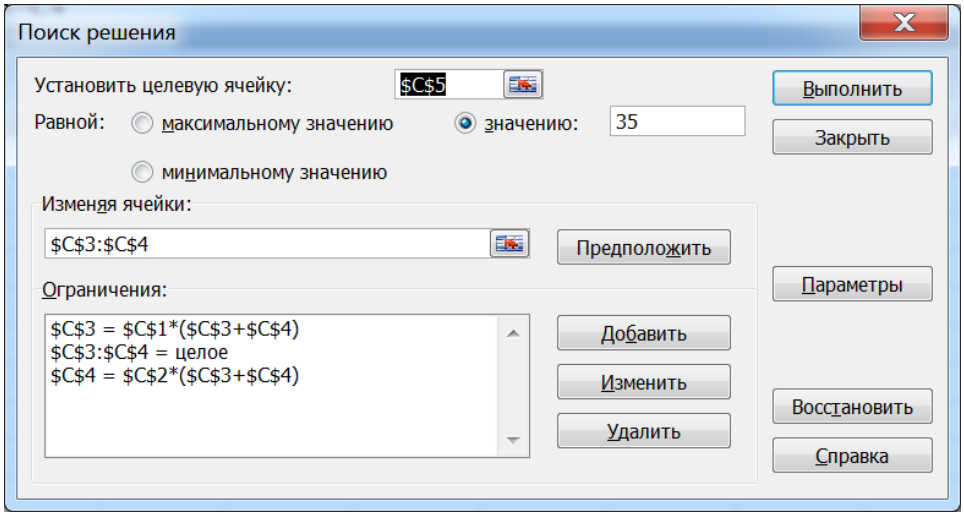


Рисунок 1. окно процедуры Solver
Для решения ПЗ 2.

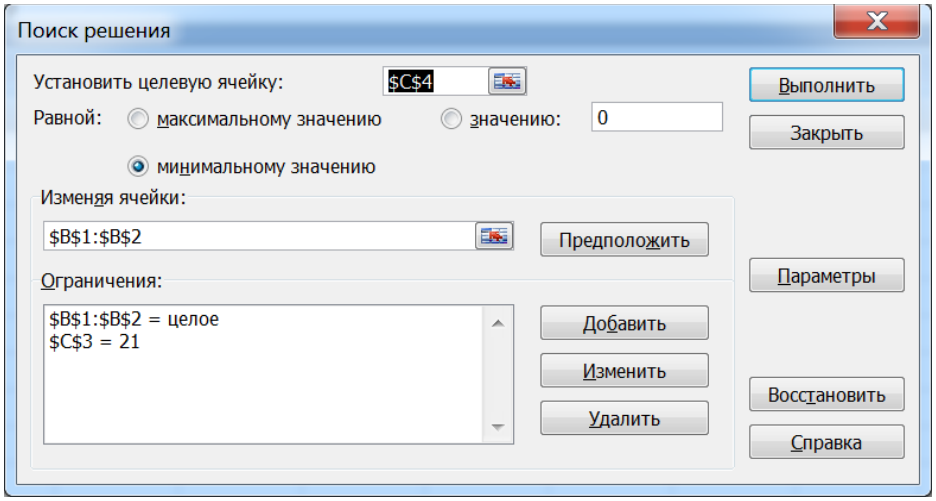


Рисунок 2. окно процедуры Solver
Для решения ОЗ 2.

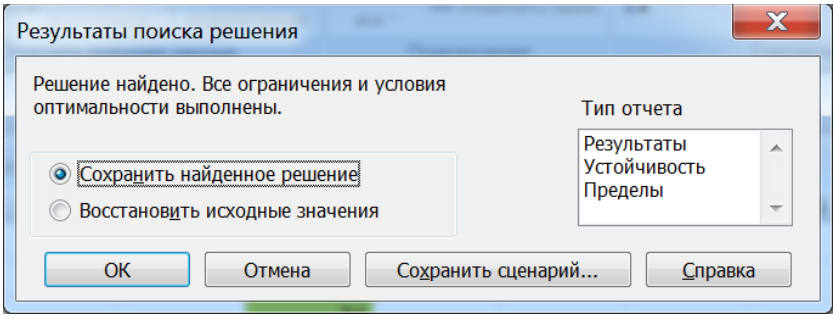


Рисунок 3.

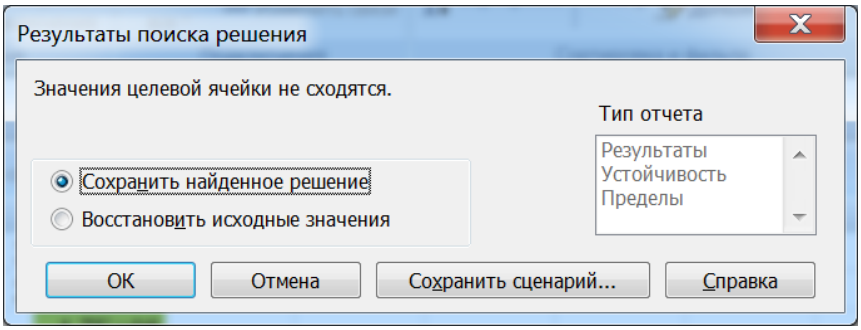


Рисунок 4.

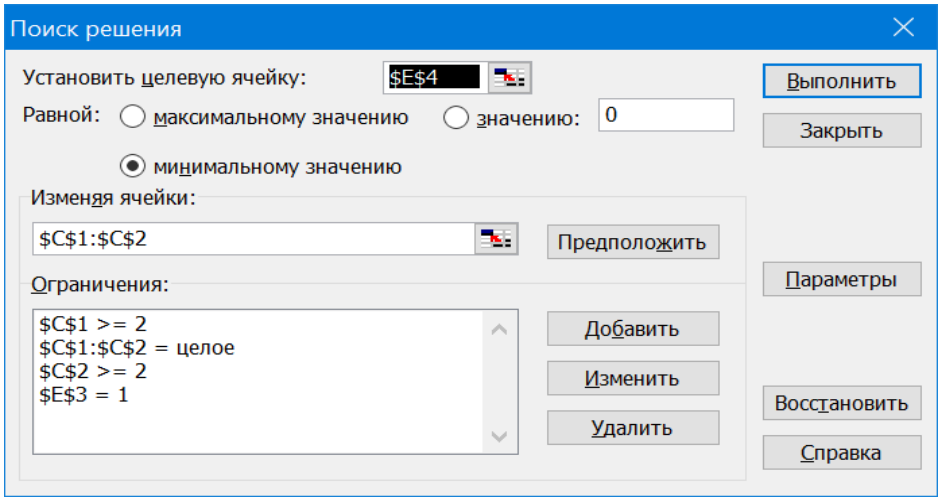


Рисунок 5.

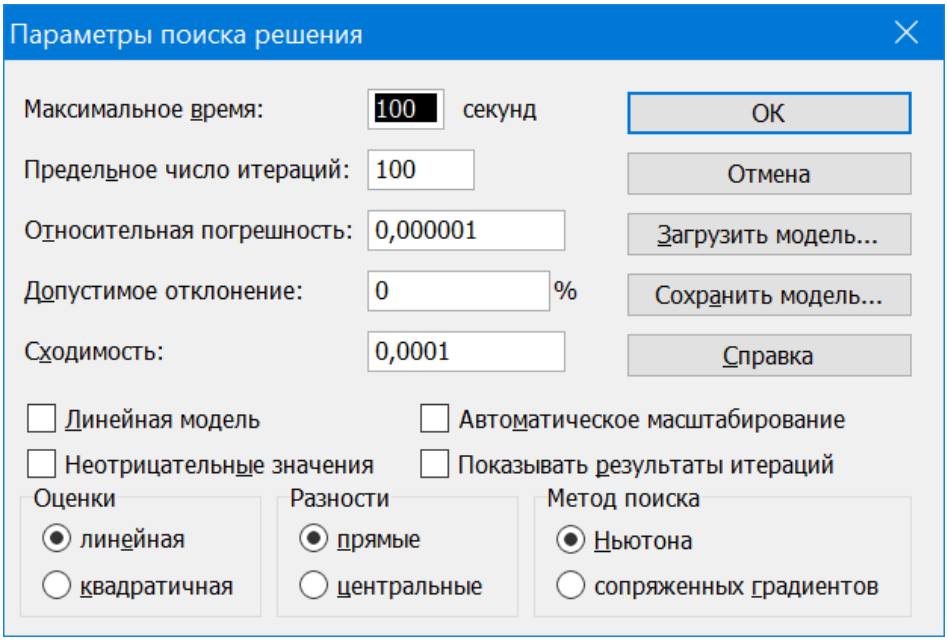


Рисунок 6.

Заключение

Мы проанализировали модель «убыточного лидерства» с учетом накопленного технического потенциала фермера Назначенный оператор (государственная или частная структура) в первую очередь обеспечит фермеров, обладающих наибольшими суммами балансовой техники. Расчет рентабельности, срока окупаемости, срок дожития фермера – отдельная тема. Существенное отличие нашего проекта 2 от проекта 1 из [1] состоит в использовании весов 21 трактора и 14 комбайнов (смысл(Т4)=…=смысл(Т21)=19/18, смысл(К3)=…=смысл(К14)=13/12) вместо их количеств 21 и 14. 18-ти тракторам и 12 комбайнам присваиваются одинаковые веса, не зависящие от их балансовых стоимостей. Наличие одного «бывшего» трактора Т3 и одного «бывшего» комбайна К2 являются ключевым государственным критерием для участия в конкурсе (тендере) фермеров. Таких фермеров, готовых документально подтвердить этот критерий, заключить договор взаимных обязательств, будет немного. На практике подобную технику разбирают «на запчасти», а остатки - сдают на металлолом. Применение Обратной Задачи из статьи [1] стимулирует кооперацию хозяйств фермеров, что затруднено по ряду причин. Наш проект №2 не требует кооперацию, но распознает хороший технический потенциал фермера, помогает успешным фермерам. Для этого переформулировали словесную модель из [1]. Можно материальный

актив проекта заменить на «робототехническое оборудование для трактора, комбайна», это удешевит проект.

Обещанная манна небесная - беспилотные тракторы и комбайны, требует твердой пахотной земли, добросовестного крупного инвестора. Бесплатная передача фермеру 5 беспилотных машин взамен на папку бухгалтерских документов о наличии на балансе фермерского хозяйства 35 единиц тракторов и комбайнов имеет нерассматриваемые нами юридические, политические, коммерческие риски. Не выявлены они на этапах символьного, математического, смыслового, поведенческого, когнитивного моделирования. Нужен интерес государственной структуры, как менеджера, готового принять минимальные бюджетные расходы в инновациях.

References:

1. Zhanatauov, S.U. (2023). Verbal, symbolic, mathematical, semantic, behavioral, cognitive models. *ISJ «Theoretical&Applied Science»*, №9, vol.113, pp 169-174. www.t-science.org
2. Zhanatauov, S.U. (2013). *Simvolnaja forma nevychis litelnyh algoritmov nauchnogo menedjmenta «sporting».* Intern. Scientific and Pract. Congress "The global systemic CRISIS: newmilestone in development or impasse?. Davos, (Switzerland) July 28.2015,pp. 47-52. (in Russian).
3. Zhanatauov, S.U. (2022). Symbol form of robot work model. *ISJ «Theoretical&Applied Science»*, №3, vol.107, pp.824-830 www.t-science.org
4. Zhanatauov, S.U. (2021). Cognitive computing: models, calculations, applications, results. *ISJ «Theoretical&Applied Science»*, №5, vol.97, pp.594-610. www.t-science.org
5. Zhanatauov, S.U.(2021). A behavioral model of demand with specified prices and with a variable sum of expenses. *ISJ «Theoretical&Applied Science»*, №7, vol.99, pp.158-167. www.t-science.org
6. Zhanatauov, S.U.(2020). Cognitive model of variability in negative breeding indicators. *ISJ «Theoretical&Applied Science»*, №8, vol.88, pp.117-136. www.t-science.org
7. Zhanatauov, S.U.(2020). Formula of the key indicator “power of a profitable enterprise”. *ISJ «Theoretical&Applied Science»*, №2, vol.82, pp.222-236. www.t-science.org
8. Zhanatauov, S.U. (2020).Transformation of a system of equations into a system of sums of cognitive meaning of variability of individual consciousness indicators. *ISJ «Theoreti cal&Applied Science»*, №11, vol.91, pp.531-546. www.t-science.org
9. Zhanatauov, S. U. (2020). Algorithm for «decreasing the "subjective level of individual ratings». *ISJ Theoretical & Applied Science*, 09 (89), 370-382.
10. Zhanatauov, S.U.(2019). Mathematical model «lower classes do not want, upper circles cannot». *Int. Scien.Jour.“Theoretical &Applied Science”*, № 11 (79): pp.565-583. www.t-science.org

Impact Factor:					
	ISRA (India) = 6.317	SIS (USA) = 0.912	ICV (Poland) = 6.630
	ISI (Dubai, UAE) = 1.582	РИНЦ (Russia) = 3.939	PIF (India) = 1.940
	GIF (Australia) = 0.564	ESJI (KZ) = 8.771	IBI (India) = 4.260
	JIF = 1.500	SJIF (Morocco) = 7.184	OAJI (USA) = 0.350

SOI: 1.1/TAS DOI: 10.15863/TAS

International Scientific Journal

Theoretical & Applied Science

p-ISSN: 2308-4944 (print) **e-ISSN:** 2409-0085 (online)

Year: 2023 **Issue:** 03 **Volume:** 119

Published: 13.03.2023 **http://T-Science.org**

Issue Article

Isroil Muqaddas
Uzbekistan State University of World Languages
Candidate of philological sciences, associate professor

PRESS LANGUAGE: SOCIOLINGUISTIC ASPECT

Abstract: *Within the sociolinguistic aspect of media language, the analysis of journalistic opinions about the state of language, its advantages or, on the contrary, its limitations, that is, extralinguistic phenomena, is of great interest. In interdisciplinary research, scientific disciplines collaborate by addressing shared research questions and also by developing methods or theories together. Language users: the participants in public communication are the sources, the media producers, the target audiences, and the general public at the interface of mass and social media. Sources, media producers, and target audiences are directly involved in journalistic communication. Communication and media studies foreground the media aspect of communication and reflect on the nature of the media concept in general. In newswriting, media serve as technical means to produce and publish communication offers of public importance under economic conditions.*

Key words: *media language, sociolinguistic, communication.*

Language: *English*

Citation: Muqaddas, I. (2023). Press language: sociolinguistic aspect. *ISJ Theoretical & Applied Science, 03 (119),* 62-64.

Soi: http://s-o-i.org/1.1/TAS-03-119-11 ***Doi***: https://dx.doi.org/10.15863/TAS.2023.03.119.11

Scopus ASCC: *1203.*

Introduction

At present, mass communication is considered as a new quality of being, which is at the center of modern language processes, which leads to the transformation of the national language into a propagandist of the literary language as a modern model. Because the national language is the totality of the language resources of the nation from the codified literary language to specific dialects. Also, mass communication has become a kind of testing ground that allows different language means to interact with each other. Mass communication, since it is absorbable and absorbable in nature, includes socially significant topics and plots, as well as all linguistic means that have acquired the meaning of social evaluation.

The media text captures the fact that a person thinks the world as a real reality, and this thinking is fixed in a verbal-verbal form, similar to the characteristics of a person's perception and thinking about the world. It is this situation that justifies the need to move from research on the principle of "thing in itself" from within linguistic units to the search for a "basic point" that allows studying the language of media communication as a functional whole from the outside. Only if the analysis of linguistic events is carried out together with extralinguistic events, it will be possible to determine exactly what role language plays in the process of media communication.

World linguistics has shown that language should be studied not as a closed system, but as a system in motion, that is, in relation to such areas as society, thinking, culture, politics, ideology, religion. The connection of the science of language with different areas opens up wide opportunities for discovering its new features. Therefore, the language of the media is studied in connection with other areas. Sociolinguistics is one such area.

Likewise, interest in the social nature of language is growing among practitioners of Cognitive Linguistics, as might be expected from a linguistic paradigm that proclaims a usage - based approach to language and takes as the basis of its enquiry " language as it is actually used by real speakers in real situations in a specific historical moment" [1, 25]. The social aspects of language variation have thus begun to attract the attention of cognitive researchers, most notably with reference to lexical and lexical-semantic variation [2, 142], but also in realms such as inflectional [3, 98], constructional [4, 67], and

phonetic variation [5, 78]. While such studies tend to have a primarily syn-chronic orientation, some of them [6, 193] have also started to encompass general social factors involved in change and the interaction of these with cognitive factors, thus contributing to a better understanding of certain variationist phenomena [7, 55].

Within the framework of the sociolinguistic aspect of the language of the media, it is of great interest to analyze the opinion of journalists about the status of the language, its advantages or, conversely, its limitations, as well as extralinguistic phenomena. Cociolinguistics describes the nature of linguistic variability, the verbal and verbal repertoire of speech communities, and the interactions between linguistic variants, describing both linguistic and functional characteristics. Agreeing with this opinion of the scientist, it should be noted that sociolinguistics seeks to discover social halts and norms that explain and limit linguistic behavior and behavior directed to the language in the speech community. Since the social situation - the most important concept of sociolinguistics - involves the registration and fulfillment of the rights and obligations inherent in these types of role relations in the appropriate place and at the appropriate time.

Language and media research, developed on the sidelines of the linguistic enterprise for nearly fifty years, is necessary and essential to understanding language in its role in society and in terms of its creative – and limiting – potential. Taking into account the development of the field over the past decades, across different continents and media ecologies, explain how language and media research in and of itself informs linguistics and language study, and how this research fosters our understanding of media language in all its forms.

Each of these concepts takes its place in the theory and methodology of a particular science and is enriched with its own special content.

Sociolinguistics studies how the language undergoes modifications in the process of mass communication depending on the social characteristics of the communicants, the characteristics of the communication situation, the communication channel, the content of information and other social factors.

As a result of research in the sociolinguistic aspect of the media, L.N. Fedotova comes to the conclusion that the assessment of professionals is a rich source for analyzing the patterns and phenomena of the development of the media language. Based on the information presented in media texts, the researcher can draw a conclusion about how realistic it reflects a social phenomenon. The sociology of the media, in turn, studies the basic patterns of the press, the essence of the impact on the audience, the methods and techniques of forming public opinion in the information channels of the media, the components that make up the communication process, the features of its content, using various sociological methods [8, 85].

In order to determine the specific aspects of the model associated with the language of publication in a certain direction, it is necessary to find sociolinguistic variables, that is, structural elements that change under the influence of extralinguistic factors that form the type of publication [8, 145].

Modern sociolinguistics is developing as an interdisciplinary field. In this he relies on the achievements of sociology, psychology, linguistics and philosophy. Therefore, in sociolinguistic studies, linguistic facts are considered in connection with extralinguistic facts. The correlation of linguistic and non-linguistic features with media genres is a constant phenomenon. They complement each other when used wisely. This characteristic of mass media texts is clearly visible when studying them not only from sociological, but also from other sides. Thus, the principle of language research opens up new perspectives leading to a deeper understanding of the specifics of the media language [9, 76].

It should also be noted that the journalistic review of the world has a strong impact on people through the use of various effective means. The function of the mass media is, first of all, to consider them as a general way of acquiring knowledge. The human perspective is important, that is, direct observation and social approach. In general, it is important to study media language from the point of view of other areas of study [10, 3]. However, the study of the language of the media from a sociolinguistic point of view is currently a very urgent problem.

Today Yu.M. Lotman's text theory deserves special attention. This is recognized and approved by all experts. In his opinion, culture is interpreted as a collection of texts, a collection or "a complexly structured text". According to the scientist, the text is "a mechanism that increases information." After all, it fills the space of culture and collects information in various texts, that is, it embodies the memory of culture (memory of culture) [11, 22].

Therefore, the existence of various scientific directions in the study of the language of the media is directly determined by their nature. The reason for this can be seen in the fact that the language of the media has penetrated into all spheres of society. Texts, which are a special "mirror" and expression of the language of the media, act as a socially significant linguistic phenomenon, regardless of the direction of the study. According to many experts, the need for social texts distributed by modern media is stronger than in others. Because it is on the basis of such texts that vital conclusions are drawn. In the emergence of such a situation, a strong motive instead of literary texts was the habit of reading texts presented by the media on a global scale.

The problem of studying media language is still in the center of attention of linguists. Despite many years of research, some problems are still not solved. This indicates that this is one of the urgent problems of linguistics today. However, in a very broad view, many things can serve as a medium of communication: a sound wave carrier such as the air, a status symbol such as a system of signs. In a stricter sense, a medium is a technical means or instrument to produce, store, reproduce, and transmit signs. However, this definition is still very broad. Media could mean all technical communication media such as postcards, the intranet, and even a public address system. Every form of communication except face-to-face conversations uses such technical tools.

Media in the sense used here means news media. A news medium is a technical means used to produce and publish communication offers of public importance under economic conditions [12, 63]. With this focused media concept, media linguistics refers to an independent and socially relevant field of language application, similar to forensic, clinical, or organizational linguistics. News media is socially, economically, and communi-catively more strictly defined than media in general.

References:

1. Kristiansen, G. (2008). *Style - shifting and shifting styles: A socio - cognitive approach to lectal variation.* In G. Kristiansen and R. Dirven (eds.), pp.45-88.
2. Speelman, D., Grondelaers, S., & Geeraerts, D. (2008). *Variation in the choice of adjectives in the two main national varieties of Dutch*. In G. Kristiansen and R. Dirven (eds.), pp. 205-33.
3. Tummers, J., Speelman, D., & Geeraerts, D. (2005). *Inflectional variation in Belgian and Netherlandic Dutch: A usage - based account of the adjectival inflection*. In N. Delbecque, J. van der Auwera, and D. Geeraerts (eds.), Perspectives on Variation. Sociolinguistic, Historical, Comparative, Mouton de Gruyter, Berlin, pp. 93 - 110.
4. Szmrecsanyi, B. (2010). *The English genitive alternation in a cognitive sociolinguistics perspective*. In D. Geeraerts, G. Kristiansen, and Y. Peirsman (eds.), pp. 139 - 66.
5. Kristiansen, G. (2008). *Style - shifting and shifting styles: A socio - cognitive approach to lectal variation.* In G. Kristiansen and R. Dirven (eds.), pp. 45 - 88.
6. Colleman, T. (2010). *Lectal variation in constructional semantics: 'Benefactive' ditransitives in Dutch.* In D. Geeraerts, G. Kristiansen, and Y. Peirsman (eds.), pp. 191 - 222.
7. Hernández-Campoy, J.M., & Conde-Silvestre, J. C. (2012). *The Handbook of Historical Sociolinguistics. Blackwell Handbooks in Linguistics.* A John Wiley & Sons, Ltd., Publication.
8. Fedotova, L.N. (2004). Kontent analiz v arsenale sociologii. *Jazyk SMI kak ob#ekt mezhdisciplinarnogo issledovanija*, Ch. 2, M., p. 222.
9. Teshabaeva, D.M. (2012). *Study of mass media language in the aspect of speech culture (in the case of mass media of the Republic of Uzbekistan):* Diss. For the doctoral degree - Tashkent.
10. Teshabaeva, D.M. (n.d.). The Discours Analysis of Media Text. *International Journal of Progressive Sciences and Technologies* (IJPSAT) ISSN: 2509-0119.
11. Lotman, Jy. M. (1988). *Vnutrimysljashhih mirov. Chelovek - tekst - semiosfera – istorija*. (p. 22). Moscow.
12. Luhmann, N. (1996). *Die Realität der Massenmedien.* 2nd edition. Opladen: Westdeutscher Verlag.

Impact Factor:					
	ISRA (India) = 6.317	SIS (USA) = 0.912	ICV (Poland) = 6.630
	ISI (Dubai, UAE) = 1.582	РИНЦ (Russia) = 3.939	PIF (India) = 1.940
	GIF (Australia) = 0.564	ESJI (KZ) = 8.771	IBI (India) = 4.260
	JIF = 1.500	SJIF (Morocco) = 7.184	OAJI (USA) = 0.350

SOI: 1.1/TAS DOI: 10.15863/TAS

International Scientific Journal

Theoretical & Applied Science

p-ISSN: 2308-4944 (print) **e-ISSN:** 2409-0085 (online)

Year: 2023 **Issue:** 03 **Volume:** 119

Published: 13.03.2023 **http://T-Science.org**

Issue Article

Dilfuza Saidkadirova
UWLU
PhD, associate professor

NOMINATION PHENOMENON IN THE TERMINOLOGICAL SYSTEM

Abstract: *The study of terminological systems is related to the nomenclature problems, which are one of the central problems of linguistic research. In this regard, the main object of terminology is to show language phenomena in relation to the entity, and the selection and creation of its separate parts is a component of onomasiology. We can conclude that nomination is the process of associating nominative units with named objects and their reflection of reality. The language system includes primary and secondary names. The first appearance of an event in a language is a primary nomination. Through the secondary nomination, the phenomena of the surrounding reality are revised, it becomes possible to show the attitude to the world using language tools, to connect and correlate the direct meaning of the language unit with the set of information about the world.*

Key words: *denomination, terminology, term, system, primary denomination, secondary denomination, function, computer, internet.*

Language: *English*

Citation: Saidkadirova, D. (2023). Nomination phenomenon in the terminological system. *ISJ Theoretical & Applied Science, 03 (119),* 65-68.

Soi: http://s-o-i.org/1.1/TAS-03-119-12 ***Doi***: https://dx.doi.org/10.15863/TAS.2023.03.119.12

Scopus ASCC: *1203.*

Introduction

Terms related to all fields have a nominative function, and in the process of naming, the terms related to the Internet serve to express abstract and concrete concepts, animate and inanimate objects, countable and uncountable objects. This is due to the fact that "terms as specific language units are usually considered nouns or word combinations based on them" [1, 244].

Дарҳақиқат, ҳар қандай аниқ бир тилнинг лексик тизими бугунги кунда Despite the fact that it is filled mainly with special names, there are not many studies on terminological nomenclature. Usually, problems of terminological nomenclature are mentioned in terminological works of a general nature.

Regarding the nominative functions of the term, it can be considered only in close connection with the definition of individual terms of the terminological lexicon or micro-groups. After all, taking into account the groups of terms within the language. It is known that regardless of when the nomination of terms took place, it was proved long ago in science that the concept of the field appeared before its nomination. There is no doubt that this is especially true for the Internet industry. The creation of new types of electronic tools, software, and services in computer technologies and the Internet over time creates the need to name them. The essence of nomination does not represent a name through a linguistic sign, but interprets a certain abstraction as the final result of human cognitive activity.

Another function of the term is the definitive function, that is, the word serves not only as an expression of a certain concrete concept, but also as a means of logical definition. It is necessary to take into account the definite function in the study of the nominative function of terms and in the process of nominative. After all, A.V. Lemov states that the definitive function of the term can be understood as the fact that the term has a definition. The scientist emphasizes the importance of the ability to participate in the text of the definitive function, its ability to be a lexical tool, and the term can be interpreted as the ability to express the content of the concept using its internal form [2, 108].

A term can be oriented to a certain extent, that is, it can be motivated. In this case, it may consist of only the most general definitional element, but this does not mean that we have encountered the definitional

function of the term. In addition, many words of the language that have an internal form in the indicated sense are also motivated [2, 127]. A.V. Superanskaya, N.V. Vasileva and N.V. According to Podolskaya, a term is "a special word or combination of words that has become customary in professional activity and is used in certain circumstances". A term is a definition of a concept that belongs to the system of concepts of a certain area of professional knowledge. A term is a component of a concept intended for the special purposes of a language [3, 213]. Scientists, the mechanism of naming things and phenomena of non-linguistic reality - regardless of whether they are everyday, household realities or objects of scientific research - is the same. Common words are used to express household concepts, and terms are used to express scientific concepts. At this point, they emphasize that we need to clarify what we mean by domestic and scientific concepts [3, 109].

L.A. Kapanadze states that "the meaning of the term - the definition of the concept, the explanation attached to it" [4, 139]. This definition is an important resource in defining the concept of nomenclature in terminology.

Many experts also put forward the opinion that the term does not have a nominative function. For example, V.M. Lejchik, S.D. According to Shelov, nominativeness of a term is not an important feature that distinguishes it from other linguistic units, because nominativeness is a feature of a linguistic sign. Therefore, the nominative function is characteristic not only of terms, but also of all nouns and substantive phrases [5, 164]. However, based on the linguistic aspects of the terms, it should be noted that they also contain word and phrase combinations.

Of course, terminological nomenclature covers a much wider range of problems and thus gives an opportunity to divide it into a separate category of knowledge. This is the sphere of terminological activity where special names are formed and the potential of term-making tools of this or that language is fully opened. After all, "a term is a lexical unit (word or word combination) used in a scientific text as a minimal carrier of scientific knowledge, a scientific concept limited to a definition based on agreement is attached as an elementary nominative sign-unit" [6, 24].

It should be noted that the terms denoting the same subject or phenomenon and made using different symbols of the denomination complement each other in terms of the aspects of objective reality reflected in them. In fact, "There is also a subjective aspect in such descriptions of bodies or events, which consists in the fact of choosing one of the qualities of the body or event that are equal in objective importance as the basis of the nomination" [7, 34]. The main principle of naming is that it is necessary to express the generalized image of the named object through a specific sign, that is, it is necessary to move from a specific, subjective element to a general, objectified element.

It is known that "Terms are not unique, but words that perform a special function. A special function of a word as a term is a naming function. As a continuation of this opinion, G.O. Vinokur states the following: "... the function of naming is often performed by simple words, household words can also be terms". However, a household term is the name of a thing. However, the scientific and technical term is definitely the name of the concept [7, 92].

In S. Khaidarova's research, the ideas that the nominative function of the terms indicates that the nominative belongs to a special field of human activity are worthy of attention, and they are shown in the following definitions:

- a component of the system of terms, which is a set of variations of a certain word or stable sounding phrases that express a professional concept related to a certain special field of activity;
- a word or combination of words of a special language created (received, mastered, etc.) to clearly express special concepts and designate special things;
- a word or phrase that expresses the professional concept used in the process of knowing and mastering certain objects with a professional meaning and the scope of relations between them from the point of view of a certain profession;
- nominative special lexical unit (word or phrase) of a special language [9, 67];
- a word or phrase of a special scope that is the name of a special concept and needs to be defined;
- the name of the unit in this field of science and technology, which is considered related to a certain concept and interacts with other concepts in this field and together with them forms a terminological system;
- a word (or word combination) in which the language symbol interacts (is connected) with the corresponding concept in the system of this field of science or technology;
- a lexical unit of a certain language intended for special purposes, which defines a general - concrete or abstract - concept related to the theory of a certain special field of knowledge or activity;
- special words limited to their special function;
- a word (or word combination) that has become customary in professional activity and is used in a special field;
- a language symbol (word or phrase) that interacts with a special concept, event or thing [12, 79].

Therefore, in the internal form of special lexemes there is a hint of their motivation, which can be expressed transparently or determined on the basis of etymological analysis.

M.N. Volodina distinguished two stages in the process of terminological nomenclature: irregularly

occurring and systematic: the irregularly occurring or the initial stage is characterized by the recording of new knowledge with the help of known forms, that is, words that are associatively rethought as terms. The subjective aspect is very important here, the name can be based on a random character, but the term will be more of a character used in the workflow. In the second, systematic stage of term creation, the term is considered as an object of artificial regulation and provides a basis for the unification and standardization of terminological tools. The phenomenon being named is understood. The term attached to a special concept must occupy a certain place in the conceptual system of this field of knowledge, which happens when the named phenomenon itself finds its place in the system of scientific concepts [10, 132]. The scientist believes that in both cases it is important in principle to choose the sign that gives the most information underlying the name.

As linguistic signs, terms have a doubly relation to series of things. Nominative characters in this case:

- in the system of nominations;
- in the system of paradigms.

In this,

- terminologicalization (expansion) of the meaning of words used by everyone in the language;
- specialization (narrowing) of the meaning of words used by everyone;
- copying the meaning of words used by everyone;
- intersystem acquisition of lexemes, as well as acquisition of components of lexemes and terms from another language.

▪ S. A. Khaidarova has shown five main methods of nomination in terms:

- making affixal words
- adding words
- mastering
- creating component names
- semantic transfers [11, 173].

Word formation methods of terminological nomenclature include semantic, morphological and syntactic methods.

The terms computer and Internet, which are semantically derived from common lexemes, are products of the same second nomination process. After all, the nomination is a product of the communicative function of the language. This, in turn, helps the emergence of the mechanism of term formation from common lexemes by changing their semantics.

After all, primary nominative traditionally means giving a name to an object that does not have its own name, in other words, cases where an object that is waiting to be named is given a name that the native speaker takes as initial. Primary nominative results are considered ineffective, which can only be determined by historical or etymological analysis. Primary nomination is a very rare phenomenon in the modern realities of language activity. New words appear only when new objects (laser, nylon) are invented or created in human activity, as well as when previously unknown things are discovered.

Secondary nominalization is "the process of giving a name to a named object, that is, using nominative devices already present in the language in new naming functions for them." In fact, in modern realities, the nominative component of the language is filled mainly through appropriation and secondary nominalization, in other words, due to the use of an already existing unit.

Thus, we can conclude that naming is the process of linking nominal units with named objects and their reflection of reality. The language system includes primary and secondary names. The first appearance of an event in a language is a primary nomination. Through the secondary nomination, the phenomena of the surrounding reality are revised, it becomes possible to show the attitude to the world using language tools, to connect and correlate the direct meaning of the language unit with the set of information about the world.

References:

1. Kandelaki, T.L. (1977). *Semantika i motivirovannost` terminov*. (p.15). Moscow: Nauka.
2. Lemov, A.V. (2000). *Sistema, struktura i funkcionirovanie nauchnogo termina (na materiale russkoj lingvisticheskoj terminologii)*. (p.75). Saransk: Izd-vo Mordov. un-ta.
3. Superanskaja, A. V., Podol`skaja, N. V., & Vasil`eva, N. V. (1989). *Obshhaja terminologija. Voprosy teorii*. (p.14). Moscow: Nauka.
4. Kapanadze, L. A. (1965). *O ponjatijah «termin» i «terminologija». Razvitie leksiki sovremennogo russkogo jazyka*. (p.78). Moscow: Nauka.
5. Paluanova, H.D. (2016). *Ingliz, ўzbek, rus va korakalpok tillarida jekologik terminlarning derivacion-semantik principlari.* Filol.f.d.. disser. (p.33). Toshkent.

6. Hajrutdinov, D.R. (2009). *Geograficheskaja terminologija: arabskie, russkie, anglijskie paralleli:* dis.. kand. filol. nauk: 10.02.20, (p.24). Kazan`.
7. Vinokur, G.O. (1939). *O nekotoryh javlenijah slovoobrazovanija v russkoj tehnicheskoj terminologii.* Tr. MIIFLI, M., T. 5, p. 420.
8. Grinev, C.B. (1993). *Vvedenie v terminovedenie*. (p.309). Moscow: Mosk. licej.
9. Hajdarova, S. A. (2016). *Sopostavitel`nyj analiz formal`nyh modelej terminologicheskih slovosochetanij v anglijskom i tadzhikskom jazykah*. Avtoref. diss… kand. filol.nauk. Dushanbe.
10. Volodina, M.N. (1997). *Teorija terminologicheskoj nominacii*. (p.180). Moscow: Izd-vo Mosk. un-ta.
11. Fasmer, M. (1987). *Jetimologicheskij slovar` russkogo jazyka v IV t., 1986-1987*. (p.586). Moskva.
12. Hajdarova, S. A. (2016). *Sopostavitel`nyj analiz formal`nyh modelej terminologicheskih slovosochetanij v anglijskom i tadzhikskom jazykah*. Avtoref. diss… kand. filol.nauk. Dushanbe.
13. Vojceva, E.A. (n.d.). *Parcelljaty modeli nominacii terminov, oboznachaushhih jelementy konstrukcii sudov v russkom i pol`skom jazykah.* Retrieved from https://repozytorium.ur.edu.pl/bitstream/handle/item
14. Kosyh, E. A. (2016). *Russkaja onomasiologija* : uchebnoe posobie. Barnaul :AltGPU.

Impact Factor:					
	ISRA (India) = 6.317	SIS (USA) = 0.912	ICV (Poland) = 6.630
	ISI (Dubai, UAE) = 1.582	РИНЦ (Russia) = 3.939	PIF (India) = 1.940
	GIF (Australia) = 0.564	ESJI (KZ) = 8.771	IBI (India) = 4.260
	JIF = 1.500	SJIF (Morocco) = 7.184	OAJI (USA) = 0.350

SOI: 1.1/TAS DOI: 10.15863/TAS

International Scientific Journal

Theoretical & Applied Science

p-ISSN: 2308-4944 (print) **e-ISSN:** 2409-0085 (online)

Year: 2023 **Issue:** 03 **Volume:** 119

Published: 30.03.2023 **http://T-Science.org**

Issue Article

Vera Barinova
Chonnam National University
Doctoral Degree Student, General Graduate School
College of Social Sciences, Department of Global Diaspora Studies
Gwangju metropolitan city, Republic of Korea

REFUSAL FACTORS FOR COVID-19 VACCINATION AMONG RUSSIANS AND MIGRANT WORKERS

Abstract: *To identify the factors for refusal of COVID-19 vaccination in Russia, Russians and migrant workers were asked about their attitudes toward vaccines against COVID-19. Ten people took participated in the interview and were divided into two groups. After examining the reality of the factors for vaccination rejection and practically confirming it, it is possible to conclude that the following factors contribute to COVID-19 vaccination refusal. First, it is a historical factor. Soviet Union Russians believed in Soviet medicine and had few intentions to reject vaccination. Additionally, many people had positive thoughts about vaccines. The collapse of the Soviet Union revealed that trust in the country itself was fading, and faith in national medicine also started to disappear. Secondly, it is a time difference. Young Russians think they won't be seriously ill even if they get sick, often search for information online, and the variation of data creates more doubt and distrust. The older generation feels more vulnerable and receives many vaccines. They do not use the internet often and trust official sources of information. Thirdly, it is a cultural factor. Russians received the COVID-19 vaccine only after the chief sanitary doctor's decision for compulsory vaccination. This situation no longer allows for procrastinate when it comes to getting vaccinated. Migrant workers said that they had been immunized against COVID-19 because they always meet the requirements of their employers. People from the 1990s also used the internet more often, which was a source of doubt about the vaccine's effectiveness and possible side effects.*

Key words: *COVID-19 vaccine, Russian vaccine, vaccination refusal.*

Language: *English*

Citation: Barinova, V. (2023). Refusal factors for COVID-19 vaccination among Russians and migrant workers. *ISJ Theoretical & Applied Science, 03 (119),* 69-74.

Soi: http://s-o-i.org/1.1/TAS-03-119-13 ***Doi***: https://dx.doi.org/10.15863/TAS.2023.03.119.13

Scopus ASCC: *3306.*

Introduction

A pandemic is an unusually powerful epidemic that has spread over the territory of countries and continents, reaching the highest level of development in the epidemiological process [1]. According to the World Health Organization (WHO), COVID-19 was first reported in December 2019 in Wuhan, China. On January 30, 2020, WHO declared the outbreak a public health emergency of international concern, and on March 11, 2021, it was declared a pandemic. As of October 18, 2021, more than 240.7 million confirmed cases of COVID-19 have been registered worldwide, and more than 4.9 million deaths have been confirmed, making the COVID-19 pandemic one of the deadliest in history. As of April 1, 2022, there were 486,761,597 registered cases of COVID-19 and 6,142,735 deaths [2].

Vaccination is a simple, effective, and safe way to protect against infectious diseases before contact with the pathogen. Its mechanism of action is reduced to activating the body's natural defense mechanisms [3, p. 640]. Russia is the country that invented and registered the world's first COVID-19 vaccine called “Sputnik V”. Large-scale vaccination campaigns continue across Russia. However, some Russians are still wary of vaccination for various reasons. In most cases, people's doubts about the benefits of vaccination are caused by a large amount of conflicting information, mainly misinformation on the

Internet. More and more voices have been rising against the COVID-19 vaccine on internet forums.

Therefore, this study aims to explore the attitude of Russians and immigrants living in Russia toward vaccines and the causes of refusal to receive COVID-19 vaccination. First, current statistical information on coronavirus infection and vaccination was analyzed. A qualitative research method was used to examine the actual situation regarding vaccination in the Russian Federation, and five natives residing in Russia and five migrant workers were interviewed. Due to the aggravated condition of COVID-19, interviews were conducted through Facebook and WhatsApp messenger in January 2022, and participants were asked to provide answers to a few questions.

I. COVID-19 patients and vaccination status in Russian Federation

1. Status of COVID-19 patients

Since January 27, 2020, two cases of coronavirus infection have been registered in Russia, which has risen sharply to 4,731 cases in March. In January 2021, with a vast difference, it had increased to 3,8 million cases. As of April 1, 2022, the number of confirmed cases of COVID-19 in the Russian Federation was 17,862,089. Russia's first death from coronavirus was recorded in March 2020, with eight people, but a month later, this number rose to around 2,000. In March 2021, a considerable difference was seen with 100,000 people, and as of April 1, 2022, the number of deaths increased to 369,064 [4].

2. COVID-19 vaccination status

In December 2020, a large-scale massive vaccination campaign against a new coronavirus infection was announced in the country, and on January 18, 2021, mass immunization of the population began. The vaccines are available to everyone, not just those at risk of COVID-19 [5].

On the one hand, vaccination in Russia is voluntary under Russian Federation Law No 323 ”On the Basics of Protection of Citizens' Health”. However, there is also right to refuse vaccination under the provision of Federal Law No. 157 “On Immune Prevention against Contagious Diseases”. In the case of vaccination refusal under the same law, employment may be temporarily denied or work with a high risk of contracting an infectious disease may be suspended [6; 7].

For example, on October 11, 2021, a senior hygienist of Primorsky Region, Tatyana Detkovskaya, signed a decree on compulsory vaccination of the citizen, which covers public service workers and government officials. According to the statute, the first vaccine component must be injected by November 15 and the second by December 15 [8].

It has been noticed that the mandatory vaccination campaign is being implemented at workplaces in that region. Hence people agree to vaccination when they hear that they will be fired or placed on unpaid leave. On November 15, many residents of the Primorsky Region who want to continue working or studying at university have to wait in long lines at vaccination stations. People came on the last day because they thought ”everything seems to be okay without vaccination” [9]. Thus, the proverb ”Пока гром не грянет, мужик не перекрестится” immediately comes to mind, which concerns careless people who wake up when the problem comes without taking preventive measures.

Analyzing the situation across the country, as of November 20, 2021, the total number of vaccinations in Russia reached 119,759,585 people. Among them, 63,496,542 people (43,48%) received the first vaccine component, and 53,578,117 people 36,69% received the second component, which is 50.2% of the total population of the Russian Federation [10].

As of April 1, 2022, the total number of vaccinations reached 163,623,016 cases. Among them, 79,968,434 people received the first vaccination, 72,847,646 received the second vaccination, and 12,945,781 received the third vaccination, which is 8.86% of the total population of the Russian Federation. Russia's collective range reached 48%. These statistics include all citizens and migrants living in the Russian Federation. On the other hand, the vaccination situation among the OECD countries showed that the complete vaccination rate was high in Portugal, at 92.81%, accounting for 86.65% in Korea and 86.01% in Spain [11].

3. COVID-19 vaccines

Five COVID-19 vaccines have been registered and used in Russia. “Sputnik V” was developed on August 11, 2020, “Epivac Corona” released on January 13, 2020, “CoviVac” registered on February 19, 2021, “Sputnik Light” on May 06, 2021; and finally, “Sputnik M” developed on November 25, 2021 [12].

The Sputnik V vaccine has been approved in 71 countries with a total population of four billion people, more than 50% of the world's population. Regarding the number of approvals received, Sputnik V ranks second in the world. The vaccine’s effectiveness was 97,6% based on data analysis from 3,8 million vaccinated Russians. In addition, a report by the Russian Direct Investment Fund reported that the results of Sputnik V use during the vaccination of populations in several countries show that Sputnik V is the safest and most effective. And from March 4, 2021, Sputnik V is going through a progressive review process at the European Medicines Agency, which approves drugs for intensive use in the European Union [13]. Therefore, it can be judged that the Russian vaccine is safe. However, Korea does not approve of Russian vaccines, and the WHO recognizes and uses only officially approved and has embraced vaccines.

4. Russian vaccination history

Looking at the history of vaccination in Russia, there are five cases. First, the smallpox vaccination. The first vaccination in Russian history was given to Catherine II on October 23, 1768 [14, p. 56-59]. Secondly, rabies vaccination. On June 11, 1886, the first rabies vaccination station in the Russian Empire (the second in the world) appeared in the city of Odessa, and then vaccination began [15]. Thirdly, plague and cholera vaccines. In 1892, a great doctor named Vladimir Khavkin created the first cholera vaccine and tested it on himself. In 1934, Magdalena Pokrovskaya, a Russian infectious disease expert, also developed this vaccine [16]. Fourthly, the polio vaccine. In 1956, virologist Albert Sabin created an effective and safe vaccine, which he and Mikhail Chumakov, director of the Polio Institute, continued to develop in Moscow. That is why mass vaccination against polio began in 1959 [17]. Finally, vaccination against tuberculosis. In 1921, French microbiologist Albert Calmette and veterinarian Camille Guerin created a tuberculosis vaccine for use in humans. In 1925, Calmette passed the strain of this vaccine to a professor named Tarasevich in Moscow, and experimental and clinical research on vaccines and vaccination began in the former Soviet Union [18].

5. Anti-vaccination movement in Russia

According to an international poll by the independent organization “Vaccine Confidence Project,” in 2016, the Russian Federation ranked third among the countries with the most negative and skeptical population opinion towards vaccine prevention, after France and Bosnia and Herzegovina. Moreover, Russia leads in the number of opponents of vaccination against COVID-19 [19].

According to an international public opinion poll conducted by ”Morning Consult” from November 2 to November 8, 2021, in 15 countries, Russia leads in the number of opponents of COVID-19 vaccination, with 23% of respondents stating that they do not want to be vaccinated. However, Russia ranks last among these 15 countries in terms of the number of citizens vaccinated against COVID-19, with only 40% of the population vaccinated (compared with 67% of vaccinated Americans and 84% of the French). The main reason for anti-vaccination views in Russia is as follows: 37% of Russians who are not going to be vaccinated answered that they are afraid of side effects [20].

The study ”Vaccination denial is the new epidemic of the XXI century” conducted in Russia in 2019 revealed a generalized portrait of anti-vaccination advocates. First of all, these are young mothers born in the late 1990s and early 2000s. They are housewives or on maternity leave and are very active online. Secondly, they are young people. A large percentage of opponents of vaccination among young people (65,6%) can be explained by the lack of life experience and exposure to the influence of other people's opinions. In the case of women, fear of "artificial" impacts the human body [21].

There are three reasons why Russians don't trust vaccines. First, it is the Internet. Second, in 1998 British doctor Andrew Wakefield claimed the measles vaccine caused autism. Third, there is a commercial interest of pharmacological companies and the state.

The first peak of anti-vaccination sentiment in modern Russia came in the 2000s. There are many factors, but the main one is the emergence of the Internet in our lives. Advances in communication technology have brought hundreds of millions of users to the Internet. According to a report by Global Digital at the beginning of 2021, Internet users in Russia reached 85% of the total population, and social network users accounted for 67.8%. Russian Internet users spend an average of 7 hours and 52 minutes on the Internet each day, nearly an hour more than the global average of 6 hours and 54 minutes [22].

There is plenty of negative information about vaccines on Russian social sites [23, p.1774-1778; 24, p.40-41; 25, p. 90-97], so let's look at their ranking [26, p.1752-1754; 27, p. 90-97; 28, p. 112-113]. 1) Vaccines have many side effects. 2) Vaccines also contain harmful substances. 3) Injecting many vaccines can suppress or weaken immunity by increasing the load on the immune system. 4) Doctors intentionally submit inaccurate medical complication statistics. 5) It is better to reject the need for any vaccinations completely.

A survey conducted by the Social Design Center and Online Market Intelligence, called “Platform,” found that 40% of respondents feared the long-term side effects of the COVID-19 vaccine [29].

In the summer of 2020-2021, the Levada Center conducted a survey on why Russians do not want to be vaccinated against COVID-19. The results showed that 60% of respondents did not want to be vaccinated, while 20% had already been vaccinated. Among those who did not wish to be vaccinated, the reasons given were 1) a lack of trust in vaccines due to the rapid development of the COVID-19 vaccine in Russia without thorough testing, and fear of potential side effects; and 2) a lack of trust in COVID-19 statistics, with half of respondents believing doctors were underreporting cases, and the other half believing they were over reporting them [30].

II. Research results

Russians and immigrants were asked about their attitudes toward vaccines to identify the factors that prevented vaccination against COVID-19 in Russia. And the actual refusal situation was examined and verified in practice. Among the participants in this interview were five Russians and five migrant workers living in Russia. The interviewers were divided into two groups.

Table 1. Russian citizen's information

No	Gender	Citizenship	Date of birth	Occupation	Number of household members
1	Female	Russian	1976	unemployed	1
2	Female	Russian	1955	junior nurse	1
3	Male	Russian	1952	auto repair staff	1
4	Female	Russian	1983	medical device company's employee	3
5	Female	Russian	1991	housewife	2

The interviews conducted with Russian citizens included participants from different age groups, such as people in their 30s, 40s, and 60s. Most of them lived alone or had few family members, and they had diverse occupations. Specifically, there were two respondents in their 30s, one in their 40s, and two in their 60s.

Almost all of the Russian participants from various age groups mentioned that they got vaccinated only because it was compulsory at their workplace, indicating that the mandatory vaccination policy was effective in increasing vaccination rates. Those in their 30s who had been vaccinated shared that they had initial doubts about vaccines due to reading posts and comments on the internet or hearing about side effects from friends or acquaintances. Therefore, they were afraid of possible side effects. On the other hand, respondents in their 40s and 60s mentioned that they believe in Russian medicine and vaccines since the Soviet Union era and still believe in and respect it. They always had all vaccines because they thought vaccinations were essential for the whole population. They also stated that they listen to and read only official sources of information about Russian vaccines that are verified by TV or radio and do not rely on the Internet for information. One respondent shared a detailed story about the method and process of vaccination in the former Soviet Union. Additionally, one of the respondents expressed doubts and concerns about her husband´s willingness to get vaccinated.

Table 2. Migrant workers' information

No	Gender	Citizenship	Date of birth	Occupation	Number of household members
1	Female	Uzbekistan	1995	tattoo expert	3
2	Male	Uzbekistan	1991	salesman	3
3	Male	Uzbekistan	1990	carrier	3
4	Female	Kazakhstan	1976	supermarket employee	4
5	Male	Kazakhstan	1974	supermarket employee	4

As shown in Table 2, migrant workers in their 20s, 30s, and 40s provided answers during an interview conducted through social media. They come from household with an extensive number of members, with three participants from Uzbekistan and two from Kazakhstan. Most of them work in service jobs that involve contact with many people.

The interviewed migrant workers were vaccinated with the Sputnik V vaccine and expressed a respectful and positive attitude towards Russian medicines and vaccines. As shown (Table 2), migrant workers in their 20s, 30s, and 40s gave answers in the interview conducted through social media. The number of household members is extensive, three participants come from Uzbekistan, and two are from Kazakhstan. In the case of jobs, most of them are service jobs and have approached many people.

Migrant workers who participated in the interview were vaccinated with the Sputnik V vaccine and had a respectful and positive attitude towards the Russian vaccine and also emphasized that Russian medicines and vaccines are of higher quality and efficiency than the home country's products. In addition, it was found that all migrant respondents got the employer's requirements and had the vaccine immediately after being told they needed to be vaccinated against COVID-19. Respondents in their 20s and 30s feared the side effects of vaccines because they listened to their relatives or read the information online.

III. Conclusion

Many Russians use the Internet that's why they can find numerous anti-vaccination sites, forums, blogs and, of course, anti-vaccination posts, which infect a generation with fear and doubt about vaccines. According to the results of several polls about CORONA-19 vaccination refusal, many Russians do not want to be vaccinated. In other words, people do not fully understand the actual situation of the virus and do not believe the statistics on the number of cases

and deaths. Or that vaccines made too quickly will not work and that there is a commercial relationship between pharmaceutical companies and the state.

After examining the reality of factors leading to vaccination rejection and confirming them, it can be concluded that the following factors contribute to COVID-19 vaccination refusal in Russia.

First, a historical factor plays a role. During the Soviet Union, Russians had faith in Soviet medicine and rarely refused vaccination. They held positive views about vaccines. Russian participants born during this period continue to believe in Russian medicine and vaccines, ability to combat and eradicate the coronavirus. However, after the collapse of the Soviet Union, trust in the country and national medicine started to fade. As Russians began traveling abroad more freely, they became more prone to protesting about various issues, including vaccination, like people in other countries. Respondents born after the collapse of the Soviet Union expressed doubt about the quality of the Russian COVID-19 vaccine, given its quick development compared to vaccines developed elsewhere.

Second, a time difference is another factor. Young Russians believe that they will not become seriously ill even if they contract the virus. They also rely heavily on online sources if information but it can be challenging to distinguish truth from lies in the abundance of data available. This creates doubt and mistrust. In contrast, the older generation feels more vulnerable and trusts official sources of information. They receive many vaccinations and do not use the internet as often.

The third factor is cultural. Most of the interviewed Russians confirmed that they only received the COVID-19 vaccine after the chief sanitary doctor's conclusion on compulsory vaccination of the population. This behavior can be considered a cultural factor. In other words, it has become a situation where it is no longer possible to postpone getting vaccinated, and people could be fired from their jobs if they refuse.

The migrant worker respondents stated that they were vaccinated against COVID-19 because they come to our country to earn money and always meet their employer´s requirements. However, immigrants born in the 1990s use the Internet more often and read various information about vaccination, which seems to indicate a source of doubt about the vaccine's effectiveness and possible side effects.

In this way, the responses of interviewed participants helped to examine the attitude toward COVID-19 vaccination and the Russian vaccine, making it possible to explore and practically confirm the facts of the refusal to receive COVID-19 vaccination.

References:

1. Burgasov, S. P. (1982). *Pandemiya. Bol'shaya meditsinskaya entsiklopediya v 30* t. gl. red. B. V. Petrovskiy. 3(18), M.: Sovetskaya entsiklopediya
2. (2022). *WHO Coronavirus (COVID-19) Dashboard*. Retrieved April 4, 2022 from https://covid19.who.int/
3. (1981). *Vaktsinatsiya. Veterinarnyy entsiklopedicheskiy slovar*. M.: Sovetskaya entsiklopediya, 640.
4. (2022). *WHO. Global. Russian Federation*. Retrieved from https://covid19.who.int/region/euro/country/ru
5. (2022). *Stopkoronavirus.rf.* Retrieved April 2, 2022 from https://xn--80aesfpebagmfblc0a.xn--p1ai/
6. (2011). *Federal'nyy zakon № 323-FZ "Ob osnovakh okhrany zdorov'ya grazhdan v Rossiyskoy Federatsii" ot 21.11.2011 g.*
7. (1998). *Federal'nyy zakon № 157-FZ "Ob immunoprofilaktike infektsionnykh bolezney" ot 17.09.1998*
8. (2021). *Postanovleniye o provedenii profilakticheskikh privivok protiv novoy koronovirusnoy infektsii (COVID-19) otdel'nym kategoriyam grazhdan po epidemicheskim pokazaniyam v Primorskom kraye №7 ot 11.10.2021*
9. (November 15, 2021). *VL.RU. «A to uvolyat»: vladivostoktsy delayut privivki ot koronavirusa, chtoby ne lishit'sya raboty i mest v universitete.* Retrieved April 5, 2022 from https://www.newsvl.ru/covid19/2021/11/15/204209/#ixzz7vokoeQNb
10. (2021). *Minfin. Statistika vaktsinatsii ot koronavirusa (COVID-19) v Rossii.* Retrieved April 6, 2022 from https://index.minfin.com.ua/reference/coronavirus/vaccination/russia/
11. (2021). *Minfin. Statistika vaktsinatsii ot koronavirusa (COVID-19).* Retrieved April 6, 2022 from https://index.minfin.com.ua/reference/coronavirus/vaccination/

12. (November 25, 2021). *VL.RU. V Rossii odobrili vaktsinu ot koronavirusa dlya podrostkov «Sputnik M»*. Retrieved April 5, 2021 from https://www.newsvl.ru/covid19/2021/11/25/204464/
13. (November 11, 2021). *RIA novosti. Rossiya prizvala Yuzhnuyu Koreyu k skoreyshemu priznaniyu "Sputnika V"*. Retrieved April 2, 2022 from https://ria.ru/20211109/sputnik-1758160852.html
14. (May 28, 2020). *Plus World. Epidemii v Rossii – ot Kulikovskoy bitvy do nashikh dney. Istoriya vozniknoveniya sotsial'noy otvetstvennosti, gosrezerva i gospodderzhki poddannykh*. Retrieved April 2, 2022 from https://plusworld.ru/articles/4651/
15. Sherstneva, Ye. V. (2012). Pervyye pasterovskiye stantsii v Rossii. *Problemy sotsial'noy gigiyeny, zdravookhraneniya i istorii meditsiny*, (2), 56-59.
16. (September 20, 2020). *Rodina. Sozdatelya pervykh vaktsin protiv chumy i kholery na Rodine ne tsenili*. Retrieved April 3, 2022 from https://rg.ru/2020/09/20/sozdatelia-pervyh-vakcin-protiv-chumy-i-holery-na-rodine-ne-cenili.html
17. Fine, P. E. M., Carneiro, I. A. M., Milstien, J. B. & Clements, C. J. (1999). *Issues relating to the use of BCG in immunisation programmes. DEPARTMENT OF VACCINES AND BIOLOGICALS.* World Health Organization, Geneva
18. (July 18, 2017). *Kommersant. Privivka ot Ligi natsiy*. Retrieved April 3, 2022 from https://www.kommersant.ru/doc/3360397
19. Larson, H. J., de Figueiredo, A., Xiahong, Z., Schulz, W. S., Verger, P., Johnston, I. G., Cook, A. R., & Jones, N. S. (2016). *The State of Vaccine Confidence 2016: Global Insights Through a 67-Country Survey. EBioMedicine*, 12, 295–301. Retrieved from https://doi.org/10.1016/j.ebiom.2016.08.042
20. Coleman, J. (September 9, 2022). *Rates of Vaccine Skepticism Have Mostly Stalled*. Retrieved April 4, 2022 from https://morningconsult.com/global-vaccine-tracking/
21. Sladkova, A. (July 2, 2021). *Ugroza chelovechestvu: vrach — ob istorii vaktsinatsii i prichinakh boyazni privivok*. Retrieved April 5, 2022 from https://russian.rt.com/russia/article/880161-vrach-vakcinaciya-koronavirus
22. (February 12, 2021). *WebCanape.Internet i sotsseti v Rossii v 2021 godu — vsya statistika*. Retrieved April 3, 2022 from https://www.web-canape.ru/business/internet-i-socseti-v-rossii-v-2021-godu-vsya-statistika/
23. Ozawa S., & Stack, M.L. (2013). Public trust and vaccine acceptance – international perspectives. *Hum. Vaccin. Immunother*, 9 (8), 1774-1778.
24. Brossard, D. (2013). Scheufele D.A. Social science. *Science, new media, and the public, Science*, 339 (6115), 40-41.
25. Mats, A.N. (2013). Sovremennyye istoki antiprivivochnykh izmyshleniy i ideologii. *Epidemiologiya i Vaktsinoprofilaktika*, 3 (70), 90 – 97.
26. Feemster, K.A. (2013). Overview: special focus vaccine acceptance. *Hum. Vaccin. Immunother*, 9 (8), 1752 – 1754
27. Matz, A.N. (2013). The modern origins of anti-vaccination insinuations and ideology. *Epidemiology and Vaccinal Prevention*, 3 (70), 90-97
28. Mats, A.N. (2014). Antiprivochnyy skepsis kak sotsial'no-psikhologicheskiy fenomen. *Epidemiologiya i Vaktsinoprofilaktika*, 5(78), 112-113.
29. Gorshkova, Y. (June 29,2021). *Sotsiologi: pochemu rossiyane ne khotyat delat' privivku ot COVID*. Retrieved April 5, 2022 from https://ura.news/news/1052491980
30. (May 26, 2021). *Levada Tsentr. POCHEMU ROSSIYANE NE KHOTYAT PRIVIVAT'SYA*. Retrieved April 3, 2022 from https://www.levada.ru/2021/05/26/pochemu-rossiyane-ne-hotyat-privivatsya/

Impact Factor:					
	ISRA (India) = 6.317	SIS (USA) = 0.912	ICV (Poland) = 6.630
	ISI (Dubai, UAE) = 1.582	РИНЦ (Russia) = 3.939	PIF (India) = 1.940
	GIF (Australia) = 0.564	ESJI (KZ) = 8.771	IBI (India) = 4.260
	JIF = 1.500	SJIF (Morocco) = 7.184	OAJI (USA) = 0.350

SOI: 1.1/TAS DOI: 10.15863/TAS

International Scientific Journal

Theoretical & Applied Science

p-ISSN: 2308-4944 (print) **e-ISSN:** 2409-0085 (online)

Year: 2023 **Issue:** 03 **Volume:** 119

Published: 15.03.2023 **http://T-Science.org**

Issue Article

Gulhayo Farhadovna Isabayeva
Alisher Navo' i Tashkent State University of Uzbek Language and Literature
PhD student
Mobil: +99890-901-85-10
gulhayoisabayeva465@gmail.com

LITERARY CREATIVITY IS AN INDIVIDUAL EVENT

Abstract: *This article discusses the components and dynamics of the creative process, and the influence of the art of the word on the reader. The fact that artistic creativity is ultimately an individual phenomenon is illustrated by the example of O'tkir Hoshimov's story "The Affairs of the World".*

Key words: *psychology, imagery, character, art, image, subject, object, national tradition, character.*

Language: *English*

Citation: Isabayeva, G. F. (2023). Literary creativity is an individual event. *ISJ Theoretical & Applied Science, 03 (119)*, 75-77.

Soi: http://s-o-i.org/1.1/TAS-03-119-14 ***Doi***: https://dx.doi.org/10.15863/TAS.2023.03.119.14

Scopus ASCC: *1208.*

Introduction

Art psychology is the most general law of all types of artistic activity. Already, as a branch of psychology, it allows to analyze various forms related to the influence of art, especially the art of words on the reader, to deeply reveal the mechanisms of the formation of the creative human personality. Unlike other disciplines that study psychology, the artistic word art, which works on the basis of imagery, is based on careful observation of the emotional experiences of the lyrical hero, the author's and characters' reflections, and the poetic text. It finds its explanation in the context of the overall literary process [9.23].

Since the work of art is closely related to categorical concepts such as creative worldview, national tradition, space and time, continuity, the approaches of the literary researcher appear accordingly [3.13]. The critic tries not to overlook the literary tradition and genealogical relationship in the image of the character, but also the author's self-examination processes, his moods at the time of writing the work, in particular, the feelings of indebtedness of the writer to the authoritative spirit of his mother in the stories where the image of the mother was created.

For example, let's take O'tkir Hashimov's short story "World Affairs". Until now, most literary critics have focused on the image of Mother in the work. They talked about the national-mental image of the mother's character, selflessness, patience, humility, and the power to give all of her being for her children.

Obviously, it is important to observe such features. However, wouldn't it be one-sidedness to define them as qualities unique only to Uzbek and even great Eastern mothers? After all, all Mothers, from Eve to the present day, regardless of their time and place, have always been watching to honor their children and sacrifice their lives for them. Yes, it is.

Therefore, if the issue is looked at in a larger scale, another fact is also clearly visible. This is the feeling of duty that arises in the heart after losing such a kind person and the owner of a noble heart. That is, the feeling of self-examination and inability to forgive the "deeds" of the creative "I". The same anguish and dreams are transferred to artistic expression. As the writer recreates the image of his mother in his memory, he takes a pen in his hand with the intention of getting rid of that feeling of debt and duty. He writes down his pains and sufferings.

Naturally, the desire to create the image of the Mother begins with the aesthetic intention of the writer. First of all, the writer is focused on restoring the perfect image of his mother, her character, from the fragments scattered in the fragments of memory. At the same time, in the image of Mother, she also strives to embody the virtues characteristic of all mothers. As a result, this image acquires the status of

a national-mental type in a certain sense. Because, first of all, the work of art is intended for a wide readership. So, the words of O. Hoshimov to the reader in the story "World affairs" convey the sense of a call to awareness.

Therefore, in our opinion, O'Hoshimov's "I" rises to the level of a literary hero according to the following aspects: a) his sense of artistic reality; b) self-examination; c) the son's feelings of duty and indebtedness to the Mother's soul; g) the child's inner need to get rid of the spiritual and spiritual burden and creative action to satisfy it; d) calling the reader to be aware through the statement of his statements. It is understood that relying on the poetic text of the story "Works of the World" and the achievements of the psychology of artistic creation allows us to observe the typical expression of universal humanity and the image of the author from different angles. Therefore, stories about the image of the Mother can be studied not only within the framework of national culture, but also from the point of view of motivational processes characteristic of the psychological nature of the art of speech.

In particular, the connection between the story "The affairs of the world" and O. Hoshimov, who is its creator, should not be overlooked. Because by analyzing various aspects of this relationship, we discover the writer's worldview, aesthetic perception, closeness to national literary traditions in image depiction, creative style and individuality characteristic of poetic skills. There are strong ties between the semantic content of the work of art and the author's mind, the world of experiences and the reader's feelings. At the same time, the creator brings the human figure to the fore. It requires a systematic-typological approach from us.

It is known that in rational systems, the relationship between the subject and the object is given special importance. Systematic approach models include various fields of interaction. It involves a detailed study of all the components of the processes related to the influence of the object and the subject on each other. L. Ya. Dorfman, V. P. Morozov, E. A. Golubeva, A.L. Gottsdiner, L.L. Such system forms are presented in the works of Bochkarev and others. For example, a person perceives an artistic image as a) grandeur; b) bottom; c) perceives and expresses on the basis of modes of humor. In fact, the system of psychological types is also: a) rational; b) irrational; c) appears in mixed forms [6.43].

Eastern fiction considers man as a child of the universe. The creator of the work of art wishes to raise the reader to the heavenly heights within himself. It aims to influence his "I" and take him to the valley of wonder. The reader tries to bring his mind to the transcendental height, to introduce his "I" to the great tones of existence, to create a harmonious harmony as much as possible. In the phenomenological approach, the nature and interaction of the complex connections between the various elements that make up that harmony is studied.

It is understood that each psychological type has its own style of approach and creative-aesthetic purpose. After all, the art of words is a form of self-awareness of the creator, finding his identity and expressing it through elegant words. In this sense, the works created with the image of Ona acquire a deep autobiographical character. Observing the creative process and its components and dynamics shows that artistic creative activity is ultimately an individual phenomenon.

References:

1. Allahverdov, V.M. (2001). *Psihologija iskusstva. Jesse o tajne jemocional`nogo vozdejstvija hudozhestvennyh proizvedenij*. SPb.: DNK.
2. Anastas`ev, N. (2002). *Vladimir Nabokov. Odinokij korol`*, Moscow.
3. Arnaudov, M. (1970). *Psihologija literaturnogo tvorchestva*. Moscow.
4. Arnhejm, R. (1994). *Novye ocherki po psihologii iskusstva*. Moscow.
5. Beljaev, I. A. (2010). Tvorchestvo kak forma stanovlenija individual`noj celostnosti cheloveka. *Vestnik Orenburgskogo gosudarstvennogo universiteta*, № 10 (116), oktjabr`, pp. 57-61.
6. Berdjaev, N. (1991). *Samopoznanie*. Moscow.
7. Valeri, P. (1993). *Ob iskusstve*. Moscow.
8. Vygotskij, L.S. (2004). *Psihologija iskusstva*. Moscow.
9. Kulka, I. (2014). *Psihologija iskusstva*. Har`kov.
10. Nagibina, N.L. (2000). *Psihologija tipov. Sistemnyj podhod. Psihodiagnosticheskie metodiki.* Ch. 1, Moscow: Institut molodezhi.
11. Sel`chenok, K.V. (1999). *Psihologija hudozhestvennogo tvorchestva: Hrestomatija*. Minsk.
12. Saparov, M. A. (1981). *Ponimanie hudozhestvennogo proizvedenija i terminologija literaturovedenija. Vzaimodejstvie nauk pri izuchenii literatury*. (pp.214-243). L.: Nauka.

13. Matyokubova, T., & Yakubov, I. (2020). Laboratory works of Gafur Gulam: poetic image and imagery. *Journal of critical reviews*, № 7, pp. 28-37.
14. Matyokubova, T. (2023). Poetic imagery of nature. *Theoretical & Applied Science*, 02 (118), 521-524.
15. Yakubova, S. (2023). The issue of «way» in cholpon's poetry. *ISJ Theoretical & Applied Science*, 02 (118), 490-492.
16. Yakubov, I. A. (2021). *Real and artistic truth in the poem "Black sun". Aktualnye problem tyurkologii: Rossiya i tyurko-musulmanskiy mir*. (pp.211-213). Kazan.
17. Yakubov, I. (2023). *"Boburnoma" - o'zbek nasrining nodir yodgorligi.* "Zahiriddin Muhammad Boburning Sharq davlatchiligi va madaniyatida tutgan o'rni" mavzusidagi xalqaro ilmiy-nazariy konferensiya materiallari. (pp.174-179). Toshkent.
18. Yakubov, I. (2023). Artistic interpretation of the drama of moral and spiritual problems in the tragedy "Romeo and Juliet". *ISJ Theoretical & Applied Science*, 02 (118), 517-520.
19. Mamiraliyev, Q. (2022). Genre modification in uzbek poetry of the independence period. *European Journal of Humanities and Educational Advancements*, 3(3), 115-119. https://scholarzest.com/index.php/ejhea/article/view/1916
20. Mamiraliyev, Q.Q. (2022). O'zbek she'riyatida shakliy izlanishlar va individuallik. *O'zbekistonda xorijiy tillar*, № 5 (46), pp. 201-218 https://doi.org/10.36078/1673348607

Impact Factor:					
	ISRA (India) = 6.317	SIS (USA) = 0.912	ICV (Poland) = 6.630
	ISI (Dubai, UAE) = 1.582	РИНЦ (Russia) = 3.939	PIF (India) = 1.940
	GIF (Australia) = 0.564	ESJI (KZ) = 8.771	IBI (India) = 4.260
	JIF = 1.500	SJIF (Morocco) = 7.184	OAJI (USA) = 0.350

SOI: 1.1/TAS DOI: 10.15863/TAS
International Scientific Journal
Theoretical & Applied Science
p-ISSN: 2308-4944 (print) **e-ISSN:** 2409-0085 (online)
Year: 2023 **Issue:** 03 **Volume:** 119
Published: 15.03.2023 **http://T-Science.org**

Issue Article

Kumush Abdusalomova
Tashkent state named after Alisher Navoi University of Uzbek Language and Literature
Independent researcher, Uzbekistan
phone: +998 99 817 55 29
Ms.barchinoy777@mail.ru

THE SPIRIT OF NAVAI IN THE POETRY OF MATNAZAR ABDULHAKIM

Abstract: *This article examines the influence of Alisher Navoi's work on the poetry of the famous Uzbek poet Matnazar Abdulhakim. On the basis of many examples, the common aspects of M. Abdulhakim's poetry with Navoi are studied. On this basis, the specific aspects of the poet's skills are studied. As a result of his observations, the author expresses certain conclusions on the issue of tradition and innovation in the poet's work.*

Key words: *Poem, poet, verse, lyrical character, tradition, originality, literary influence, commonality, artistry.*
Language: *English*
Citation: Abdusalomova, K. (2023). The spirit of Navai in the poetry of Matnazar Abdulhakim. *ISJ Theoretical & Applied Science, 03 (119),* 78-80.
Soi: http://s-o-i.org/1.1/TAS-03-119-15 ***Doi***: https://dx.doi.org/10.15863/TAS.2023.03.119.15
Scopus ASCC: *1208.*

Introduction

The influence of Alisher Navoi's work on the development of many poets in Uzbek literature is incomparable. The creative heritage of Hazrat Alisher Navoi is a priceless spiritual treasure of all Turkic peoples.

Literary scholar Abdurasul Eshonboboev's article "Navoi's work and literary influence" says: "Alisher Navoi's work appeared on the ground of rich literary traditions of Eastern literature and, in turn, was able to effectively influence the development of the literature of the next period. It is known that Navoi left a significant legacy not only in the Uzbek language, but also in the Persian language (Foniy in Persian). ["Eastern Star", 4:29]

The influence of Hazrat Alisher Navoi is visible in the work of the talented Uzbek poet Matnazar Abdulhakim. It certainly goes back to the distant childhood of the poet. Matnazar Abdulhakim remembers his childhood like this: "I started reading the works of classic representatives of our literature very early with the help of my father. The regular visits of Orzu Domla and Mahbubi Domla, who are poets who have a significant voice in the Khorezm literary environment, my father's classmate, and the lessons I received from my father, Mullah Abdul Hakim, did not go unnoticed. "My father, besides reading religious books in Arabic and Persian, was a great fan of poetry and a man of understanding". [M. Abdulhakim, 2:87]

Not everyone can confidently say that who understands the poet Navoi was a man about his father. The reason is that, as we mentioned above, it is not easy to fully understand Navoi's creative heritage. Our great poet Matnazar Abdulhakim was fortunately brought up in such a family and matured in such a literary environment.

Trying to reflect on how much the poet was satisfied with the creative ocean of Hazrat Alisher Navoi, the influence of Alisher Navoi on the work of Matnazar Abdulhakim was observed in the following directions:

1. M. Abdulhakim's poems dedicated to Alisher Navoi.
2. Poems written under the influence of the content and ideas of Navoi's works.
3. Verses referring to Navoi's poems.
4. Effective expression of thoughts and feelings through the names of the heroes of the poet's works.

There are many poems written by Matnazar Abdulhakim dedicated to Alisher Navoi. We can clearly see his great love and respect for Navoi in the

poem "Invitation" written by his friend Khurshid Davron.

Why don't you shake the ground?
Let's not shake the blue.
Don't hang around too much, go
We will go to Hazrat Navoi. [M. Abdulhakim, 1:94]

It is not for nothing that Matnazar Abdulhakim made this offer to his friend. The poet, in his own words, is one of the poets who managed to go to Navoi, the creators who were lucky enough to fully understand and research his creative heritage. Matnazar Abdulhakim Navoi, appreciating his creative heritage and reading, excitedly says, "Let's go, my friend, **to great happiness**". [M. Abdulhakim, 1:121]

Another poem of the poet that is close in content to the poem "Daavat" is the poem "Reading Navoi":

I came out with a thousand efforts,
I climbed this peak for forty years.
"You are not a poet. Come back!"
That's how the verdict was read.

I've won a thread on Tegram
The world is sad to see,
To come back down to earth
Another forty years…at least. [M. Abdulhakim, 1:176]

Matnazar Abdulhakim Alisher Navoi's creativity reaches a high peak. The poet Navoi, who has struggled to reach this peak for forty years, feels humbled by his genius and comes to the conclusion that "you are not a poet". Indeed, there is a creator, a researcher who understands Navoi, who feels weak and small in front of his greatness. At the end of the poem, the poet notes that it will take another forty years to descend from this peak. So, he looks at the whole environment, life, and all other examples of creativity from such a height, he evaluates.

The poems written under the influence of the content and ideas of Hazrat Navoi's works are clearly visible in the work of Matnazar Abdulhakim. For example, in the poem "Sad smokes pipe sores" we see the line "Tunes measures of desperation". So, when a poet is helpless, he relies on one measure - singing, creating, writing. It seems to have found a solution to helplessness. Reading this line, we involuntarily recall this stanza of Navoi:

Navoi, don't say too many words,
Helplessness is the solution to your grief.

As you can see, in both cases, helplessness seems to be the solution to the lyrical hero. Matnazar Abdulhakim, a regular reader of Hazrat Alisher Navoi's works, may have been inspired by this verse. We witness that Navoi's life philosophy and conclusions were passed on to Matnazar Abdulhakim.

In one of his ghazals, Matnazar Abdulhakim says to his lover, "I am a stranger in my country, let your mind be happy, let it be a homeland." At this point, we remember the conversation between Farhod and Khusrav in the epic "Farhod and Shirin".

He said: "Where are you from?"
He said: mad patriot is aware of rules.

So, a lover always feels like a stranger in front of others. Good for him and his imagination can be the homeland.

The following continent of Alisher Navoi is equally familiar to everyone. Although some do not know who its author is, they have heard it many times.

Who, how much do you train a puppy with a dog?

A dog will be, a donkey will be spotted, and a man will not be.

In Matnazar Abdulhakim's poem entitled "Prophecy", we come across this conclusion:

You are not a puppy, you are not a colt,
Your future is different. [M. Abdulhakim, 1:211]

In the poem "Prophecy", the poet confidently looks at the growth of the young generation (or someone). He hopes for their future.

In the creative legacy of Matnazar Abdulhakim, we can find many verses referring to Navoi's poems. As an example, if we pay attention to Matnazar Abdulhakim's poem "Dictionary of Etymology", we will see this paragraph:

Sometimes softly as tongues die,
Say my word that hurts in my heart.
Crying over every dead word
You must say "Black Eye". [M. Abdulhakim, 1:245]

The poet reminds with great anguish that languages can gradually disappear and die, and emphasizes that Hazrat Alisher Navoi's ghazal beginning with "Black Eye" should be recited over each deceased word. A valid question arises here. Why exactly Hazrat Navoi's ghazal should resonate over the disappearing words? Why should the ghazal that begins with "Black Eye" sound? Let's remember the ghazal mat:

My eyes are dark, come and study
Make a country like a people before my eyes.

Hazrat Alisher Navoi made good use of oriental artistic arts tardi aks (dark eye and near my eye) and tajnis art (mardum and mardumlig') in the Bait. This ghazal continues to surprise us and draw us to the treasure of meanings. "Black Eye" is one of the most unique ghazals not only in Navoi's ghazals, but also in classical literature. The poet rightly came to the conclusion that this ghazal should sound over the words that are disappearing in the poem "Etymology Dictionary". This testifies to the poet's immense respect for Hazrat Alisher Navoi and his view of Navoi as the founder of the Uzbek literary language.

Matnazar Abdulhakim effectively used the effective expression of thoughts and feelings through the names of the heroes of Navoi's works. Looking through the poet's poems, we witness such points and intersections. The proportionality of thoughts and

expressions is clearly visible. Also, we can find many images and symbols used by Navoi in the epic "Khamsa" in the works of Matnazar Abdulhakim. For example:

I don't have a cypress in place of my Layli and Shirin,
Neither Farhad nor Majnun, no matter how much, I have no comparison.

[M. Abdulhakim, 1:298]

You can be loved, you can not be understood,
Crazy as a madman, clear as Socrates.

[M. Abdulhakim, 1:283]

Wise, my companions, I am entering the tribe of Qays,
Turn back now you, this is where the desert begins.

[M. Abdulhakim, 1:295]

Where to get Farhad-Shirin every day,
Where to get Layli and Majnun?!

[M. Abdulhakim, 1:325]

After reading the above, one gets the conclusion that Matnazar Abdulhakim is familiar with the characters mentioned in these lines, that he sees and meets them every day.

In a word, Matnazar Abdulhakim is a poet who was able to create his own identity based on classical literary traditions. Also, Matnazar Abdulhakim is one of the poets who made a worthy contribution to the development of our artistic and philosophical lyrics today. His creativity, his views on wisdom are distinguished by the depth of content. We believe that this priceless spiritual wealth will not suffer.

References:

1. (2017). *Matnazar Abdulhakim. Selected works 1*, Tashkent: Gafur Ghulam.
2. (2009). Matn*azar Abdulhakim. Mangulik Jamali*, Khiva: Khorezm Maamun Academy Publishing House.
3. (1986). *Matnazar Abdulhakim. Song of the seasons*. Tashkent: Gafur Ghulam.
4. (2016). "*Eastern Star" magazine*, 2016, issue 9.
5. Matyokubova, T., & Yakubov, I. (2020). Laboratory works of Gafur Gulam: poetic image and imagery. *Journal of critical reviews*, № 7, pp. 28-37.
6. Matyokubova, T. (2023). Poetic imagery of nature. *Theoretical & Applied Science*, 02 (118), 521-524.
7. Yakubova, S. (2023). The issue of "way" in Cholpon's poetry. *ISJ Theoretical & Applied Science*, 02 (118), 490-492.
8. Yakubov, I. A. (2021). *Real and artistic truth in the poem "Black sun" / Aktualnye problem tyurkologii: Rossiya i tyurko-musulmanskiy mir*. (pp.211-213). Kazan.
9. Yakubov, I. (2023). *"Boburnoma" - a rare monument of Uzbek prose*. Proceedings of the international scientific-theoretical conference on "The role of Zahiriddin Muhammad Babur in Eastern statecraft and culture". (pp.174-179). Tashkent.
10. Yakubov, I. (2023). Artistic interpretation of the drama of moral and spiritual problems in the tragedy "Romeo and Juliet". *ISJ Theoretical & Applied Science*, 02 (118), 517-520.
11. (2022). Retrieved February 19, 2022 from https://khdavron.uz/kutubxona/multimedia/matnazarabdulhakim-bedil

Impact Factor:					
	ISRA (India) = 6.317	SIS (USA) = 0.912	ICV (Poland) = 6.630
	ISI (Dubai, UAE) = 1.582	РИНЦ (Russia) = 3.939	PIF (India) = 1.940
	GIF (Australia) = 0.564	ESJI (KZ) = 8.771	IBI (India) = 4.260
	JIF = 1.500	SJIF (Morocco) = 7.184	OAJI (USA) = 0.350

SOI: 1.1/TAS DOI: 10.15863/TAS

International Scientific Journal

Theoretical & Applied Science

p-ISSN: 2308-4944 (print) **e-ISSN:** 2409-0085 (online)

Year: 2023 **Issue:** 03 **Volume:** 119

Published: 16.03.2023 **http://T-Science.org**

Issue Article

Shotillo Safarovich Shorakhmetov
Chirchik State Pedagogical University
Senior Lecturer,
shoraxmetov.sh@cspi.uz

ADDRESSING KEY ISSUES IN ENGLISH SPEAKING INSTRUCTION: STRATEGIES FOR SUCCESS

Abstract: *This article discusses key issues in English language teaching, including vocabulary, pronunciation, fluency, confidence, listening skills, grammar, and cultural awareness. Drawing on research-based strategies and techniques, the article highlights the importance of addressing these issues in order to improve learners' English speaking skills and increase their confidence and motivation to use English in a variety of contexts. By explicitly teaching vocabulary, providing focused pronunciation instruction, promoting regular practice and sustained engagement in communicative activities, creating a positive and supportive learning environment, integrating listening activities, focusing on form in grammar instruction, and promoting intercultural competence, teachers can help learners to develop greater proficiency and confidence in their spoken English. The article concludes by emphasizing the importance of addressing these key issues and implementing effective teaching strategies in order to help learners achieve greater success in their English language learning journeys.*

Key words: *English language teaching, speaking skills, vocabulary, pronunciation, fluency, confidence, listening skills, grammar, cultural awareness, communicative activities, effective teaching strategies, research-based techniques.*

Language: *English*

Citation: Shorakhmetov, Sh. S. (2023). Addressing key issues in English speaking instruction: strategies for success. *ISJ Theoretical & Applied Science, 03 (119),* 81-84.

Soi: http://s-o-i.org/1.1/TAS-03-119-16 ***Doi***: https://dx.doi.org/10.15863/TAS.2023.03.119.16

Scopus ASCC: *1203.*

Introduction

Improving English speaking skills is a key goal for many English language learners, whether for academic, professional, or personal reasons. While there are many factors that contribute to successful language learning, research has identified several key issues that can impact the development of English speaking skills. These issues include vocabulary acquisition, pronunciation, fluency, confidence, listening skills, grammar, and cultural awareness. In this article, we will explore each of these issues in detail, drawing on the latest research in language teaching and learning. We will also provide practical tips and strategies that teachers and learners can use to improve their English speaking skills and achieve their language learning goals. By focusing on these key issues, English language learners can enhance their ability to communicate effectively in English and succeed in their academic, professional, and personal pursuits.

Thus, there are several issues that teachers can focus on to help their students improve their English speaking skills. Here are some of them:

- **Vocabulary:** Encourage students to learn new words and phrases and provide opportunities for them to practice using them in context.
- **Pronunciation:** Help students to focus on the sounds and intonation of English words and phrases, and provide them with feedback and correction.
- **Fluency:** Provide students with opportunities to practice speaking English regularly, both in and out of the classroom, and encourage them to speak as much as possible.
- **Confidence:** Build students' confidence in speaking English by creating a supportive and

encouraging learning environment and providing positive feedback and praise [4].

- **Listening skills:** Encourage students to develop their listening skills by exposing them to a variety of authentic English language materials such as podcasts, news broadcasts, and videos.
- **Grammar:** While grammar is important, it's important to balance grammar instruction with other skills like vocabulary, pronunciation, and fluency [9].
- **Cultural awareness:** Encourage students to learn about the culture and customs of English-speaking countries, as this can help them to better understand and communicate with native speakers [14].

Overall, the key is to provide students with a variety of opportunities to practice and improve their English speaking skills, and to create a supportive and engaging learning environment that encourages them to take risks and make mistakes.

MATERIALS AND METHODS

There have been many researchers who have studied the issues related to teaching English speaking skills. Here are some examples of research and references.

Researchers have found that explicit vocabulary instruction and the use of contextualized vocabulary learning activities are effective in improving students' vocabulary knowledge and use (e.g., Nation, 2001; Schmitt & Carter, 2004) [11, 12]. Another research has shown that focused pronunciation instruction, particularly in the form of corrective feedback, can lead to significant improvements in learners' pronunciation skills (e.g., Derwing & Munro, 2009; Mackey & Philp, 1998) [2, 8]. Studies have found that regular and sustained practice, such as through conversational exchanges, can help learners to develop greater fluency in their spoken English (e.g., Ellis & Barkhuizen, 2005; Thornbury, 2005) [3]. Some researchers have found that a positive learning environment, along with supportive feedback and opportunities for learner autonomy, can help learners to develop greater confidence in their English speaking abilities (e.g., Mercer & Ryan, 2010; Williams & Burden, 1997) [10]. Research has also demonstrated the importance of integrating listening activities into English language instruction and providing learners with opportunities to practice listening in authentic contexts (e.g., Field, 2008; Vandergrift & Goh, 2012) [5]. Our studies have found that a focus on form, as opposed to grammar rules, can be effective in helping learners to develop greater accuracy in their spoken English (e.g., Long, 2015; Swain, 2005) [7, 13]. Finally, it has highlighted the importance of promoting intercultural competence and providing learners with opportunities to learn about the cultural norms and values of English-speaking countries (e.g., Byram & Morgan, 2018; Kramsch, 1993) [1, 6].

RESULTS AND DISCUSSION

Explicit vocabulary instruction and contextualized vocabulary learning activities can improve learners' vocabulary knowledge and use. Teachers can use a variety of techniques to help learners acquire new vocabulary, such as providing opportunities for vocabulary practice, offering feedback, and using vocabulary games and activities to make learning fun and engaging.

Focused pronunciation instruction, particularly in the form of corrective feedback, can lead to significant improvements in learners' pronunciation skills. Teachers can use techniques such as modeling correct pronunciation, providing feedback on learners' pronunciation, and incorporating pronunciation practice activities into lessons to help learners improve their pronunciation.

Regular and sustained practice, such as through conversational exchanges, can help learners to develop greater fluency in their spoken English. Teachers can encourage learners to engage in authentic conversation by providing opportunities for pair and group work, using role-playing activities, and creating a supportive learning environment that encourages learners to take risks and practice speaking.

A positive learning environment, supportive feedback, and opportunities for learner autonomy can help learners to develop greater confidence in their English speaking abilities. Teachers can create a positive learning environment by providing a safe and supportive space for learners to practice speaking, offering constructive feedback, and encouraging learners to take ownership of their learning by setting goals and tracking their progress.

Integrating listening activities into English language instruction and providing learners with opportunities to practice listening in authentic contexts can improve listening skills. Teachers can use a variety of techniques, such as pre-listening activities, comprehension checks, and post-listening discussions, to help learners improve their listening skills.

Focusing on form, as opposed to grammar rules, can be effective in helping learners to develop greater accuracy in their spoken English. Teachers can help learners to develop grammar accuracy by providing input-rich environments, using grammar-focused communicative tasks, and providing opportunities for learners to notice and practice grammatical structures in context.

Promoting intercultural competence and providing learners with opportunities to learn about the cultural norms and values of English-speaking countries can improve learners' cultural awareness [15]. Teachers can integrate cultural content into lessons, encourage learners to share their own cultural backgrounds and experiences, and promote

intercultural exchange and understanding in the classroom.

The following table provides a clear and concise overview of the key issues, research results, and effective strategies related to English language teaching and speaking skills.

Table 1.

Key Issue	Research Results	Effective Strategies
Vocabulary	Explicit instruction and contextualized learning lead to improved acquisition and use	Teach vocabulary in context, use visual aids and examples, provide opportunities for practice and review
Pronunciation	Focused instruction and corrective feedback lead to significant improvements in intelligibility and confidence	Provide explicit instruction and feedback, use modeling and imitation, encourage learners to self-monitor and reflect
Fluency	Regular practice and sustained engagement lead to greater fluency and confidence	Provide opportunities for conversational exchanges, scaffold speaking tasks, use role-plays and simulations
Confidence	Positive learning environment and supportive feedback lead to greater confidence and motivation	Create a safe and supportive classroom environment, provide positive feedback and encouragement, promote learner autonomy and self-efficacy
Listening skills	Authentic listening activities lead to improved comprehension and participation	Integrate listening activities into instruction, use authentic materials and situations, provide opportunities for practice and feedback
Grammar	Focusing on form leads to greater accuracy and appropriate use	Teach grammar in context, focus on meaning and communicative functions, provide opportunities for practice and feedback
Cultural awareness	Promoting intercultural competence leads to greater understanding and communication effectiveness	Teach about cultural norms and values, promote empathy and respect for diversity, provide opportunities for cross-cultural interaction and exchange

Overall, by addressing these key issues and using effective teaching techniques, teachers can help learners to improve their English speaking skills and achieve their language learning goals.

Applying the results of research on these key issues in English language teaching can lead to positive outcomes for language learners. For example:

Vocabulary: Explicit vocabulary instruction and contextualized vocabulary learning activities can lead to improved vocabulary acquisition and use, which can help learners to communicate more effectively in English.

Pronunciation: Focused pronunciation instruction, particularly in the form of corrective feedback, can lead to significant improvements in learners' pronunciation skills, which can improve their overall intelligibility and confidence when speaking English.

Fluency: Regular and sustained practice, such as through conversational exchanges, can help learners to develop greater fluency in their spoken English, which can improve their ability to communicate effectively and confidently in English-speaking contexts.

Confidence: Creating a positive learning environment and providing supportive feedback and opportunities for learner autonomy can lead to greater learner confidence in their English speaking abilities, which can improve their motivation and willingness to engage in communicative activities.

Listening skills: Integrating listening activities into English language instruction and providing learners with opportunities to practice listening in authentic contexts can lead to improved listening skills, which can improve their ability to comprehend spoken English and participate in conversations.

Grammar: Focusing on form, as opposed to grammar rules, can be effective in helping learners to develop greater accuracy in their spoken English, which can improve their ability to communicate effectively and appropriately in different contexts.

Cultural awareness: Promoting intercultural competence and providing learners with opportunities to learn about the cultural norms and values of English-speaking countries can lead to improved cultural awareness and understanding, which can improve their ability to communicate effectively and appropriately with people from different cultural backgrounds.

Incorporating these results and ideas into English language teaching can help to improve learners' English speaking skills and increase their confidence and motivation to use English in a variety of contexts.

CONCLUSION

In conclusion, effective English language teaching involves addressing key issues such as vocabulary, pronunciation, fluency, confidence, listening skills, grammar, and cultural awareness. By applying research-based strategies and techniques, teachers can help learners to improve their English speaking skills and achieve their language learning goals. By explicitly teaching vocabulary, providing focused pronunciation instruction, promoting regular practice and sustained engagement in communicative activities, creating a positive and supportive learning environment, integrating listening activities, focusing on form in grammar instruction, and promoting intercultural competence, teachers can help learners to develop greater proficiency and confidence in their spoken English. Ultimately, by addressing these key issues and implementing effective teaching strategies, teachers can help learners to achieve greater success in their English language learning journeys.

References:

1. Byram, M., & Morgan, C. (2018). Teaching-and-learning language-and-culture. In E. Hinkel (Ed.), *Handbook of research in second language teaching and learning* (Vol. 3, pp. 349-365). Routledge.
2. Derwing, T. M., & Munro, M. J. (2009). Putting accent in its place: Rethinking obstacles to communication. *Language Teaching*, 42(4), 476-490.
3. Ellis, R., & Barkhuizen, G. (2005). *Analysing learner language*. Oxford University Press.
4. Eshonkulova, S., Abduramanova, D., & Makhmudov, K. (2021). *English for Chemistry*.
5. Field, J. (2008). *Listening in the language classroom*. Cambridge University Press.
6. Kramsch, C. (1993). *Context and culture in language teaching*. Oxford University Press.
7. Long, M. H. (2015). *Second language acquisition and task-based language teaching*. John Wiley & Sons.
8. Mackey, A., & Philp, J. (1998). Conversational interaction and second language development: Recasts, responses, and red herrings?. *The Modern Language Journal*, 82(3), 338-356.
9. Makhmudov, K. S. (2021). Using writing speech in the process of teaching English grammar. *ISJ Theoretical & Applied Science*, 6(98), 709-712.
10. Mercer, S., & Ryan, S. (2010). A mindset for EFL: Learners' beliefs about the role of natural talent. *ELT Journal*, 64(4), 436-444.
11. Nation, I. S. (2001). *Learning vocabulary in another language*. Cambridge University Press.
12. Schmitt, N., & Carter, R. (2004). The lexical approach: The state of ELT and the way forward. *TESOL Quarterly*, 38(2), 235-256.
13. Swain, M. (2005). *The output hypothesis: Theory and research.*
14. Mahmudov, K. (2022). Madanijatlararo mulokotni shakllantirishda boshlanғich metodologik jondashuv. *Central Asian Research Journal for Interdisciplinary Studies (CARJIS)*, 2(11), 440-443.
15. Mahmudov, K. Sh. (2022). *Chet tilini ўkitishda madanijatlararo mulokot strategijalari*. Ta#lim tizimida innovacion faolijatni rivozhlantirishda horizhij tillarni ўkitishdan samarali fojdalanish masalalari, 324-328.

Impact Factor:					
	ISRA (India) = 6.317	SIS (USA) = 0.912	ICV (Poland) = 6.630
	ISI (Dubai, UAE) = 1.582	РИНЦ (Russia) = 3.939	PIF (India) = 1.940
	GIF (Australia) = 0.564	ESJI (KZ) = 8.771	IBI (India) = 4.260
	JIF = 1.500	SJIF (Morocco) = 7.184	OAJI (USA) = 0.350

SOI: 1.1/TAS DOI: 10.15863/TAS

International Scientific Journal

Theoretical & Applied Science

p-ISSN: 2308-4944 (print) **e-ISSN:** 2409-0085 (online)

Year: 2023 **Issue:** 03 **Volume:** 119

Published: 16.03.2023 **http://T-Science.org**

Issue Article

Gulasal Nurilloyevna Sulaymonova
Tashkent state agrarian university
Assistant

Bahrullo Fayzulloyevich G'oibov
Termez Institute of Agricultural Technologies and Innovative Development
Assistant

Sodiq Ahmad O'g'li Botirov
Termez Institute of Agricultural Technologies and Innovative Development
Assistant
sulaymonova.gulasal@tdau.uz

FOUR TYPICAL DISEASES OF APPLE TREES

Abstract*: Hawthorns, apple trees, and other members of the rose family are prone to a variety of illnesses, such as Venturia inaequalis, which can cause cosmetic harm. For small-scale farmers, prevention outweighs the use of fungicidal sprays, so it is important to improve soil drainage, provide enough spacing, and remove diseased plant parts as soon as they notice them. For large-scale growers, fungicides have varying degrees of efficiency, so check with your local county extension office first. Apple Scab is a widespread disease of apple trees caused by Podosphaera leucotricha, a fungus. Powdery Mildew is a whitish powder that covers the leaves of many garden plants, and Cedar-Quince Rust is an unusual fungus that attacks flowering quince bushes. Small-scale growers can prevent apple scab by following the spacing guidelines specified on plant labels and clearing away fallen leaves in the fall. Cedar-quince rust can be identified by the presence of rusty spots on leaves and potential for malformation and/or mottling. Phytophthora rots are mimics of a fungus called phytophthora and can target different tree sections, such as the trunk or roots. To verify the color underneath, cut away a small section of the trunk's outer bark with a sharp knife. To increase drainage, plant on landscaping berms or in raised beds rather than at ground level. Ask for a tree with a Geneva series rootstock when purchasing.*

Key words*: apple, trees, diseases, control, fungus, garden.*

Language*: English*

Citation: Sulaymonova, G. N., G'oibov, B. F., & Botirov, S. A. (2023). Four typical diseases of apple trees. *ISJ Theoretical & Applied Science, 03 (119),* 85-88.

Soi: http://s-o-i.org/1.1/TAS-03-119-17 ***Doi***: https://dx.doi.org/10.15863/TAS.2023.03.119.17

Scopus ASCC*: 1100.*

Introduction

Hawthorns (Crataegus spp.), apple trees (Malus spp), and other members of the rose family are all prone to a variety of illnesses. The good news is that these illnesses are frequently avoidable and, even when they aren't, frequently just cause cosmetic harm. Because their fruit must look attractive to be marketable, large-scale growers are unable to accept this damage; in contrast, small-scale growers are frequently more tolerant. The first step in dealing with worst-case scenarios is learning to recognize the most prevalent apple tree illnesses. But if you purchase the appropriate cultivars and or practice good horticultural cleanliness, you can completely prevent such situations.

Some of the most prevalent diseases affecting apple trees are caused by fungi. For small-scale farmers, prevention in each situation outweighs the use of fungicidal sprays to treat infected trees. It is important to improve soil drainage, provide enough spacing, and remove diseased plant parts as soon as you notice them in order to prevent the spread of fungi from unhealthy plants to healthy ones.

Large-scale growers, however, frequently have to use fungicides, which have varying degrees of efficiency. While spraying schedules might be tricky, if you do decide to employ a fungicidal treatment, check with your local county extension office first. In addition to maintaining a clean garden by raking up leaves in the fall, you can avoid some of these fungal diseases by choosing the right plants.

The fungus that causes apple scab is called Venturia inaequalis. Early spring to mid-spring is when you'll notice the first indication of apple scab, which appears as a lesion on the tree's fresh leaves. The lesion will be darker than the leaf; lesions on the top of the leaf, which is a darker green, will be black, while lesions on the underside of the leaf, which is light green, will be olive in color.

Pic. 1. Apple Scab.

Apple Scab. In the summer, infected leaves may completely fall off. The apples will also have scabby, black blemishes if the tree is still able to yield fruit. The apples are frequently still edible, which is fortunate: Simply remove the skin before consuming.

Although the simple lack of surveillance and inadequate hygiene are the root causes of apple scab, small-scale growers can easily prevent it. A tiny infestation may even go undiscovered in the beginning. The actual issue arises when contaminated leaves that fall to the ground at the conclusion of the growing season are allowed to stay there during the entire winter.

This dead, diseased foliage is where Venturia inaequalis spends the winter and uses it as a base to invade the following spring. The optimal circumstances for this invasion are rainy conditions. Blowing up onto the young leaves are fungal spores that contaminate them.

Powdery Mildew. Podosphaera leucotricha, a fungus, is the cause of this widespread disease of apple trees. Even if you've never grown apples, you definitely know about this disease because powdery mildew attacks popular ornamental plants, including garden phlox (Phlox paniculata). Your plant won't likely die from it, but it will lose strength. Given its name, powdery mildew is the whitish powder that covers the leaves of many of your garden plants, it is simple to identify.

Pic. 2. Powdery Mildew.

Even if you weren't aware of it, the garden from the previous years can be the source of powdery mildew if you have it. The fungus survives the winter in dead, diseased leaves. Spores are either carried up by insects or blow up onto healthy leaves to infect them. While a pounding rain can send the spores soaring up to your tree's leaves, even a strong storm may be to blame.

Follow the spacing guidelines specified on your plant labels to maintain proper air circulation as a preventative measure in addition to clearing away fallen leaves in the fall. Avoid watering from above as well.

Cedar-Quince Rust. This unusual fungus, whose official name is Gymnosporangium clavipes, needs a host plant to attack your apple trees. For instance, flowering quince bushes (Chaenomeles speciosa, another member of the rose family) can act as hosts if you grow them in your landscape. From there, it will spread to your apple trees.

Pic. 3. Cedar-Quince Rust.

Cedar-quince rust can be identified by the presence of rusty spots on your tree's leaves as well as by the apples' potential for malformation and/or mottling. If you cultivate a plant that can act as a host, you need also watch out for rust galls, which produce orangey-rusty "horns" in the spring and release the spores that will infect your apple trees.

Phytophthora Rots. A disease that mimics a fungus called phytophthora weakens trees. It can target different tree sections, such as the trunk or roots. Do the same test to determine whether an arborvitae

shrub (Thuja) is alive or dead if you think your apple tree might be infected with a Phytophthora illness. To verify the color underneath, carefully cut away a small section of the trunk's outer bark with a sharp knife. Here, infected wood is orange or brown; healthy wood is green.

This illness is frequently brought on by contamination, which can be from irrigation water, soil you've brought onto the land, or even the plant itself (if you didn't get it from a reputable nursery). Take moisture-related precautions as you would for fungus prevention as part of your prevention efforts, in addition to being cautious to avoid contamination (since Phytophthora, too, thrives in moist conditions). To increase drainage, for instance, plant on landscaping berms or in raised beds rather than at ground level. Ask for a tree with a Geneva series rootstock when purchasing; it will have higher resistance.

References:

1. Bowen, J. K., Mesarich, C. H., Bus, V. G., Beresford, R. M., Plummer, K. M., & Templeton, M. D. (2011). Venturia inaequalis: the causal agent of apple scab. *Molecular plant pathology*, 12(2), 105-122.
2. MacHardy, W. E., & Gadoury, D. M. (1989). A revision of Mills' s criteria for predicting apple scab infection periods. *Phytopathology*, 79(3), 304-310.
3. Petkovsek, M. M., Stampar, F., & Veberic, R. (2007). Parameters of inner quality of the apple scab resistant and susceptible apple cultivars (Malus domestica Borkh.). *Scientia Horticulturae*, 114(1), 37-44.
4. Hückelhoven, R., & Panstruga, R. (2011). Cell biology of the plant–powdery mildew interaction. *Current opinion in plant biology*, 14(6), 738-746.
5. Hückelhoven, R. (2005). Powdery mildew susceptibility and biotrophic infection strategies. *FEMS Microbiology Letters*, 245(1), 9-17.
6. Jørgensen, J. H., & Wolfe, M. (1994). Genetics of powdery mildew resistance in barley. *Critical Reviews in Plant Sciences*, 13(1), 97-119.
7. Urbina, H., Jones, C., de la Paz, A., & McVay, J. D. (2022). First report of cedar-quince rust Gymnosporangium clavipes on fruit of dwarf hawthorn Crataegus uniflora in Florida, USA. *Plant Disease*, 106(12), 3204.
8. Hartman, J., Fulcher, A., & Bowers, H. (2013). *W289-F IPM QuickFacts Series: Rust Diseases*.
9. Kelley, R. D., & Laemmlen, F. F. (1980). *Cedar-Apple Rust. Cooperative Extension Service*, Michigan State University.
10. Powell, C. C., & Sydnor, T. D. (1985). *Diseases of Landscape Ornamentals*. Slide Script.

Impact Factor:					
	ISRA (India) = 6.317	SIS (USA) = 0.912	ICV (Poland) = 6.630
	ISI (Dubai, UAE) = 1.582	РИНЦ (Russia) = 3.939	PIF (India) = 1.940
	GIF (Australia) = 0.564	ESJI (KZ) = 8.771	IBI (India) = 4.260
	JIF = 1.500	SJIF (Morocco) = 7.184	OAJI (USA) = 0.350

SOI: 1.1/TAS DOI: 10.15863/TAS

International Scientific Journal

Theoretical & Applied Science

p-ISSN: 2308-4944 (print) **e-ISSN:** 2409-0085 (online)

Year: 2023 **Issue:** 03 **Volume:** 119

Published: 20.03.2023 **http://T-Science.org**

Issue Article

Marina Alania
Alte University, Business School
Professor

Nino Grigolaia
Alte University, Business School
Professor

CONSUMER PSYCHOLOGY AND PRICING

Abstract: *Pricing policy involves determining the threshold price of goods, as well as positioning them within the selected price category.*

Companies are trying to adapt their prices to different customers and changing situations. From this point of view, psychological pricing, or the strategy of creating a psychological effect, is of particular interest in pricing policy.

Psychological pricing policy involves the use of psychological methods in determining product prices, as well as price adjustments based on the analysis of consumer behavior.

Determining the characteristics of consumer price perception is an important marketing priority. There are three main aspects here: comparative prices, the relationship between price and quality, and end of prices.

Psychological pricing refers to methods that sellers use to encourage consumers to react emotionally, rather than logically or practically. Its goal is to increase demand, creating the illusion of greater benefits for the consumer. Although the difference is insignificant, the effect of this trend is due to the fact that consumers pay more attention to the first number than the last.

Key words: *Price, pricing policy, pricing, psychological pricing, discount.*

Language: *English*

Citation: Alania, M., & Grigolaia, N. (2023). Consumer Psychology and Pricing. *ISJ Theoretical & Applied Science, 03 (119)*, 89-92.

Soi: http://s-o-i.org/1.1/TAS-03-119-18 ***Doi***: crossref https://dx.doi.org/10.15863/TAS.2023.03.119.18

Scopus ASCC: *2000.*

Introduction

People often claim that "everything what is good is expensive". I wonder how true this point of view is. Can not a high-quality and good product just be cheap? In everyday life, this myth is often destroyed, because an expensive product may not be what we imagined, and conversely, a cheap product may surprise us. Thus, it is important to know what determines the price of a product. How is the price formed? [6]

From the elements of the marketing mix, the price is the only one that provides a real income for the company. The market price is not an independent variable. The price level depends on the implementation of other elements of the marketing mix, as well as on the level of competition and the state of demand.

When setting prices for its goods and services, the company must implement the correct pricing policy, that is, the basic principles that determine the volume of sales of specific goods.

The company will develop a pricing strategy based on product characteristics, possibility to change prices, production conditions (costs), market conditions, supply and demand ratios. The company can choose a passive strategy of prices according to the price leader or a large number of manufacturers in the market, or try to implement an active pricing strategy that puts its own interests first. Moreover, the choice of pricing strategy largely depends on whether the company offers a new, modified or traditional product on the market. [7]

The main goal of pricing policy in marketing is to maximize profits at a given volume of sales per unit

of time. When developing a pricing policy, each company independently determines the tasks to be solved, which can be diametrically different. For example: 1. maximizing the price - when the image of the product is more important than the volume of sales (to artificially limit demand, due to the impossibility of satisfying it); 2. Maximization of sales volume - when market maintenance is more important than profits (for market maintenance or acquisition); 3. Increasing competitiveness - when the volume of sales is determined by price (when selling goods characterized by high elasticity of demand), etc.

Thus, the main feature of pricing policy in marketing is its application in order to make a profit. Two sides of the coin are important here. Profit can be made either by raising the price to increase profits (which leads to a loss of buyers), or by lowering the price to attract buyers (which leads to a loss of profitability). The task of marketing is to choose the best price option. A good rule to keep in mind when setting a price for a company's products is that consumers will not buy a product if the price is too high, but the business will not be able to cover costs if the price is too low. [8]

The main part.

There are usually three price categories used in the market: high (implies a high price and a relatively high profit per unit of goods), medium (implies an average price, goods of average quality and an average level of profit. Sellers of goods in this category do not claim the price of the leader and are focused on mass buyers) and low (means low price, low quality and lack of funds for product promotion), which determine the features of pricing policy and pricing strategies for positioning the goods. In addition, in marketing, they choose the price for two types of goods. These are: 1. the base price or the price that the seller is focused on. Below this price, the seller will not sell his goods, otherwise he will lose competitiveness in the market; 2. a fair price, or the price that the buyer is focused on and which exists in the form of a stereotype in his mind. A fair price, regardless of its subjectivity, has a certain influence on the behavior of buyers. They will only pay above this price if there are unique features.

The main function of pricing policy is to ensure the maximum difference between the fair price in the minds of consumers and the basic price of the seller. The greater the difference, the greater the cumulative profit due to a decrease in price and an increase in sales or an increase in price and profit per unit of production.

Pricing policy in marketing includes two interdependent components - pricing policy and price management policy.

Pricing policy involves determining the threshold price of goods, as well as positioning them within the selected price category (in terms of the price level). Pricing is carried out taking into account the assortment and quality of the product, its usefulness, importance, consumer demand, competitors' activities, as well as prices for similar goods and substitutes.

Pricing policy is more relevant for the promotion of new or renewed goods, as well as old goods in new markets. After the product is put on the market and positioned in the minds of consumers, the importance of pricing policy drops sharply. Here, the policy of price management comes to the fore.

Strategic price management is carried out in two main directions: 1. by raising the price in the case when the product has no analogues and the sales market is so small that buyers refuse to buy; 2. by lowering the price when the sales market is so large and the prices of competitors are so high that the total profit from the price promotion of sales cannot cover the losses caused by the low price.

Tactical price management is carried out with the help of discounts and price discrimination of buyers.

Price management measures are diverse and include various price categories, price regulation, various discount systems, etc. [3]

The company's managers believe that the pricing process is complicated and is becoming more problematic every day. Many companies are unable to ensure proper pricing policy and carry out the following strategy: determines its own costs and adds them to the average rate of profit in the industry. In addition, other errors are common. Price adjustments are not frequent enough, which does not allow taking into account changes created in the market. Prices are set independently of other elements of the marketing mix. Instead of considering them as an integral part of the market positioning strategy, pricing ignores the features of various products, market segments, sales channels and purchase situations. [1]

The price speaks about the product. For example, many consumers judge quality by price. A $100 perfume bottle may contain a $3 fragrance, but some people are willing to pay $100 just because that price tag represents something special.

Companies are trying to adapt their prices to different customers and changing situations. From this point of view, psychological price formation, i.e. a strategy for creating a psychological effect, which takes into account not only the basics of economics, but also the psychology of price, is of special interest in price policy.

Psychological pricing policy involves the use of psychological methods in determining product prices, as well as price adjustments based on the analysis of consumer behavior. [4]

This creates a certain idea about the product. For example, who is the best lawyer, the one who charges $50 an hour, or the one who charges the client $500 for the same period of time? To answer this question, we need to objectively examine the merits of the

relevant lawyer, although we probably won't be able to determine this question with certainty. We just assume that a highly paid lawyer is better.

Some psychologists even claim that each number carries a symbolic and visual load, which must be taken into account when pricing. For example, 8 is round, even and creates the effect of truth, while 7 is angular and creates a disharmonious effect. [2]

Effective development and implementation of a pricing strategy for any organization requires a deep understanding of the psychology of customer pricing and a systematic approach to pricing, adaptation and change.

Consumers make purchase decisions based on their perception of the price, that is, on what they consider the actual current price, and not on the price offered by the marketer. Consumers may have a lower price threshold below which the product is perceived as of unacceptable quality, and an upper threshold above which consumers consider the price too high and not worth paying for the product. Determining the characteristics of consumer price perception is an important marketing priority. There are three main aspects here: comparative prices, the relationship between price and quality, and end of prices.

Although consumers may be well versed in the price range of a particular product, surprisingly few people can accurately recall a specific price. Instead, when consumers choose a product, they often use comparable prices. At this time, they compare the stated price of the product with an internal comparable price (the price in their memory) or an external comparable price (for example, what they call the "regular retail price"). [1]

When a consumer buys something, most of the time he does not have complete information about how good the price he pays for it is. Consumers don't have the time, opportunity, or inclination to compare different brands, stores, or prices and choose the best options. In return for, they rely on certain signals to determine how low or high the price is. As a rule, such price signals are provided by discount signs, guarantees of the quality of goods at a price, the ability of the store to attract customers, opportunities to sell goods cheaply and other necessary mechanisms. [2]

There are many types of price comparisons, and sellers often try to manipulate them. For example, a seller can position his product among expensive competing products to show that it also belongs to the same class. Department stores offer women's clothing in different departments, in which prices are differentiated. A relatively expensive clothing department should probably sell high-quality dresses. Marketers contribute to the development of comparative price considerations by pointing to the prices recommended by manufacturers, as well as to the initial prices or prices offered by competitors at a higher level.

When consumers apply such discount systems, their perceived price may differ from the set price. Studies show that unpleasant surprises (when the perceived price is lower than the proposed one) have a greater impact on the purchase decision than pleasant surprises. Consumer expectations can also play an important role in price reaction.

Professional marketers try to set prices in such a way as to show consumers the best possible value. For example, a relatively expensive product may seem less expensive if it is broken down into smaller parts.

Many consumers perceive price as an indicator of quality. Image pricing is particularly effective for products such as perfumes, luxury cars and designer clothing. A $100 perfume bottle may actually cost as little as $10, but customers who buy it as a gift show respect for the recipient of the gift at that price.

The perception of the price of a car and its quality are interrelated. Expensive cars are perceived as high-quality. Also, relatively high-quality cars are perceived as expensive, but in fact this is not always the case. When the consumer has the opportunity to get additional information about the actual quality, the importance of price as an indicator of quality decreases. In the case when such information is not available, the price is the main indicator of quality.

Some manufacturers artificially create a shortage of their products in order to justify the uniqueness and high price. Manufacturers of precious watches, jewelry, perfumes and other luxury goods often emphasize the uniqueness of their products in their communication and distribution strategies. For luxury buyers who demand a unique product, prices may raise as demand increases, as marketers believe that fewer and fewer people can afford such goods.

According to many sellers, the price should end with an odd number. For example, a $299 product is perceived by consumers as being closer to the $200 threshold than to the $300 threshold. It looks like they're taking prices from left to right rather than rounding them up. Therefore, the coded price is important because the rounding level is perceived as an upper limit below which consumers are not willing to pay. Another reason for the popularity of prices ending at 9 is that such a price is perceived as reduced. Therefore, a company trying to create a valuable brand image should avoid the tactics of specifying prices for an odd number.

Companies operating in Georgia, such as: “LC WAIKIKI’, “KOTTON”, “DEFACTO”, adhere to a cost-based pricing strategy. These brands, which create affordable products for everyone, use prices rounded up to 9. We can say that almost the entire range is presented at such prices. As for holidays, as well as seasonal discounts, quantitative discounts are mainly applied, in particular, for three units of goods at the price of two. It often happens that, despite the low price, the quality of the product is quite high.

Prices ending in 0 and 5 are popular because they are easy to remember. It has been established that a sign on which the inscription "discount" is made along the price increases demand if it is not used excessively: the maximum sales figure within a product category is achieved when only a few products in this category have a discount sign; after a certain threshold, the use of a discount sign can reduce the total sales in this category.

Discount signs and prices ending in 9 are advantageous when buyers are not very well aware of prices, goods are sold rarely or are new to this category, and the design of the goods often changes, prices fluctuate seasonally or the quality and size of the goods vary from store to store. However, it should be noted that these methods, when used frequently, are less effective. Promotions that are limited in time (for example, "only for three days") can increase sales among customers who regularly buy this product. [1]

The following companies operate in the pharmacy market of Georgia: "Aversi", "Evex", "JPC", "Pharmadepot", which actively use the so-called "Collectible cards", as well as discounts with various percentages, on pre-determined days of the week.

From supermarket chains “Ori Nabiji”, “Spar”, “Magnit”, “Carrefour”, “Nikora” attract attention by such methods of psychological modeling as "discount cards" and "goods of the day". The “Magnit” supermarket chain adheres to a slightly different strategy, which offers a 20 percent discount on a certain group of products every day of the week [5].

Conclusion.

Psychological pricing refers to methods that sellers use to encourage consumers to react emotionally, rather than logically or practically. Its goal is to increase demand by creating the illusion of greater value for the consumer (for example, when the price of a product is 9.99 instead of 10). Although the difference is insignificant, this trend is due to the fact that consumers pay more attention to the first number than the last.

References:

1. Kotler, Ph., & Keller, K. (2015). *Marketing Management. Translated from English under the leadership of Prof. N. Todua,* (p.361). Tbilisi University Publishing House.
2. Kotler, Ph., & Armstrong, G. (2015). *Basics of Marketing. 14th edition, translated from English*. Tbilisi: Bakur Sulakauri Publishing House.
3. (n.d.). Retrieved from https://hr-portal.ru/article/cenovaya-politika-v-marketinge
4. (n.d.). Retrieved from https://www.banki.ru/wikibank/tsenovayapolitika
5. (n.d.). Retrieved from https://www.geostat.ge
6. (n.d.). Retrieved from https://www.marketinghouse.ge/different-brands-on-the-principle-of-pricing/
7. (n.d.). Retrieved from https://giropark.ru/ka/livnevaya-kanalizaciya/cenovaya-strategiya-ponyatie-cenovoi-politiki.html
8. (n.d.). Retrieved from https://ka.warbletoncouncil.org/estrategia-de-precio-15152

Contents

18. **Alania, M., & Grigolaia, N.** 89-92
Consumer Psychology and Pricing.

Scientific publication

«ISJ Theoretical & Applied Science, USA» - Международный научный журнал зарегистрированный во Франции, и выходящий в электронном и печатном формате. **Препринт** журнала публикуется на сайте по мере поступления статей.

Все поданные авторами статьи в течении 1-го дня размещаются на сайте **http://T-Science.org**.

Печатный экземпляр рассылается авторам в течение 3 дней после 30 числа каждого месяца.

Импакт фактор журнала

Impact Factor	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
JIF		1.500								
ISRA (India)		1.344				3.117	4.971		6.317	
ISI (Dubai, UAE)	0.307	0.829							1.582	
GIF (Australia)	0.356	0.453	0.564							
SIS (USA)	0.438	0.912								
РИНЦ (Russia)		0.179	0.224	0.207	0.156	0.126		3.939	0.671	
ESJI (KZ)		1.042	1.950	3.860	4.102	6.015	8.716	8.997	9.035	8.771
SJIF (Morocco)		2.031				5.667			7.184	
ICV (Poland)		6.630								
PIF (India)		1.619	1.940							
IBI (India)			4.260							
OAJI (USA)						0.350				

Deadlines

	Steps of publication	Deadlines	
		min	max
1	Article delivered	-	
2	Plagiarism check	1 hour	2 hour
3	Review	1 day	30 days
4	Payment complete	-	
5	Publication of the article	1 day	5 days
	publication of the journal	30th of each month	
6	doi registration	before publication	
7	Publication of the journal	1 day	2 days
8	Shipping journals to authors	3 days	7 days
9	Database registration	5 days	6 months

INDEXING METADATA OF ARTICLES IN SCIENTOMETRIC BASES:

International Scientific Indexing ISI (Dubai, UAE)
http://isindexing.com/isi/journaldetails.php?id=327

Cl.An. // THOMSON REUTERS, EndNote (USA)
https://www.myendnoteweb.com/EndNoteWeb.html

Research Bible (Japan)
http://journalseeker.researchbib.com/?action=viewJournalDetails&issn=23084944&uid=rd1775

Scientific Object Identifier (SOI)
http://s-o-i.org/

РИНЦ (Russia)
http://elibrary.ru/contents.asp?issueid=1246197

Google Scholar (USA)
http://scholar.google.ru/scholar?q=Theoretical+t-science.org&btnG=&hl=ru&as_sdt=0%2C5

Turk Egitim Indeksi (Turkey)
http://www.turkegitimindeksi.com/Journals.aspx?ID=149

Directory of abstract indexing for Journals
http://www.daij.org/journal-detail.php?jid=94

DOI (USA) http://www.doi.org

CrossRef (USA) http://doi.crossref.org

Open Academic Journals Index (Russia)
http://oaji.net/journal-detail.html?number=679

Japan Link Center (Japan)
https://japanlinkcenter.org

Kudos Innovations, Ltd. (USA)
https://www.growkudos.com

AcademicKeys (Connecticut, USA)
http://sciences.academickeys.com/jour_main.php

Cl.An. // THOMSON REUTERS, ResearcherID (USA)
http://www.researcherid.com/rid/N-7988-2013

RedLink (Canada)
https://www.redlink.com/

TDNet
Library & Information Center Solutions (USA)
http://www.tdnet.io/

RefME (USA & UK)
https://www.refme.com

Collective IP (USA)
https://www.collectiveip.com/

PFTS Europe/Rebus:list (United Kingdom)
http://www.rebuslist.com

Korean Federation of Science and Technology Societies (Korea)
http://www.kofst.or.kr

Sherpa Romeo (United Kingdom)
http://www.sherpa.ac.uk/romeo/search.php?source=journal&sourceid=28772

Cl.An. // THOMSON REUTERS, ORCID (USA)
http://orcid.org/0000-0002-7689-4157

Yewno (USA & UK)
http://yewno.com/

Stratified Medical Ltd. (London, United Kingdom)
http://www.stratifiedmedical.com/

THE SCIENTIFIC JOURNAL IS INDEXED IN SCIENTOMETRIC BASES:

Advanced Sciences Index (Germany)
http://journal-index.org/

SCIENTIFIC INDEXING SERVICE (USA)
http://sindexs.org/JournalList.aspx?ID=202

Global Impact Factor (Australia)
http://globalimpactfactor.com/?type=issn&s=2308-4944&submit=Submit

CiteFactor (USA) Directory Indexing of International Research Journals
http://www.citefactor.org/journal/index/11362/theoretical-applied-science

JIFACTOR
http://www.jifactor.org/journal_view.php?journal_id=2073

Eurasian Scientific Journal Index (Kazakhstan)
http://esjindex.org/search.php?id=1

SJIF Impact Factor (Morocco)
http://sjifactor.inno-space.net/passport.php?id=18062

InfoBase Index (India)
http://infobaseindex.com

Электронно-библиотечная система «Издательства «Лань» (Russia)
http://e.lanbook.com/journal/

International Society for Research Activity (India)
http://www.israjif.org/single.php?did=2308-4944

International Institute of Organized Research (India)
http://www.i2or.com/indexed-journals.html

Journal Index
http://journalindex.net/?qi=Theoretical+%26+Applied+Science

Open Access Journals
http://www.oajournals.info/

Indian citation index (India)
http://www.indiancitationindex.com/

Index Copernicus International (Warsaw, Poland)
http://journals.indexcopernicus.com/masterlist.php?q=2308-4944

Signed in print: 30.03.2023. Size 60x84 1/8

«Theoretical & Applied Science» (USA, Sweden, KZ)
Scientific publication, p.sh. 25.0. Edition of 90 copies.
http://T-Science.org E-mail: **T-Science@mail.ru**

Printed «Theoretical & Applied Science»