

**SOI: 1.1/TAS**

**DOI: 10.15863/TAS**

**Scopus ASJC: 1000**

**ISSN 2308-4944 (print)**

**ISSN 2409-0085 (online)**

**№ 01 (81) 2020**

**Teoretičeskaâ i prikladnaâ nauka**

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**Theoretical & Applied Science**



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**Philadelphia, USA**

**Teoretičkaâ i prikladnaâ  
nauka**

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**Theoretical & Applied  
Science**

**01 (81)**

**2020**

# 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](mailto:T-Science@mail.ru)

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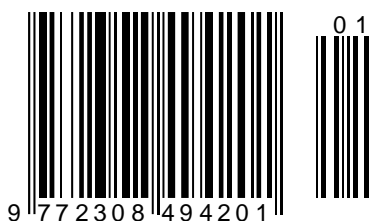
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ISSN 2308-4944



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ISJ Theoretical & Applied Science, 01 (81), 812.  
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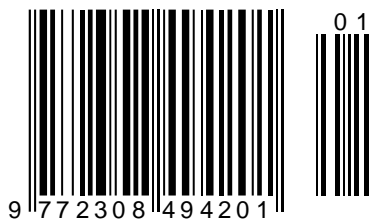
**Impact Factor ICV = 6.630**

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ISSN 2308-4944



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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: 2020 Issue: 01 Volume: 81

Published: 18.01.2020 <http://T-Science.org>

QR – Issue



QR – Article



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## NEW VARIETY OF FIG RESISTING TO DRYNESS AND COLD TEMPERATURES COMPARED TO VARIETIES OF AL-NAJAF IN MIDDLE ARIA OF IRAQ

**Abstract:** This variety of fig was found in one of the mountains that located about 25 KM northeast country Mayame in Mashhad Governorate in Iran at 25 October 2018 .It was compared with three varieties of fig that grown in a private orchard in Abbasyia , Najaf Governorate they were Aswod Diala , Waziri and Kadota to investigate the effect of variations on some characters of leaves and fruits in the month October. Results showed that cv. Iranian have the best result of studied characteristics in the percentage of total soluble solids, vitamin C , titratable acidity ,total sugar , antioxidant capacity , firmness of fruits and length of fruit / diameter of fruit ( fruit shape ). Also it was gave the lowest rats of leaf aria , petiole length and ostiolum diameter of fruits compared with another three fig cultivars. The seedling fig trees cv. Iranian that planted in Abbasyia gave the highest rates of number leaves and length of seedling but it were lower leaf aria , percentage yellowness of leaves , percentage drop of leaves in the last of month November for season 2019 and resisting to cold temperatures and dryness comported with local seedling fig trees that grown in this location .

**Key words:** Fig *Ficus carica* L., dryness, cold temperatures.

**Language:** English

**Citation:** Al- Hameedawi, A. M. S., & AL-Sharea, R. J. A. (2020). New variety of fig resisting to dryness and cold temperatures compared to varieties of AL-Najaf in middle aria of Iraq. *ISJ Theoretical & Applied Science*, 01 (81), 101-107.

**Soi:** <http://s-o-i.org/1.1/TAS-01-81-19> **Doi:** <https://dx.doi.org/10.15863/TAS.2020.01.81.19>

**Scopus ASCC:**

### Introduction

The fig trees cv. Aswad Diala, Waziri and Kadota were important in the middle section of Iraq . The fig trees are medium in size aria , fruits are medium to small size and the color is black to yellow green . The fruits are not good for drying in the variety of Aswad Diala and Waziri . Its belongs to normal fig group *Ficus carica* var.hortensis(AL – Hameedawi , 2015 ). Fig trees (*F. carica* L.) are among the earliest cultivated fruit trees in the world (Solomon et al ., 2006) . Although its origin is not entirely known, *F. carica* is thought to have originated in western Asia and from there slowly spread through the Mediterranean region., the fig tree is one of the oldest

cultivated plants in the world and the oldest species of fruit tree, could play an important role ,where it believed that its origin is Arabian peninsula and Spread to the subtropical regions (Stover et al., 2007). The common fig (*Ficus carica* L.) is a subtropical, deciduous fruit tree (Botti et al., 2003) belonging to the Eusyce subgenus of the Moraceae family (Mars, 2003). Figs are cultivated in most Mediterranean-type climates, Fig cultivars generally have low chilling requirements and figs grown in hot desert areas with winter temperatures above to 10°C, do not enter an end dormant period or shed their °6 leaves (Flaishman et al., 2008). The fig is one of the few deciduous species in the genus , and young trees of it are barely

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deciduous the rest period is so slight that new shoots will start very soon after the leaves are off or before all leaves are off, if there have been a few weeks of chilling weather (Gerber, 2010). Trees of fig cv. Aswad Diala cv. treated with and periods of irrigation was decreased the leaf area, total chlorophyll, shoot length, number of shoot, humidity of fruit, percentage of potassium, percentage of nitrogen, type of cracklings and total cracking and increased the firmness of fruit, calcium pectate, percentage of calcium, anthocyanine pigment in fruit peel, total soluble solid and vitamin C significantly compared to control treatment. (AL-Hameedawi et al., 2018). The pruning fig cv. Kadota and spraying with Zeatin treatments and their combination caused a significant increase in the leaf area, percentage of carbohydrates and nitrogen in the branches, number, length, diameter and number of fruit nodes of branches, the duration of the vegetative buds open until the fall of leaves and decreased the duration of fall of leaves until open the vegetative buds to another season compared with control treatment (AL-Hameedawi and AL-Shemmeriyi, 2012). A mature tree which has lost all of its leaves and becomes totally dormant can withstand much cooler temperatures than a rapidly growing tree at the time of first frost. Reduce watering in the fall of the year to reduce growth and encourage the onset of dormancy, spraying trees of fig cv. Kadota with flaxseed oil, Gropogress and Thidiazuron led to increase the percentage of bud break, number of days to bud break, leaf area, Length petiole, number of shoot, length of shoot, fruit weight, total yield, percentage of total soluble solid (T.S.S), Vitamin C, fruit firmness and antioxidant capacity of fruits and reduced the percentage of total cracking of fruits compared with control treatment (AL-Hameedawi, 2016). A fully dormant fig tree can withstand temperatures as low as 10 degrees. In areas where temperatures drop into the teens or twenties, additional cold protection is important for young trees (Jundi, 2003). Fig trees adapt to different soils, but the most appropriate are those of clayey-sandy texture, rich in organic matter and pH ranging from 6.0 to 6.8. In poorly drained soils, there might be root rots while in those excessively dry, plants remain under a resting state, developing few leaves and not producing fruits. Despite the irrigation importance for the achievement of greater yield and fruits of better quality (Synovate, 2004), there are few studies in the literature on the irrigation management of fig trees, (Kong et al., 2013). Leonel and Tecchio (2010) studied the effect of different irrigation levels on fig trees in the region of IlhaSolteira, São Paulo State and concluded that the applied levels promoted positive effects on the yield of ripe fruits, total yield, branch length, and length and diameter of ripe fruits, recommending the application of 75% of Class A pan evaporation. when evaluating the pruning effect,

either in the presence or absence of irrigation, from July to October, concluded that the irrigation practice promoted higher harvest numbers and expansion of the production cycle. Most fig tree roots are close to the soil surface and can easily dry out, for these reasons, apply water to the trees as drying develops. Irrigation the fig trees cv. Aswad Diala every 7 days in summer the gave the lowest growth vegetative and yield compared with control treatment (AL-Hameedawi, 2019). Some local cultivars of fig grown in Mashhad Governorate, Varamin city in Iran were Bidaneh, Paizeh, Zard, Siah bolol riz, Siah zoodras, Siah diras, Morabaii, Hallavi riz and Hallavi dourousht. In the phenological characteristics, fresh fruit weight ranged from 8.0 to 43.5 g. Fruit diameter ranged from 21 to 45 mm, the total amount of sugar ranged from 9.8 to 18.9%, the amount of total soluble solid ranged from 13.3 to 28.50%. In addition also skin color, internal color and skin cracks were investigated. This study suggests that Varamin fig germplasm is diverse. Cluster analysis also allowed to clustering of nine cultivars into two main groups at near 20 of dissimilarity level (Darjazi, 2011). The main objective of this investigation is to study some vegetative growth and fruits characterize of Iranian fig and compared to varieties of AL-Najaf.

### Materials and methods

This study was conducted in one mountain that distance about 25 KM northeast country Mayame in Mashhad Governorate in Iran in 25 October 2018 on fig trees cv. Iranian, three at same size and growth trees were selected about 5 years of age, that planted creeping morphology form at rise 60 cm on (5 x 5 m). The trees were preservation of leaves and fruits despite on lowering temperatures which reached to 3C<sup>0</sup> in this month and the temperatures of summer to go pass 40C<sup>0</sup> and lower humidity and no rains during months (June, July and August), Table (2). The texture of the soil of mountains of this area is Sand Silt Clay the physical and chemical properties of the experimental soil are presented in Table (1). The mountains to rise about 300-600 m from level of valley (Figure 1 and 2). Most of plants of this area prickly alhagi and favash which planted in bottom of valley. There were no spring near from this shrubs. This variety was compared with three varieties of fig that grown in a private orchard at Abbasyia, Najaf Governorate they were Aswad Diala, Waziri and Kadota to investigate the effect of variations and location on some characters of leaves and fruits in October 2018. 3 at same size and growth trees for each cultivars were selected with 8 years of age, that planted on (5 x 5 m.), they watered every five days, and fertilized by Nitrogenous and phosphoric in two periods in March and May of each year at a rate of 500 g. per tree, as well as by manure for the years. The experiment included 3 treatments with three replicates and the replicate one tree. 18 hardwood

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cuttings every varieties of fig trees cv. Iranian, Aswod Diala , Waziri and Kadota 20-30 cm long and 0.7-0.9 cm thick taken from 1-2 year-old shoots in 4 February and planted in 14 February on two sides of stream with 3 replications 6 cuttings on replications in a private orchard at Abbasyia and irrigated every 15 days . This cuttings of fig trees cv. Iranian growing and reaching to 110 cm long at last of month November and leaves of this seedling remained green color compared with local seedling cv. Aswod Diala , Waziri and Kadota that grown in this location (Figure 3) . It is a doted according to Randomized Complete Block Design (RCBD) , and the results were statistically analyzed according to Duncan test at the probability level of 5% (Duncan , 1955) . Leaf aria cm<sup>2</sup>, Number lobate,

Length petiole cm , Deep of lobate cm ,diameter of fruit cm ,length of fruit cm , length of fruit/ diameter of fruit ( fruit shape ) , according to ( Ibrahim , 2010). Ten normal fruits were taken at random in 25-30/ 11/ 2018 from each tree for quality determination. The juice was extracted and the total soluble solids were determined by hand refract meter. Total chlorophyll in leaves mg / 100g FW ,%Total and reducing sugar , % Titratable acidity , and vitamin C mg /100 ml Juice according to ( A.O.A.C , 1985 ) . Ostiolum diameter mm ,Firmness was measured on two sides of each fruit with an Effegi penetrometer (Model NI , McCormick Fruit Tech ,Yakima ,WA) Fitted with an 11.1mm tip . Antioxidant capacity was determined to previous work (Crisosto and Crisosto, 2001) .

**Table 1: Some physical and chemical properties of the soil of trees in country Mayame .**

Clay%	40
Silt %	16
Sand %	44
Texture soil	Sand Silt Clay
pH	7.56
Ec dsm-1	0.84
Available N meg/l	1.22
Available P meg/l	1.15
Available K me mol/l	1.30
Available Mg me mol/l	1.78
Available Ca meg/l	1.32
Available Fe meg/l	6.4
Available Zn meg/l	0.55
CO <sub>3</sub> HCO <sub>3</sub> meg/l	3.76
SO <sub>4</sub> meg/l	2.11
Na meg/l	1.90
Organic matter %	5.28

**Table 2: The range of maximum , minimum temperatures, number days of rain and Number days of ice of Mashhad Governorate in years 2014- 2018.**

	January	February	March	April	May	June	July	August	Septembe	October	November	December
Max.Tem	12°C	12°C	17°C	22°C	28°C	33°C	37°C	34°C	33°C	23°C	16°C	13°C
Min.Tem	-4°C	-6°C	4°C	8°C	13°C	15°C	17°C	13°C	10°C	3°C	-1°C	-3°C
Number days of rain	8	2	7	5	8	0	0	0	0	2	5	7
Number days of ice	3	5	1	1	0	0	0	0	0	0	2	4



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**Figure 1**



**Figure 2**

**Figure( 1and 2) : Fig trees cv. Iranian in one mountain of country Mayame in Mashhad Governorate in Iran in 25 October 2018, the maximum temperatures was 11°C and minimum temperatures 3°C .**



**Figure 3: The seedling fig trees cv. Iranian that planted in a private orchard in Abbasyia , Najaf Governorate comported with local seedling fig trees with leaves became yellow color and dropping at 30 November 2019 ,the maximum temperatures was 22°C and minimum temperatures 7°C .**

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### Results and discussion

#### 1- Leaf area , Total chlorophyll , Number lobate , Length petiole and Deep of lobate .

Data in Table (3) shows that, a significantly differences between treatments in leaf area , total chlorophyll , number lobate , length petiole and deep lobate and the Cultivar Aswod Diala gave the highest rates of leaf area , total chlorophyll, number of lobate, length petiole and deep lobate in leaves they were (160.85cm<sup>2</sup> , 122.90 mg / 100 mg wet weight, 5 , 11.62 cm and 7.79 cm ) comparison with lowest rates (111.43 mg / 100 mg wet weight, 3 , 5.43 cm and 3.98 cm ) respectively in cultivar Waziri . The leaf area , total chlorophyll , number lobate and length petiole are genetic characters which involve in the relation of each of the four cultivars (Salvatava, 2006) .

#### 2- Total soluble solids , Vitamin C, Titratable acidity , Total sugar and Antioxidant capacity .

Data in Table (4) shows that, significant differences between cultivars Aswod Diala , Waziri , Kadota and Iranian in total soluble solids, vitamin C , percentage Titratable acidity, percentage total sugar and Antioxidant capacity in fruits . The highest containing of total soluble solids, vitamin C , percentage Titratable acidity, percentage total sugar and Antioxidant capacity in fruits were found in the fig cultivar Iranian they were (17.67 % , 8.30 mg / 100 ml Juice , 0.65 % , 17.33 % and 3.77 mmol TE/g FW) respectively comparison with lowest rats (15.45 % , 6.28 mg / 100 ml Juice , 0.37 % , 13020 % and 1.95 mmol TE/g FW) in cv. Waziri respectively . The higher antioxidant capacity of cv. Iranian which was almost double the others, is likely attributed to its dark skin color. The fig antioxidant capacity values than were similar to the ones reported for cultivars and a selection of strawberries (Battino and Mezzetti, 2006), higher than the ones recently reported for peaches and plums (Wang et al., 2008), and equal to or lower than some reported for blueberry cultivars (Bremer et al., 2008). Similar results were observed in six commercial fig cultivars with different skin colors ('Brown Turkey', 'Brunswick', 'Bursa', 'Chechick', 'Kadota', and 'Mission') growing commercially under Palestinian conditions (Solomon et al., 2006). Influence of genotype on antioxidant capacity has been reported in strawberries, apples, peaches, blueberries, and apricots (Bremer et al., 2008; Scalzo et al., 2005; Vizzotto et al., 2007). Thus, fig cultivars with dark skin contained higher levels of antioxidant activity compared with fig cultivars with lighter skin (Solomon et al., 2006). Increasing fruits from total soluble solids , total sugar , vitamin C and acidity which results due to the fact that the cultivars had higher leaf density of vegetative growth and thus encourages the accumulation of carbohydrate

materials in fruits leading to increased content of these materials .

#### 3- Physical characters of fig fruits cv. ( Aswod Diala , Waziri, Kadota and Iranian ) .

Results indicated in Table (5) shows that , the cv. Iranian gave the highest percentages of length / diameter of fruit 0.904 , firmness 0.352 Kg/ cm<sup>2</sup> and lowest result in ostiolium . Also cv. Kadota gave the highest rates of weight of fruit 43.51 g, length of fruit 3.39 cm and diameter of fruit 4.45 cm . The lowest rates of (weight 28.46 g, length 3.12 cm ,diameter 3.52 cm and firmness 0.290 Kg/ cm<sup>2</sup>), in fruits of fig cultivar Waziri . The enhance of physical characters of fig fruits was due to the increase in the leaf area , total chlorophyll , number lobate and petiole length of leaf , particularly, petiole length which increase the space between leaves that results in the increase a moved of light to perpetrate to the lower leaf position which increase the leaf expose to light as much as possible , that reflect to an increase in photosynthesis, besides , the large area of leaf for Kadota cultivar , which reflect its materials into the fruits and these factors due to increase the physical characters of four cultivar fig fruits .

#### 4-Leaf area , number of leaves , Length of seedling , percentage yellowness of leaves and percentage drop of leaves.

Data in Table (6) shows that, a significantly differences between cultivars in leaf area , number of leaves , length of seedling , percentage yellowness of leaves and percentage drop of leaves .The cultivar Iranian gave the highest rates of number leaves 26.18 and length of seedling 110.45cm but it was the lower leaf area 52.60 cm<sup>2</sup>, percentage yellowness of leaves 2.25% and percentage drop of leaves 1.16% in the last of month November for season 2019 comparison with highest percentage yellowness of leaves 87.70% and percentage drop of leaves 62.22% in cultivar Waziri . Aswod Diala cultivar was the highest rates in leaf area 139.55cm<sup>2</sup> while, Kadota cultivar was middle between cultivars in percentage yellowness of leaves and percentage drop of leaves .The deferens between cultivars belonged to genetic characters of each of the four cultivars .

### Conclusion

It could be concluded from this experiment that the cultivar Iranian fig have the best result of studied characteristics in the percentage of total soluble solids, vitamin C , titratable acidity ,total sugar , antioxidant capacity and firmness of fruits . Also it was gave the lowest rats of leaf area , petiole length and ostiolium diameter of fruits and the seedling resisting to cold temperatures and dryness compared with another three fig cultivars in middle aria of Iraq.

**Table 3. Physical characters of leaves of fig cvs. ( Aswod Diala , Waziri , Kadota and Iranian ) for season 2018.**

Cultivars	leaf aria cm <sup>2</sup>	Total chlorophyll mg / 100g	Number lobate	Length petiole cm	Deep of lobate cm
<b>Aswod Diala</b>	160.85a	122.90a	5 a	11.62 a	7.79 a
<b>Waziri</b>	114.88 bc	111.43 cd	3 b	5.43 c	3.98 cd
<b>Kadota</b>	132.72 b	116.50c	3 b	10.23 ab	4.12 c
<b>Iranian</b>	70.19 d	120.58 ab	5 a	6.30 cd	6.26 ab

**Table 4. fruits quality of fig cv. ( Aswod Diala , Waziri , Kadota and Iranian ) for season 2018.**

Cultivars	% Total soluble solids	Vitamin C mg / 100 ml Juice	% Titratable acidity	%Total sugar	Antioxidant capacity (mmol TE/g FW)
<b>Aswod Diala</b>	15.91 c	7.53 bc	0.61 a	15.75bc	3.46 ab
<b>Waziri</b>	15.45 c	6.28 c	0.37 b	13.20 c	1.95 cd
<b>Kadota</b>	16.80 b	7.85 ab	0.44 c	16.12 b	2.17 c
<b>Iranian</b>	17.67 a	8.30 a	0.65 a	17.33 a	3.77 a

**Table 5. physical characters of fig fruits cv. ( Aswod Diala , Waziri , Kadota and Iranian ) for season 2018.**

Cultivars	Weight of fruit ( g )	Length of fruit cm	Diameter of fruit cm	Fruit shape	Ostium Diameter mm	Firmness of fruit Kg/cm <sup>2</sup>
<b>Aswod Diala</b>	36.80 b	3.24 ab	3.61bc	0.897 ab	4.57 a	0.315 bc
<b>Waziri</b>	28.46 d	3.12 bc	3.52 d	0.821 bc	4.16 bc	0.290 d
<b>Kadota</b>	43.51 a	3.39 a	4.45 a	0.761 cd	4.28 b	0.346 ab
<b>Iranian</b>	33.13 bc	3.30 ab	3.65 b	0.904 a	3.70 d	0.352 a

**Table 6. Effect irrigation every 15 days on Physical characters of leaves of fig cvs. ( Aswod Diala , Waziri , Kadota and Iranian ) in 30 November for season 2019.**

Cultivars	leaf aria cm <sup>2</sup>	Number leaves	Length seedless cm	Percentage yellowness of leaves	Percentage of drop leaves
<b>Aswod Diala</b>	139.55 a	11.33 b	41.53 b	85.92 ab	47.19 b
<b>Waziri</b>	109.23 c	9.53 d	33.14 c	87.70 a	62.22 a
<b>Kadota</b>	121.15 b	13.41 c	39.03 bc	84.10 bc	42.37 c
<b>Iranian</b>	52.60 d	26.18 a	110.45 a	2.25 d	1.16 d

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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: 2020 Issue: 01 Volume: 81

Published: 15.01.2020 <http://T-Science.org>

QR – Issue



QR – Article



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## THE GROUP OF SERIALLY CONNECTED THERMISTORS

**Abstract:** A mathematical model of a technical system was obtained using a unified approach to building a working mathematical model. The technical system consists of a group of serially connected NTC thermistors. The constructed mathematical model is sufficiently full, accurate, adequate, productive, and economical. Applying such a model reduces the costs and time spent on research and makes efficient use of the mathematical modeling capabilities.

**Key words:** working mathematical model, properties of mathematical models, principles of mathematical modeling.

**Language:** Russian

**Citation:** Markelov, G. E. (2020). The Group of Serially Connected Thermistors. *ISJ Theoretical & Applied Science*, 01 (81), 108-111.

**Soi:** <http://s-o-i.org/1.1/TAS-01-81-20> **Doi:**  <https://dx.doi.org/10.15863/TAS.2020.01.81.20>

**Scopus ASCC:** 2604.

### ПОСЛЕДОВАТЕЛЬНОЕ СОЕДИНЕНИЕ ТЕРМОРЕЗИСТОРОВ

**Аннотация:** В рамках единого подхода к построению рабочей математической модели получена математическая модель технической системы. Техническая система включает последовательное соединение терморезисторов с отрицательным температурным коэффициентом сопротивления. Построенная математическая модель в достаточной мере обладает свойствами полноты, точности, адекватности, продуктивности и экономичности. Применение такой модели сокращает затраты времени и средств на проведение исследования, позволяет рационально использовать возможности математического моделирования.

**Ключевые слова:** рабочая математическая модель, свойства математических моделей, принципы математического моделирования.

#### Введение

Рассмотрению технических характеристик терморезисторов с отрицательным температурным коэффициентом сопротивления, основных принципов их работы, способов расчета схем с этими терморезисторами посвящена обширная учебная и научная литература. Известны многочисленные примеры успешного практического использования таких приборов в различных областях человеческой деятельности.

Целью настоящей работы является построение в рамках единого подхода рабочей

математической модели технической системы. Эта техническая система включает последовательное соединение терморезисторов с отрицательным температурным коэффициентом сопротивления.

Зависимость сопротивления  $R$  такого терморезистора от его температуры  $T$  обычно описывают выражением (см., например, [1]), которое имеет вид

$$R(T) = r \exp[\beta(T^{-1} - T_0^{-1})],$$

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где  $r$  — сопротивление терморезистора при  $T = T_0$ ;  $\beta$  — коэффициент, постоянный для данного экземпляра терморезистора. Однако в сравнительно узком диапазоне температур можно считать, что

$$R(T) = \frac{r}{1 + \beta(T - T_0)T_0^{-2}}.$$

Единый подход к построению рабочей математической модели, которая в достаточной мере обладает нужными свойствами применительно к конкретному исследованию, изложен в работах [2; 3]. Некоторые свойства математических моделей сформулированы, например, в [4; 5]. В работе [6] приведен пример построения математической модели, в достаточной мере обладающей нужными свойствами применительно к исследованию, некоторые результаты которого опубликованы в работах [7–9]. Особенности внедрения единого подхода к построению математических моделей рассмотрены, например, в [10; 11].

### 2. Постановка задачи

Рассмотрим последовательное соединение  $n$  терморезисторов. Пусть  $i$ -й терморезистор является высокотеплопроводным телом, температура  $T_i$  которого в начальный момент времени  $t_0$  равна  $T_0$ , причем  $T_i \leq T_1$ ,  $i = 1, 2, \dots, n$ . На поверхности терморезистора площадью  $S_i$  происходит конвективный теплообмен с окружающей средой, температура которой равна  $T_0$ , коэффициент теплоотдачи известен и равен  $\alpha_i$ . Для сравнительно узкого диапазона температур от  $T_0$  до  $T_1$  считаем, что

$$R_i(T_i) = \frac{r_i}{1 + \beta_i(T_i - T_0)T_0^{-2}},$$
$$C_i(T_i) = c_i [1 + \gamma_i(T_i - T_0)],$$

где  $R_i(T_i)$  и  $C_i(T_i)$  — сопротивление и полная теплоемкость  $i$ -го терморезистора;  $r_i$  и  $c_i$  — сопротивление и полная теплоемкость  $i$ -го терморезистора при  $T_i = T_0$ ;  $\beta_i$  и  $\gamma_i$  — положительные постоянные величины. Разность электрических потенциалов на полюсах  $i$ -го элемента равна

$$U_i = \frac{r_i I}{1 + \beta_i(T_i - T_0)T_0^{-2}}, \quad (1)$$

где  $I$  — сила постоянного электрического тока, протекающего через терморезисторы.

Пусть в рамках проводимого исследования представляет интерес разность электрических потенциалов

$$U = \sum_{i=1}^n U_i. \quad (2)$$

Построим рабочую математическую модель объекта исследования, которая в достаточной мере обладает свойствами полноты, точности, адекватности, продуктивности и экономичности.

### 3. Решение

Для решения поставленной задачи используем полученные в работе [12] результаты. Эти результаты позволяют легко построить иерархию математических моделей данного объекта исследования и определить условия, при выполнении которых можно с относительной погрешностью не более заданного значения  $\delta_0$  найти искомую величину  $U$ .

Если разности  $T_i - T_0$ ,  $i = 1, 2, \dots, n$ , достаточно малы, то согласно (1) найдем искомую величину по формуле

$$U_0 = \sum_{i=1}^n r_i I. \quad (3)$$

Определим условия, при которых применима полученная формула. Для этого рассмотрим установившийся процесс теплообмена. В этом случае согласно выкладкам, приведенным в работе [12], установившееся значение величины  $U_i$  найдем по формуле

$$U_i^* = \frac{2r_i I}{1 + \sqrt{1 + 4\beta_i r_i I^2 \alpha_i^{-1} S_i^{-1} T_0^{-2}}},$$

причем для данного диапазона температур

$$\frac{r_i I^2}{\alpha_i S_i (T_1 - T_0)} \leq 1 + \beta_i (T_1 - T_0) T_0^{-2}. \quad (4)$$

Тогда установившееся значение искомой величины равно

$$U_* = \sum_{i=1}^n U_i^*. \quad (5)$$

Для относительной погрешности величины  $U_0$  запишем

$$\delta(U_0) = \left| \frac{U - U_0}{U} \right| = \frac{U_0}{U} - 1 \leq \frac{U_0}{U_*} - 1.$$

При выполнении неравенства

$$\frac{U_0}{U_*} - 1 \leq \delta_0$$

можно с относительной погрешностью не более  $\delta_0$  использовать формулу (3) для нахождения искомой величины. Следовательно, при выполнении неравенства

$$U_0 \leq (1 + \delta_0) U_* \quad (6)$$

математическая модель (3) в достаточной мере обладает свойствами полноты, точности, адекватности, продуктивности и экономичности.

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Затем определим условия, при которых применима математическая модель (5). Для этого рассмотрим неустановившийся процесс теплообмена. Тогда согласно результатам, полученным в работе [12], приходим к задаче Коши

$$\frac{c_i r_i T_0^2 dU_i}{\beta_i U_i^2 dt} = \frac{\alpha_i S_i r_i T_0^2 - \alpha_i S_i U_i T_0^2 - \beta_i U_i^2}{\gamma_i r_i T_0^2 - \gamma_i U_i T_0^2 + \beta_i U_i},$$

$$U_i(t_0) = r_i I, \quad (7)$$

где  $i = 1, 2, \dots, n$ , и найдем момент времени

$$t_i = t_0 + \frac{c_i}{\alpha_i S_i} \left[ \frac{\gamma_i T_0^2}{\beta_i} \left( \frac{U_i^*}{r_i I} - 1 + \delta_0 \right) \frac{r_i I}{U_i^*} + \left( \frac{r_i I}{2r_i I - U_i^*} + \frac{\gamma_i T_0^2}{\beta_i} \frac{r_i I - U_i^*}{2r_i I - U_i^*} \frac{r_i I}{U_i^*} - 1 \right) \times \ln \left( 2 - \frac{U_i^*}{r_i I} - \delta_0 \right) - \left( \frac{r_i I}{2r_i I - U_i^*} + \frac{\gamma_i T_0^2}{\beta_i} \frac{r_i I - U_i^*}{2r_i I - U_i^*} \frac{r_i I}{U_i^*} \right) \ln \left( \frac{r_i I}{r_i I - U_i^*} \delta_0 \right) \right],$$

для которого

$$U_i(t_i) = \frac{U_i^*}{1 - \delta_0}.$$

Очевидно, что при  $t \geq t_i$

$$\delta(U_i^*) = \left| \frac{U_i - U_i^*}{U_i} \right| = 1 - \frac{U_i^*}{U_i} \leq \delta_0,$$

а значение  $U_i^*$  можно с относительной погрешностью не более  $\delta_0$  считать равным  $U_i(t)$

. Пусть  $t_* = \max_{1 \leq i \leq n} t_i$ , тогда легко показать, что при  $t \geq t_*$

$$\delta(U_*) = \left| \frac{U - U_*}{U} \right| = \frac{\sum_{i=1}^n (U_i - U_i^*)}{\sum_{i=1}^n U_i} \leq \delta_0.$$

Следовательно, можно с относительной погрешностью не более  $\delta_0$  использовать формулу (5) для нахождения искомой величины.

Если не выполнено условие (6), то математическая модель (5) при  $t \geq t_*$  в достаточной мере обладает свойствами полноты, точности, адекватности, продуктивности и экономичности.

Разработка новой математической модели при формировании иерархии математических моделей объекта исследования может привести к уточнению найденных ранее условий применимости построенных математических моделей. Действительно, используя математическую модель (2), (7), можно уточнить

условие применимости формулы (3). Для этого найдем момент времени

$$t_i = t_0 + \frac{c_i}{\alpha_i S_i} \left[ \left( \frac{\gamma_i T_0^2}{\beta_i} \frac{r_i I - U_i^*}{2r_i I - U_i^*} \frac{r_i I}{U_i^*} + \frac{r_i I}{2r_i I - U_i^*} - 1 \right) \ln \left( 1 + \frac{U_i^*}{r_i I} \delta_0 \right) - \frac{\gamma_i T_0^2}{\beta_i} \delta_0 - \left( \frac{\gamma_i T_0^2}{\beta_i} \frac{r_i I - U_i^*}{2r_i I - U_i^*} \frac{r_i I}{U_i^*} + \frac{r_i I}{2r_i I - U_i^*} \right) \ln \left( 1 - \frac{U_i^*}{r_i I - U_i^*} \delta_0 \right) \right],$$

для которого

$$U_i(t_i) = \frac{r_i I}{1 + \delta_0}.$$

Очевидно, что при  $t \leq t_i$

$$\delta(r_i I) = \left| \frac{U_i - r_i I}{U_i} \right| = \frac{r_i I}{U_i} - 1 \leq \delta_0,$$

а значение  $r_i I$  можно с относительной погрешностью не более  $\delta_0$  считать равным  $U_i(t)$

. Пусть  $t^* = \min_{1 \leq i \leq n} t_i$ , тогда легко показать, что при  $t \leq t^*$

$$\delta(U_0) = \left| \frac{U - U_0}{U} \right| = \frac{\sum_{i=1}^n (r_i I - U_i)}{\sum_{i=1}^n U_i} \leq \delta_0.$$

Следовательно, можно с относительной погрешностью не более  $\delta_0$  использовать формулу (3) для нахождения искомой величины.

Если выполнено условие (6) или  $t \leq t^*$ , то математическая модель (3) в достаточной мере обладает свойствами полноты, точности, адекватности, продуктивности и экономичности.

## 4. Результаты

При выполнении неравенства (4) справедливы следующие утверждения, которые позволяют выявить рабочую математическую модель объекта исследования.

**Утверждение 1.** Если выполнено условие (6) или в рамках проводимого исследования  $t \leq t^*$ , то математическую модель (3) считаем рабочей.

**Утверждение 2.** Если не выполнено условие (6), то математическую модель (5) при  $t \geq t_*$  выбираем как рабочую.

**Утверждение 3.** Если не выполняется неравенство (6), а временной интервал от  $t^*$  до  $t_*$  представляет интерес, то математическую модель (2), (7) считаем рабочей.

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### 5. Заключение

Таким образом, в рамках единого подхода сформулированы применительно к данному исследованию утверждения. Они позволяют установить рабочую математическую модель технической системы, которая включает последовательное соединение терморезисторов с отрицательным температурным коэффициентом сопротивления. Построенная математическая

модель в достаточной мере обладает свойствами полноты, точности, адекватности, продуктивности и экономичности.

Очевидно, что применение такой математической модели не только сокращает затраты времени и средств на проведение исследования, но и позволяет рационально использовать возможности математического моделирования.

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Soi: [http://s-o-i.org/1.1/TAS\\*05\(25\)14](http://s-o-i.org/1.1/TAS*05(25)14) Doi: <http://dx.doi.org/10.15863/TAS.2015.05.25.14>
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IBI (India) = 4.260  
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: 2020 Issue: 01 Volume: 81

Published: 13.01.2020 <http://T-Science.org>

QR – Issue



QR – Article



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## FEATURES AND CURRENT STATUS OF THE TEACHING OF THE SUBJECT "INFORMATION TECHNOLOGY IN THE FIELD OF SERVICES" IN HIGHER EDUCATIONAL INSTITUTIONS

**Abstract:** The article addresses the issues the content of advanced training of economists in the electronic information environment and improvement of quality requirements based on modern approaches, periodically during professional activities and issues of improving the methodology of lifelong learning. In addition, forms of distance learning, distance learning methods and the importance of these methods.

**Key words:** forms of distance learning, lectures, consultations, laboratory work, exhibition experiments, observation, independent work, webinars, distance learning methods, abstracts, information gathering method, reproductive method.

**Language:** English

**Citation:** Rustamov, J. E. (2020). Features and current status of the teaching of the subject "Information Technology in the field of services" in higher educational institutions. *ISJ Theoretical & Applied Science*, 01 (81), 112-116.

**Soi:** <http://s-o-i.org/1.1/TAS-01-81-21> **Doi:**  <https://dx.doi.org/10.15863/TAS.2020.01.81.21>

**Scopus ASCC:** 3304.

### Introduction

The Republic of Uzbekistan pays special attention to the development of the process of application of modern information and communication and distance learning technologies, as well as interactive methods of teaching in the educational system, provision of modern educational and laboratory equipment of Educational Directions, updating educational programs, educational and methodical literature to the level that meets international requirements, and teaching the educational process using.

On the basis of this work, the actual task is to ensure the connection of Science with educational practice, to develop the timely introduction of advanced pedagogical and information technologies into the process of improving the methodological provision of teaching "information technologies in the field of services" in the e-learning environment.

The First President Of The Republic Of Uzbekistan A. Karimov drew special attention to the issues of wide introduction of modern information and communication technologies "what modern sphere or

network should we not take at the moment ... it is not difficult to see and understand the situation of telecommunication and Information Technology at first on the basis of the development of all these in the example of the most advanced countries and the world experience in general".

In our republic, the movement for the liberalization of the economy and further deepening of reforms in this field, for the acquisition of knowledge, for the study of secrets of the economy, as well as the requirements for the deep study of science. This, in turn, requires not only the training of economists who are well versed in economic laws, compare different situations, correctly choose alternative options for effective economic conduct in conditions of limited economic resources and have the skills to make decisions, but also the training of economists-educators who teach them.

The laws of the Republic of Uzbekistan "On the national program of training of personnel" and "On education" are prepared on the basis of analysis of the national experience and World achievements in the educational system and are directed to the formation

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of a new generation of specialists who have a high general and professional culture, creative and social activity, the skills to The program provides for the realization of the national model of Personnel Training, the creation of socio-political, legal, psychological-pedagogical and other style conditions for comprehensive development, adaptation in society, marriage, conscious selection of educational and professional programs and subsequent thorough mastering, the upbringing of citizens who feel their responsibility before society, state and family.<sup>1</sup>

In this regard, the first president of our country was I.A. It is appropriate to emphasize the following thoughts of Karimov: "especially no one will look indifferent to the fate of the growing generation. Bunda is of great importance in higher education institutions. It is the sacred duty of each of us to educate young people in any way, to educate them, to care for them to become mature specialists of an independent country. To bring the level of higher and secondary special education system to the level of world standards, to determine the requirements and needs for specialties in the national economy on the basis of scientific analysis, rational use of the experience of foreign countries are the actual tasks of this day»<sup>2</sup>.

Today, the formation of a perfect system of training specialists on the basis of the achievements of the nation's rich modern culture, economy, science, techniques and technologies is an important condition of the development of Uzbekistan. As noted by the first president of our country Islam Karimov: "... today, we all realize that we are closely connected with the problem of achieving our Great Goals, our noble intentions, the renewal of our society, the progress and prospects of our life, the effective fate of our plans – all this, first of all, the training of highly qualified,

conscious specialists who meet the modern requirements»<sup>3</sup>.

### Main part

Today, in order to reorganize the system of training of economists in the higher education system of our country at the level of modern requirements, the effective use of international indices of Economic Education is of paramount importance. Because almost all of the countries in which the developed and market economy of the world is practiced have a modern economic education system in terms of training economist specialists who can adapt to the drastic changes of the new system and compete in any conditions<sup>4</sup>.

The level of development of society, the excessive abundance of information, structural changes in the economy, life experience in general shows that it is not enough to pass a lesson relying only on traditional methods to prepare young people as qualified specialists who are mature, can quickly understand the situation, can make the right decision for this same situation.

Nowadays, at the new stage of development of education in our Republic, as the main task of Economic Education, attention should be paid not only to the training of specialists who are able to adapt to the conditions of production, which are updated at the level of World requirements, raise our economy to the level of a great state, but also to the formation.

If the first task of dealing with the "economy" is to increase the level of economic knowledge of students, then the next one is to create qualifications and skills based on this knowledge. The process of developing economic knowledge and skills is as follows: knowledge-skill-qualification. The mechanism of this process can be carried out as follows:

1 Karimov I.A. Harmoniously Developed Generation is the Pillar of Uzbekistan's Development. - T.: "Uzbekistan", 1997.

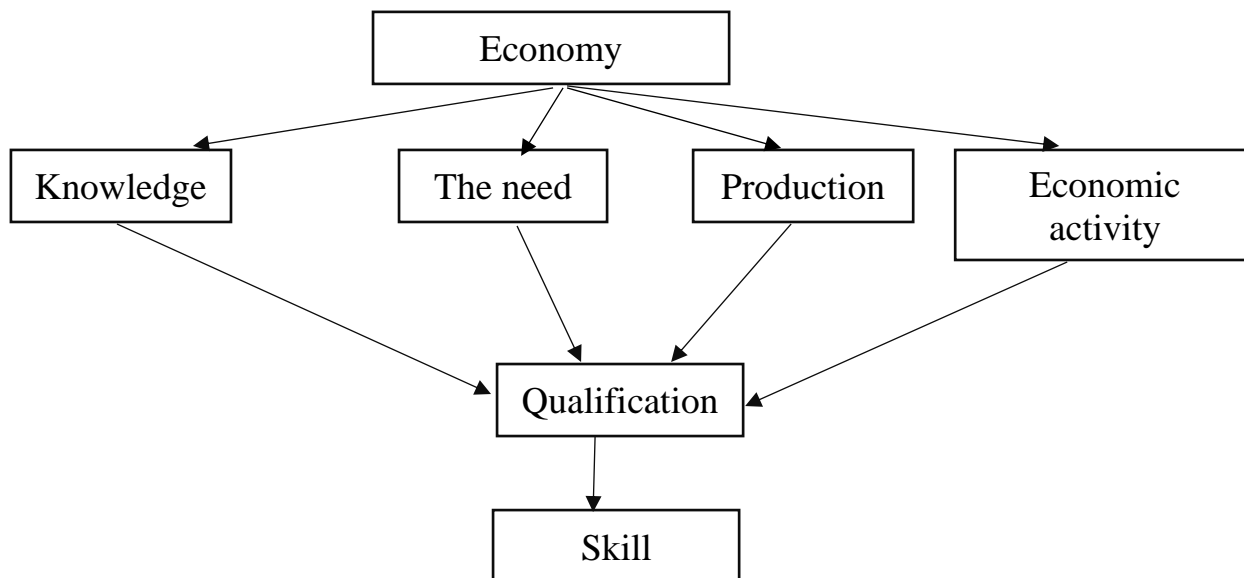
2 Karimov I.A. From the report "Science potential - wealth of the country". T. Marifat Newspaper. July 21, 1993.

3 Karimov I "Harmoniously Developed Generation is the Pillar of Uzbekistan's Development" - T.: Uzbekistan, 1998, 5-p.

4 Tadjibayeva D., Khodjaev N., Economic pedagogics. Tutorial. - T.: Science and Technology, 2008. 2 Gulyamov S.S. Entrepreneurship and Small Business-T: "Sharq", 2006.

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**Figure 1. The process of developing economic knowledge and skills**

The narration of Science and technology also affects the volume and character of scientific knowledge. All this in turn is reflected in the educational system. The educational system serves as the basis for the development of every society. Because exactly the educational system occupies the most basic place in the formation of the spiritual, scientific worldview of each member of society. Therefore, at all stages of historical rise and renewal, the reform of the educational system has taken an important place. The educational system is formed due to the level of development of each society as well as the requirements of that society.

The growing younger generation is in the process of Education:

- ✚ Armed with the necessary knowledge.
- ✚ You will have the necessary qualifications.
- ✚ Creates skills.

In the educational process, a specific relationship is established between educators and students, and this process goes as a result of the joint activities of the two sides. Educators formulate knowledge, skills and skills on the basis of plan and program in pursuit of a specific goal. And students need to actively master them. In the process of education, if the teacher performs the task of teaching, creating knowledge, qualifications, skills, the students will experience the process of mastering. It is a complex psychological process, goes with the participation of intuition, perception, imagination, contemplation etc.

One of the main tasks of education is to arm the younger generation with the achievements of scientific knowledge and science techniques that humanity has achieved so far. In the younger generation, it is necessary to create such a system of knowledge that knowledge will serve as the basis for their further development. At the present time, in an

era of increasing volume of knowledge, volume of information, the educational system is beginning to focus on determining the volume of knowledge, qualifications and skills that students need to give, as well as finding solutions to the issues that need to be taken into account in this process. One of the most important issues is to determine the size of the necessary knowledge and, alternatively, determine the duration of study.

In the strategy of the president of the Republic of Uzbekistan on the five priority directions of development of the Republic of Uzbekistan in 2017-2021 "radically improve the quality of education in the educational institution ... the task of" deepening study of such important and in-demand subjects as economics, Information Technology " has been set [3]. At the same time, they paid special attention to the issues of adoption of the resolution № PP-3274 of the president of the Republic of Uzbekistan dated September 14, 2017 "on the establishment of a specialized school for training in the direction of information and communication technologies named after Muhammad al-Khwarizmi, wide introduction of modern information and communication technologies.

The positive growth of economic indicators leads to the introduction of new investments in the field of information and communication technologies. The most important investment is to pay great attention to the training of personnel, training them from a young age. The establishment of a specialized school for deepening education in the direction of information and communication technologies named after Muhammad Al-Khwarizmi, ulugajdadimiz, is also the first step in the implementation of this task.

The implementation of radical reforms, the formation of market relations is largely dependent on

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Economic Education. Without the formation of economic thinking in people, it is impossible to make profound changes.

The establishment of this school provides the basis for the training of personnel who can meet this call of the period from a young age, and training of personnel who meet the requirements of maturity and times in the field [5].

In order to ensure the implementation of these tasks, the development of scientific and methodological bases for improving the methodological provision of teaching "Information technologies in the field of services" in the e-learning environment, the development of educational and methodological provision for improving the methodological provision of teaching "information technologies in the field of services" in the e-learning environment using modern pedagogical

On the basis of the study and analysis, it was found out that there are a number of tasks and waiting for solutions aimed at further improving the quality of teaching of the subject "Information Technology in the field of services" in higher education institutions:

- The purpose of teaching the subject of "Information Technology in the field of services" in higher educational institutions is limited to the state educational standard and the objectives of the curriculum, the level of competence placed on the knowledge and skills of the student and the objectives of the lesson in the case of taking into account their behavior are not developed;

- In accordance with the educational content of the educational plans and science programs of the higher education institution, the teaching of the subjects defined in the subject "Information Technology in the field of services" is not improved on the basis of modern requirements;

- In the course of teaching the subject "Information Technology in the field of services", insufficient attention was paid to the formation of students' independent performance skills and thereby the development of their independent thinking skills;

- Due to the interest and needs of the students on the basis of the requirements of "Information Technology" Education deepened in higher educational institutions, strong attention was not paid to the organization of "Information Technology" Science Clubs.

- Little attention is paid to the preparation of students for the Science Olympiads "Information technology in the field of services";

## Conclusion

More attention should be paid to improving the quality, effectiveness of education and training in higher educational institutions, as well as the methodology of teaching the subject "Information Technology in the field of services":

- ✚ Conformity status of educational content in educational programs with mandatory minimum requirements for knowledge, skills and qualifications established in the subject of "information technologies in the field of services" to students of higher education institutions in the state educational standards;

- ✚ Circumstances related to the appropriateness of the distribution of hours allocated for the science of "Information Technology in the field of services" for the study of educational content in the current curricula, as well as the principle of consistency, coherence, unity of concepts.

- ✚ Thus, proposals and recommendations were developed to improve the teaching of the subject "Information Technology in the field of services" in higher educational institutions. Specially:

- ✚ To apply the knowledge gained by students in daily activities as a result of the teaching of the subject "Information Technology in the field of services" in higher educational institutions, to formulate the system of knowledge and skills on information technologies necessary for the continuation of further education, to develop skills;

- ✚ Formation of a harmonious personality, capable of successfully functioning, critical and logical thinking in our rapidly developing society;

- ✚ Formation of skills of students to appreciate national, spiritual and cultural heritage, education of culture related to the field of information technology as a component of the universal culture;

- ✚ Formation of the ability of students to work independently on a particular subject in the course of the course on the basis of the teacher's directing activity;

- ✚ To provide orientation of students towards conscious choice of profession by knowing the importance of base concepts in the formation of information technology skills.

(Li, Wang, Fang, & Liu, 2016)("Impact of Information Technology Management Practices on Customer Service: Journal of Management Information Systems: Vol 17, No 4," n.d.)(Karimi, Somers, & Gupta, 2001)(Bhatt & Grover, 2005)(Van Der Zee & De Jong, 1999)(Reddi, Clemons, & Row, 1993)

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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: 2020 Issue: 01 Volume: 81

Published: 21.01.2020 <http://T-Science.org>

QR – Issue



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Alexandr Sergeevych Praded

Bryansk State University named after I.G. Petrovsky  
student, Russia

## $\omega$ -FIBERED FITTING CLASSES OF FINITE GROUPS

**Abstract:** The article is devoted to study of  $\omega$ -fibered Fitting classes of finite groups. The main research method used in the article is functional. We have obtained the description of the structure of functions-satellites of some  $\omega$ -fibered Fitting classes of finite groups.

**Key words:** a finite group, a class of groups, a Fitting class, an  $\omega$ -fibered Fitting class.

**Language:** Russian

**Citation:** Praded, A. S. (2020).  $\omega$ -fibered fitting classes of finite groups. *ISJ Theoretical & Applied Science*, 01 (81), 117-120.

**Soi:** <http://s-o-i.org/1.1/TAS-01-81-22> **Doi:**  <https://dx.doi.org/10.15863/TAS.2020.01.81.22>  
**Scopus ASCC:** 2602.

### $\omega$ -ВЕЕРНЫЕ КЛАССЫ ФИТТИНГА КОНЕЧНЫХ ГРУПП

**Аннотация:** Данная статья посвящена исследованию  $\omega$ -веерных классов Фиттинга конечных групп. Основным методом исследования, применяемым в статье, является функциональный метод. В статье получено описание строения функций-спутников некоторых  $\omega$ -веерных классов Фиттинга конечных групп.

**Ключевые слова:** конечная группа, класс групп, класс Фиттинга,  $\omega$ -веерный класс Фиттинга.

#### Введение

Теория групп представляет собой раздел математики, изучающий особые математические структуры – группы. Первоначально зародившись в рамках алгебры, данная теория позднее сформировалась как самостоятельное направление, имеющее свои средства, методы, особенности. По мере развития теории групп в ней самой стали появляться новые подразделы, одним из которых является теория классов групп. Класс Фиттинга представляет один из основных объектов, изучаемых в теории классов конечных групп. С момента возникновения теории классов групп появилось несколько подходов к изучению классов Фиттинга. Одним из наиболее эффективных является функциональный подход, заключающийся в использовании для описания классов Фиттинга специальных функций. На этом пути с помощью функций-спутников были построены локальные и  $\omega$ -локальные, композиционные и  $\Omega$ -композиционные классы Фиттинга. Важные результаты в данном направлении были получены К. Дерком, Т. Хоуксом, Н.Т. Воробьевым, Н.Н. Воробьевым и

другими алгебраистами (см., например, [5, 10]). В дальнейшем развитие идей функционального метода привело к появлению функций-направлений, введённых в рассмотрение В.А. Ведерниковым в 1999 году (см., например, [3]). С помощью данных функций были построены  $\omega$ -веерные и  $\Omega$ -расслоенные классы Фиттинга конечных групп [3, 4]. Изучением таких классов занимались Е.Н. Бажанова, В.Е. Егорова, О.В. Камозина, Сыромолова О.В. и другие (см., например, [1, 6, 7, 9]). Целью данной работы является исследование строения функций-спутников ряда  $\omega$ -веерных классов Фиттинга конечных групп.

В статье рассматриваются только конечные группы. Используемые определения для групп и классов групп стандартны (см., например, [10]). Приведём лишь некоторые из них. Классом групп называется множество групп, содержащее вместе с каждой своей группой  $G$  и все группы, изоморфные  $G$ . Через  $(\mathfrak{X})$  обозначается класс групп, порождённый множеством групп  $(\mathfrak{X})$ . Если  $\mathfrak{X}_1$  и  $\mathfrak{X}_2$  – классы групп, то  $\mathfrak{X}_1\mathfrak{X}_2 =$

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( $G$  существует  $N \triangleleft G$  такая, что  $N \in \mathfrak{F}_1$  и  $G/N \in \mathfrak{F}_2$ ). Класс групп  $\mathfrak{F}$  называется классом Фиттинга, если выполняются следующие условия:

- 1) если  $G \in \mathfrak{F}$  и  $N \triangleleft G$ , то  $N \in \mathfrak{F}$ ;
- 2) если  $G = N_1 N_2$ ,  $N_1 \in \mathfrak{F}$ ,  $N_2 \in \mathfrak{F}$ ,  $N_1 \triangleleft G$ ,  $N_2 \triangleleft G$ , то  $G \in \mathfrak{F}$  [10].

Через  $\mathfrak{E}$  обозначается класс всех конечных групп;  $\mathfrak{N}$  – класс всех конечных нильпотентных групп;  $\mathfrak{P}$  – множество всех простых чисел. Пусть  $\mathfrak{F}$  – класс групп,  $p \in \mathfrak{P}$ ,  $\emptyset \neq \pi \subseteq \mathfrak{P}$ . Тогда  $\mathfrak{F}_p$  и  $\mathfrak{F}_\pi$  – соответственно классы всех  $p$ -групп и  $\pi$ -групп, принадлежащих классу  $\mathfrak{F}$ . Через  $\pi(G)$  обозначается множество всех простых делителей порядка группы  $G$ ; через  $G^\delta$  обозначается  $F$ -корадикал группы  $G$ , т.е. наименьшая нормальная подгруппа группы  $G$ , фактор-группа по которой принадлежит классу  $\mathfrak{F}$ . В дальнейшем через  $\omega$  обозначается произвольное непустое множество простых чисел;  $O^\omega(G) = G^{\mathfrak{E}\omega}$  –  $E$ -омега корадикал группы  $G$ . Рассмотрим следующие функции:

- $f: \omega \cup \{\omega'\} \rightarrow \{\text{классы Фиттинга}\}$ ,  
 $h: \mathfrak{P} \rightarrow \{\text{классы Фиттинга}\}$ ,  
 $\delta: \mathfrak{P} \rightarrow \{\text{непустые формации Фиттинга}\}$ ,

называемые соответственно  $\omega R$ -функцией,  $PR$ -функцией,  $PFR$ -функцией. Класс Фиттинга  $\mathfrak{F} = (G \in \mathfrak{E} | O^\omega(G) \in f(\omega') \text{ и } G^{\delta(p)} \in f(p) \text{ для любого } p \in \omega \cap \pi(G))$  называется  $\omega$ -верным классом Фиттинга с  $\omega$ -спутником  $f$ , направлением  $\delta$  и обозначается  $\mathfrak{F} = \omega R(f, \delta)$ ; класс Фиттинга

$\mathfrak{H} = (G \in \mathfrak{E} | G^{\delta(p)} \in h(p) \text{ для любого } p \in \pi(G))$  называется верным классом Фиттинга со спутником  $h$  и направлением  $\delta$  и обозначается  $\mathfrak{H} = PR(h, \delta)$  [3]. Направление  $\omega$ -верного (верного) класса Фиттинга называется  $b$ -направлением, если  $\delta(p) = \mathfrak{N}_p \delta(p)$  для любого  $p \in \mathfrak{P}$ ;  $p$ -направлением, если  $\delta(q) = \delta(q) \mathfrak{E}_q$  для любого  $q \in \mathfrak{P}$  [2]. Через  $\mathfrak{E}_{c\omega}$  обозначим класс всех групп, у которых каждый главный  $\omega$ -фактор централен;  $\mathfrak{E}_{c\omega'}$  – класс всех групп, у которых каждый главный  $\omega'$ -фактор централен.

В теоремах 1 – 3 получено описание  $\omega$ -спутников  $\omega$ -верных классов Фиттинга  $\mathfrak{E}_\pi$ ,  $\mathfrak{N}$ ,  $\mathfrak{N}_\pi$  всех  $\pi$ -групп, всех нильпотентных групп и всех нильпотентных  $\pi$ -групп соответственно.

**Теорема 1.** Пусть  $\emptyset \neq \pi \subseteq \mathfrak{P}$ ,  $\mathfrak{F}_1 = \mathfrak{E}_\pi$ . Тогда  $\mathfrak{F}_1 = \omega R(f, \delta)$ , где  $\delta$  – произвольная  $PFR$ -функция,  $f$  –  $\omega R$ -функция, имеющая следующее строение:  $f(\omega') = \mathfrak{E}_\pi$ ,  $f(p) = \mathfrak{E}_\pi$ , если  $p \in \pi$ ,  $f(p) = \emptyset$ , если  $p \in \omega \setminus \pi$ , для любого  $p \in \omega$ .

Доказательство. Пусть  $\mathfrak{F} = \omega R(f, \delta)$ . 1) Покажем, что  $\mathfrak{F} \subseteq \mathfrak{F}_1$ . Пусть  $G \in \mathfrak{F}$ . Тогда по определению  $\omega$ -верного класса Фиттинга  $O^\omega(G) \in f(\omega') = \mathfrak{E}_\pi$  (а) и  $G^{\delta(p)} \in f(p)$  для любого  $p \in \omega \cap \pi(G)$  (б). Поскольку  $G^{\mathfrak{E}\pi} \triangleleft G$  и для любого  $p \in \omega \cap \pi(G)$  выполняется  $f(p) \neq \emptyset$ , то  $f(p) = \mathfrak{E}_\pi$  и  $p \in \pi$ . Таким образом,  $\omega \cap \pi(G) \subseteq \pi$ .

Так как  $G/G^{\mathfrak{E}\omega} \in \mathfrak{E}_\omega$ , то  $\pi(G/G^{\mathfrak{E}\omega}) \subseteq \omega$ . Кроме того,  $|G| = |G/G^{\mathfrak{E}\omega}| \cdot |G^{\mathfrak{E}\omega}|$  (\*\*). Тогда  $\pi(G/G^{\mathfrak{E}\omega}) \subseteq \pi(G)$ . В таком случае получаем, что  $\pi(G/G^{\mathfrak{E}\omega}) \subseteq \pi(G) \cap \omega$ . Согласно утверждению (\*) это означает, что  $\pi(G/G^{\mathfrak{E}\omega}) \subseteq \pi$ . Так как  $|G/G^{\mathfrak{E}\omega}|$  –  $\pi$ -число и  $|G^{\mathfrak{E}\omega}|$  –  $\pi$ -число, то, ввиду равенства (\*\*), получаем, что  $|G|$  –  $\pi$ -число. Следовательно,  $G \in \mathfrak{E}_\pi = \mathfrak{F}_1$ . Таким образом,  $\mathfrak{F} \subseteq \mathfrak{F}_1$ .

2) Покажем, что  $\mathfrak{F}_1 \subseteq \mathfrak{F}$ . Пусть  $G \in \mathfrak{F}_1$ . Это означает, что  $\pi(G) \subseteq \pi$ . Тогда  $O^\omega(G) \in \mathfrak{E}_\pi = f(\omega')$  (а). Пусть  $p \in \omega \cap \pi(G)$ . Поскольку  $G \in \mathfrak{F}_1$ , то, ввиду  $G^{\delta(p)} \triangleleft G$ , отсюда следует, что  $G^{\delta(p)} \in \mathfrak{E}_\pi = f(p)$  для любого  $p \in \omega \cap \pi(G)$  (б). Из (а) и (б) следует, что  $\mathfrak{F} = \omega R(f, \delta)$ . Таким образом,  $\mathfrak{F}_1 \subseteq \mathfrak{F}$ .

Из 1) и 2) следует, что  $\mathfrak{F}_1 = \mathfrak{F}$ . Теорема доказана.

**Теорема 2.** Пусть  $\emptyset \neq \pi \subseteq \mathfrak{P}$ ,  $\mathfrak{F}_1 = \mathfrak{N}$ . Тогда  $\mathfrak{F}_1 = \omega R(f, \delta)$ , где  $\delta$  –  $b$ -направление  $\omega$ -верного класса Фиттинга такое, что  $\bigcap_{p \in \omega} \delta(p) \subseteq \mathfrak{E}_{c\omega} \cap \mathfrak{E}_{c\omega'}$ ,  $f$  –  $\omega R$ -функция, имеющая следующее строение:  $f(\omega') = \mathfrak{N}$  и  $f(p) = (1)$  для любого  $p \in \omega$ .

Доказательство. Пусть  $\mathfrak{F} = \omega R(f, \delta)$ . 1) Покажем, что  $\mathfrak{F} \subseteq \mathfrak{F}_1$ . Пусть  $G \in \mathfrak{F}$ . Покажем, что группа  $G$  является нильпотентной. Из того, что  $G \in \mathfrak{F} = \omega R(f, \delta)$  следует, что  $O^\omega(G) \in f(\omega') = \mathfrak{N}$  и  $G^{\delta(q)} \in f(q) = (1)$  для любого  $q \in \omega \cap \pi(G)$ . Таким образом, для группы  $G$  справедливо:  $O^\omega(G) \in \mathfrak{N}$  (1) и  $G \in \delta(q)$  для любого  $q \in \omega \cap \pi(G)$  (2).

Покажем, что  $G \in \mathfrak{E}_{c\omega} \cap \mathfrak{E}_{c\omega'}$ . Ввиду условия теоремы, достаточно проверить, что  $G \in \bigcap_{p \in \omega} \delta(p)$ . Пусть  $p \in \omega \setminus \pi(G)$ . Тогда  $G$  –  $p$ -группа. В таком случае  $G \in \mathfrak{E}_{p'}$ . Так как  $\delta$  –  $b$ -направление  $\omega$ -верного класса Фиттинга, то  $\delta(p) \mathfrak{E}_{p'} = \delta(p)$ . Таким образом,  $G \in \mathfrak{E}_{p'} \subseteq \delta(p) \mathfrak{E}_{p'} = \delta(p)$ . Следовательно,  $G \in \delta(p)$  для любого  $p \in \omega \setminus \pi(G)$  (3). Из (2) и (3) следует, что  $G \in \bigcap_{p \in \omega} \delta(p)$ . Тогда, ввиду условия теоремы,  $G \in \mathfrak{E}_{c\omega} \cap \mathfrak{E}_{c\omega'}$  (4).

Покажем, что в  $G$  каждый главный фактор централен. Ввиду (4) достаточно проверить, что в  $G$  каждый главный фактор является либо  $\omega$ -фактором, либо  $\omega'$ -фактором. Рассмотрим главный ряд группы  $G$ , проходящий через  $O^\omega(G)$ :  $G = G_0 \triangleright G_1 \triangleright \dots \triangleright G_k = O^\omega(G) \triangleright G_{k+1} \triangleright \dots \triangleright G_m = 1$  (5). Так как  $G/O^\omega(G) \triangleright G_1/O^\omega(G) \triangleright \dots \triangleright G_k/O^\omega(G) \cong 1$  – главный ряд группы  $G/O^\omega(G)$ ,  $(G_{i-1}/O^\omega(G))/(G_i/O^\omega(G)) \cong G_{i-1}/G_i$ ,  $i = \overline{1, k-1}$  и  $G/O^\omega(G) \in \mathfrak{E}_\omega$ , то каждый главный фактор группы  $G$  в (5) выше  $O^\omega(G)$  является  $\omega$ -фактором (6).

Так как  $O^\omega(G) \in \mathfrak{N}$ , то все главные факторы группы  $G$  в (5) ниже  $O^\omega(G)$  являются абелевыми. Так как простая абелева группа – это в точности

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циклическая группа  $Z_p$  порядка  $p$ , для некоторого  $p \in \mathbb{P}$ , то каждый главный фактор группы  $G$  в (5) ниже  $O^\omega(G)$  является либо  $\omega$ -фактором (в случае, когда  $p \in \omega$ ), либо  $\omega'$ -фактором (в случае, когда  $p \notin \omega$ ) (7).

Из (6) и (7) следует, что в (5) все факторы центральны. Следовательно,  $G \in \mathfrak{N} = \mathfrak{F}_1$  и поэтому  $\mathfrak{F} \subseteq \mathfrak{F}_1$ .

2) Покажем, что  $\mathfrak{F}_1 \subseteq \mathfrak{F}$ . Пусть  $G \in \mathfrak{F}_1$ . Установим, что группа  $G$  принадлежит  $\omega$ -всерному классу Фиттинга  $\mathfrak{F}$ . Для этого достаточно проверить, что  $O^\omega(G) \in f(\omega')$  (а) и  $G^{\delta(p)} \in f(p)$  для любого  $p \in \omega \cap \pi(G)$  (б). Покажем, что  $O^\omega(G) \in f(\omega')$ . Рассмотрим подгруппу  $O^\omega(G)$  группы  $G$ . Так как группа  $G$  нильпотентна и  $O^\omega(G)$  – подгруппа данной группы, то по свойству нильпотентных групп [8]  $O^\omega(G)$  также является нильпотентной. Тогда  $N = O^\omega(G) \in \mathfrak{N} = f(\omega')$ . Таким образом, утверждение (а) доказано.

Покажем, что  $G^{\delta(p)} \in f(p)$ . Пусть  $p \in \omega \cap \pi(G)$ . Ввиду того, что  $f(p) = 1$ , достаточно проверить, что  $G^{\delta(p)} = 1$ . Для этого достаточно установить, что  $G \in \delta(p)$ . Действительно, так как  $G \in \mathfrak{N}$ , то  $G = G_{p_1} \times G_{p_2} \times \dots \times G_{p_k}$ , где  $G_{p_i}$  – силовская  $p_i$ -подгруппа группы  $G$ ,  $i = \overline{1, k}$ ,  $\pi(G) = \{p_1, p_2, \dots, p_k\}$ . Пусть  $H = G_{p_2} \times \dots \times G_{p_k}$ ,  $p_1 = p$ . Тогда  $G = G_p \times H$ , где  $H$  –  $p'$ -холловская подгруппа группы  $G$ . В таком случае  $G_p \triangleleft G$ ,  $G_p \in \mathfrak{N}_p$  и  $G/G_p \cong H \in \mathfrak{E}_{p'}$ . Отсюда следует, что  $G \in$

$\mathfrak{N}_p \mathfrak{E}_{p'}$ . Поскольку  $\delta$  –  $bp$ -направление  $\omega$ -всерного класса Фиттинга, то  $G \in \delta(p)$ . Таким образом, утверждение (б) доказано.

Из (а) и (б) следует, что  $G \in \mathfrak{F}$  и поэтому  $\mathfrak{F}_1 \subseteq \mathfrak{F}$ .

Из 1) и 2) следует, что  $\mathfrak{F}_1 = \mathfrak{F}$ . Теорема доказана.

**Теорема 3.** Пусть  $\emptyset \neq \pi \subseteq \mathbb{P}$ ,  $\mathfrak{H} = \mathfrak{N}_\pi$ . Тогда  $\mathfrak{H} = \omega R(f, \delta)$ , где  $\delta$  –  $bp$ -направление, такое, что  $\bigcap_{p \in \omega} \delta(p) \subseteq \mathfrak{E}_{c\omega} \cap \mathfrak{E}_{c\omega'}$ ,  $f$  –  $\omega R$ -функция, имеющая следующее строение:  $f(\omega') = \mathfrak{N}_\pi$  и для любого  $p \in \omega$  справедливо:  $f(p) = (1)$ , если  $p \in \pi$ , и  $f(p) = \emptyset$ , если  $p \in \omega \setminus \pi$ .

Доказательство. Пусть  $\mathfrak{F}_1 = \mathfrak{E}_\pi$ ,  $\mathfrak{F}_2 = \mathfrak{N}$ . Тогда  $\mathfrak{H} = \mathfrak{E}_\pi \cap \mathfrak{N} = \mathfrak{F}_1 \cap \mathfrak{F}_2$ .

По теореме 1  $\mathfrak{F}_1 = \omega R(f_1, \delta_1)$ , где  $\delta$  один – произвольная ПFR-функция,  $f$  один –  $\omega R$ -функция, имеющая следующее строение:  $f(\omega') = \mathfrak{E}_\pi$ ,  $f(p) = \mathfrak{E}_\pi$ , если  $p \in \pi$ ,  $f(p) = \emptyset$ , если  $p \in \omega \setminus \pi$ , для любого  $p \in \omega$ . По теореме 2  $\mathfrak{F}_2 = \omega R(f_2, \delta)$ , где  $f$  два –  $\omega R$ -функция, имеющая следующее строение:  $f(\omega') = \mathfrak{N}$  и  $f(p) = (1)$  для любого  $p \in \omega$ .

Так как  $\delta$  один – произвольная ПFR-функция, то будем полагать, что  $\delta_1 = \delta$ . Тогда по лемме 12 [3]  $\mathfrak{F}_1 \cap \mathfrak{F}_2 = \omega R(h, \delta)$ , где  $h$  – такая  $\omega R$ -функция, что  $h(\omega') = f_1(\omega') \cap f_2(\omega')$  и  $h(p) = f_1(p) \cap f_2(p)$  для любого  $p \in \omega$ . Тогда  $h = f$ . Таким образом,  $\mathfrak{F}_1 \cap \mathfrak{F}_2 = \omega R(f, \delta)$  и поэтому  $\mathfrak{H} = \omega R(f, \delta)$ . Теорема доказана.

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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: 2020 Issue: 01 Volume: 81

Published: 12.01.2020 <http://T-Science.org>

QR – Issue



QR – Article



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## CHARACTERISTICS OF FORMING MOTIVES OF LABOUR ACTIVITIES IN AN INCOMPLETE FAMILY

**Abstract:** This article concerns how well or badly children are cared in an incomplete family and what should be done to motivate children to be more active even in incomplete families, besides compares the striking differences between nuclear and incomplete families in terms of upbringing of a child.

**Key words:** incomplete family, nuclear family, motivation, self-determination, motive, inspiration, child-centered activity, single-parent family, upbringing.

**Language:** English

**Citation:** Asranbaeva, M. H. (2020). Characteristics of forming motives of labour activities in an incomplete family. *ISJ Theoretical & Applied Science*, 01 (81), 121-123.

**Soi:** <http://s-o-i.org/1.1/TAS-01-81-23> **Doi:** [crossref https://dx.doi.org/10.15863/TAS.2020.01.81.23](https://dx.doi.org/10.15863/TAS.2020.01.81.23)

**Scopus ASCC:** 3304.

### Introduction

Versatile development of a person is a complex and multifaceted process. All educational institutions, families, communities and labor unions have their own impacts on it. Especially, the role of the family in the formation of the individual is immeasurable. It plays an important and leading role in the maturity of the younger generation.

The basis of human character, labor relations, moral, ideological and cultural worldview are formed and matured in the family.

Among the educational tasks of the family, the personal characteristics of the parents, the reputation, the way of life of the family, its traditions, emotional and moral organization, leisure and others are the main leading ones.

As an addition to these, N.V.Grebennikov added material and spiritual living conditions of the family, its structure and number of members, the level of family development, the nature of relationships between members, the experience of older generation in the family, education, and so on. He emphasized the importance of the availability and effective use of leisure time, the effective use of media and culture, the pedagogical culture of parents, the professional experience of parents, and others.

Such educational possibilities of the family have been studied to some extent, but at present the

incomplete family and its educational opportunities remain a problem.

According to sociologists, the number of incomplete families is increasing year by year. According to data collected by Russian and foreign researchers, the family of an inferior family and its upbringing functions are different. According to V. Ya.Titarensko, the single-parent family is represented as a family that delivers pedagogically cared-for children. These problems are most evident in family activities, including the training of young people.

Studies show that those who come from nuclear families have a high demand for the content of work and its creative nature. They take an active part in creativity, labor organization and community work. Those who have been raised from an incomplete family are viewed as an opportunity to work independently and independently.

Incomplete families, including lonely families, often complain that boys or girls are mistreated, rudeness in relationships is immoral, and ultimately "street children."

Experience shows that raising a child in an incomplete family is often the responsibility of a woman.

Not all mothers succeed in providing for the economic and family support of their children.

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<b>JIF</b>	<b>= 1.500</b>	<b>SJIF (Morocco)</b>	<b>= 5.667</b>	<b>OAJI (USA)</b>	<b>= 0.350</b>

Occasionally, there are cases of child neglect. As a result, children are left uncontrolled. In recent years, the decisions taken by the state provide families with material and moral care. However, research has shown that not all schools and out-of-school institutions, even rationally organized children's homes, can be substituted for parental responsibilities. The absence of one parent has a significant impact on child rearing. Each person with his or her own personality brings a lot of emotions, ideas, interests and knowledge to the family. Nobody and nothing can replace him.

Labor is a prerequisite for human existence. Family and family members play an invaluable role in educating children from an early age to a conscious attitude to work, high motivation and a spirit of readiness for work. Purpose, motivation, and activity are the main criteria for a child's personality.

Identifying, inspiring, and pedagogically analyzing motivation for work and attitude to family education is particularly valuable. As we know, motivation is the driving force that drives people to act, and they are the driving force behind their activities and give them personal meaning. It can have many motivations at one time. Motivation reflects a person's interests, needs, wishes, wishes, aspirations and more.

The motivation behind work is the motivation for the individual to work.

Motivation problem in psychology has been studied extensively by A.N. Leontev, S.L. Rubinstein, P.M. Jacobson, A.G. Aseev, V. I. Kovalev and others. Much of the research on motivation issues focuses on learning the motivation of reading activities. The motives of work are poorly understood today. In particular, the influence of family and parents on the formation of these motivations remains an almost unexplored issue.

The goals that determine a person's work are often outside the labor process. These goals can be the desire to meet a person's vital needs, and the desire to secure a sustainable future for themselves and their loved ones.

At the same time, the motives of labor activity can be social. While serving in a particular field, a person realizes that his work brings home little benefits. Labor provides an opportunity to interact with and help other people.

There is also a system of motivations directly related to the labor process. These motives are different, and the inability to stay idle is a feeling of satisfaction, a sense of creativity, and a sense of accomplishment during and after the labor.

Any human activity is associated with a specific association. Relationships within the association also have a positive or negative effect on the motivation of work. Sometimes the influence of the association can be secondary, and in some cases, leading. The motivations for future work are gradually forming within the various activities of the child. In preschool

and child-centered activities, motivational motives are distinguished by the process rather than the result of actions. Leading learning at a young age is a prerequisite for the emergence of motivation for learning that has important cognitive functions. Our research shows that younger students respond positively to family work. In this case, the desire to help family members of workplace motivation, the sense of duty to family members is driven by interest in the end result and more.

The attitude of children of an incomplete family to work is significantly different, due to the separation of knowledge and professional interest and the beginning of the process of professional self-determination. Students want to participate in socially useful activities outside of school but are a little hesitant. There are cases of panic and unbelief.

When analyzing the motivations of their work, we have found that there is a set of motivations, interests, imitation, material support, self-discipline, the satisfaction of society, and the satisfaction of having something new to work. . In the years of adolescence, socially motivated factors are evolving. For example, rural youth have been tested for 2.5 times more productive than urban youth. Consequently, the most important task of parents from low-income families is to cultivate a productive attitude towards hard work in children of all ages.

In establishing a productive relationship, it is very important to determine whether labor is vital. Its positive significance is its purposefulness, its social value, and the reason why a child does something.

Many students have a conscious desire to facilitate adult work. They show affection for their mother and relatives.

Observations show that in some poor families, parents or children encourage children to work with money or other things. As a result, the child becomes a solely responsible person.

We interviewed children from single-parent families. We also received information on child labor in underprivileged families based on questionnaires.

"Do you do your homework independently or need help?", "What kind of hometasks do you do well?", "What type of labour do you like?", "What can you do to help yourself?" and other questions were given in the poll.

We divided the students into several groups based on the survey data and interview results.

Pupils of the first group consider it their duty to participate in housework.

Students of the second group do their homework, expressing sympathy for their mothers and wanting to lighten their weight.

The students of the third group consider themselves as equal members of the family association.

The fourth group includes students, who have a habit of doing housework.

## Impact Factor:

ISRA (India)	= 4.971	SIS (USA)	= 0.912	ICV (Poland)	= 6.630
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Fifth-grade students are forced to work.

As mentioned earlier, the limited educational opportunities of an incomplete family are evident in the development of socially motivated motivations. Often, they are left with children, parents, grandparents, or grandparents. A father or mother who is responsible for the child's education does not pay enough attention to the child's education.

Some single fathers do not teach their children to work physically with the idea that single mothers or daughters do not have a father or mother and that their hearts are not hurt. They try to do everything for themselves, even to do their homework. As a result, a child's conscious attitude to work and the formation of positive motivations slows down or stops.

It is necessary to teach children from the earliest times that labor is the basic need and that labor is a prerequisite for the growth of social property and natural wealth.

Dialogue with adults and friends is also the motivation for work. These motivations are evident to many adolescents. Due to the anatomical and physiological changes in the body of adolescents, a new sense of "self-realization" arises. He strives to imitate the way in which adults talk about their work responsibilities. The main need is to prove that you are an equal member of the family. Adolescents take an active part in their work together with their friends. Among the motivations of labor activity is a great interest in the work process itself and its final result. Children choose and interact with this tool to make the process interesting. For example, a teenager brought up in a single-parent family makes an item for her mother while her mother encourages her son to use it in the house and to encourage her son to become a real man.

Socially motivated motives are primarily socially encouraged motivations for material gain. This motivation plays a major role in the activities of students who have the kindness of loving their father

or mother, who is brought up in an unfamiliar family. Often such students decide to take part in certain labor activities in order to provide materially for the family. However, not all children from single-parent families can properly analyze the family environment. Most of the students in the classroom who violate discipline are children who are out of parental control. Akram, for example, is a fourth-grader. The father has abandoned his family, and constantly fights with his classmates for trivial reasons. He is indifferent to public duties. One day, he was given a small role in the script for the celebration. He agreed and took part in the preparations. It disappeared at the time of decisiveness, that is, when it had to be displayed. In a classroom sociometric study he claimed, "I don't want anyone." Nobody chose him as well.

Among the motivations that motivate the learner are those who have more egotistical behavior, or the motivation to perform a particular type of work because of their fear of punishment.

An example of this is the activity of children raised by stepfathers and stepchildren.

Salimakhon is unable to spend her free time with his comrades when the lessons are over and he comes home and does her step-mother's duties. Her brothers wash their clothes, feed them, sleep and play. Sometimes it is not possible to prepare a lesson. As a result, they are not actively involved in the life of the association, and it is often difficult to communicate with people. Labor based on fear of punishment also loses its educational value.

In conclusion, if the upbringing in an incomplete family is tailored to the child's individual characteristics, then voluntary family support, parenting with an interest in the labor process, such as adult reward, fear of punishment, motifs are formed.

The motivation for what motivates a child's parenting skills or personality traits depends on his or her own mental characteristics.

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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: 2020 Issue: 01 Volume: 81

Published: 12.01.2020 <http://T-Science.org>

QR – Issue



QR – Article



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## PHYSICAL EDUCATION AND SPORT PLAY AN IMPORTANT SOCIAL ROLE IN THE EDUCATIONAL SYSTEM

**Abstract:** This article is about physical education and sport play an important social role in the educational system. This article discusses the features of maintaining human health through physical education. The important role of physical culture in human life is noted. The main types of exercise to maintain health are listed, such as running, pulling up, swimming, and stretching exercises.

**Key words:** Physical education, includes, strength, society, the main, activity.

**Language:** English

**Citation:** Jalolov, S. A., Shoxidova, M. K., & Turdiyev, A. N. (2020). Physical education and sport play an important social role in the educational system. *ISJ Theoretical & Applied Science*, 01 (81), 124-127.

**Soi:** <http://s-o-i.org/1.1/TAS-01-81-24> **Doi:**  <https://dx.doi.org/10.15863/TAS.2020.01.81.24>

**Scopus ASCC:** 3304.

### Introduction

Physical education creates well-rounded people. This includes developing muscle strength, endurance, flexibility and agility. Sport permeates all levels of modern society, exerting a wide impact on the main areas of society. In support of this thesis, one can cite the words of the famous athlete Alexander Volkov: "... sport today is the main social factor that can resist the invasion of cheap culture and stupid habits. This is the best" rattle "that can distract people from current social problems. This is perhaps the only" glue "that can glue the whole nation together, which neither religion succeeds, more thread than politicians [1.p 1-5] It affects national relations, business life, social status, shapes fashion, ethical values, and people's lifestyle. Physical culture and sport are an integral part of the culture of society and of each person individually.[2. P 193] At present, it is impossible to find a single sphere of human activity that would not be associated with sports and physical culture.

Physical culture began to develop since ancient times and it is an integral part of the life of each of us. It develops the body and maintains health for many years. Physical culture is also a part of the culture of man and society as a whole, it allows achieving harmonious development of the physical and intellectual abilities of man. To be healthy, to feel confident, and, as a result, to live happily ever after without suffering from many diseases, a person must pay great attention to himself and his health. Proper nutrition and sport are the basis of beauty, strength, health and longevity. Regular workouts improve metabolism, debug the work of the cardiovascular system. A person becomes more resilient and strong. It is also scientifically proven that sports contribute to an increase in intelligence. This is due to the fact that during training the blood supply to the brain improves, which in turn stimulates mental activity. A person involved in sports takes a completely different look at life, otherwise perceives himself in society, feels more

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confident and strong, forgetting about health problems, likes himself more, as he takes on ideal forms. He begins to truly enjoy life and enjoy it. Sport is a perfect way of entertainment, it is one of the main ways of expressing talent, it is an activity that cannot be separated from our daily lives, and sometimes it is the most effective way to reduce stress and tension.

Currently, there are positive changes in the field of physical education and sports. Improving the health of schoolchildren and optimizing physical development are the priority goals of the system of physical education and sports training. Regular physical activity promotes growth and development and has multiple benefits for physical, mental, and psycho social health that undoubtedly contribute to learning.[3.p.385]. For the formation of the personality of primary school students, certain favorable conditions are necessary. The success of physical education of students to a greater extent depends on the correct combination of various forms of classes and the selection of such tools and methods that meet the requirements of the mental and physical development of a younger student and are an integral part of the entire system of educational work of the school, solving educational, upbringing, educational and therapeutic — health problems, taking into account the requirements for the body of children at this age.

The leading method of physical education formation at primary school age is outdoor games. “The game is important in the life of a child, which an adult has an activity, work, service. What a child is in the game, that is how much he will be at work when he grows up. Therefore, the education of the future leader takes place primarily in the game.”[4.p.6] An outstanding contribution to the theory and practice of the game method of teaching was made by the outstanding teacher A.S. Makarenko. A.S. Makarenko wrote: “... the cultural education of the child begins very early, when he is still far from literacy, when he only learns to see, hear and something talk. Developing a harmony of movements, it would be wrong to reduce the role of a mobile game only to physical development”[5.p.368].

Komensky was the first to define the game as an independent method learning, because through the game the child quickly and easily learns knowledge. The deep meaning of the outdoor game — in its full role in physical and spiritual life of the people, which exists in the history and culture of each country. [6.p.1]The game process activates creative thinking — finding new solutions that enrich the game with aesthetic and intellectual content. The game method develops all physical qualities in a complex. Using specially selected running games, students can successfully develop speed; jumping games develop speed-strength qualities. But the games must be varied and cover different muscle groups.[7.p.1]

Based on the main motives of the gaming activity and the relationship of the players playing upon reaching goals before the game, we divided them into three groups:

— non-team games: this group of games is characterized by the fact that there are no common goals for the players in them. In these games, children are subject to certain rules that provide for the personal interests of the player and reflect the interests of other participants;

— transitional to command: they are characterized by the fact that in them. There is no permanent common goal for the players, and there is no need to act in the interests of others. In these games, the player, at will, can pursue his personal goals, as well as help others.

— team games: first of all, these games are characterized by joint activities aimed at achieving some common goal, the complete subordination of personal interests playing the goals of their team. These games significantly enhance the health of children, have a beneficial effect on the development of psycho physical qualities.

Benefits of physical education in schools are:

Builds healthy bones; Improves strength and endurance; Reduces stress and anxiety; Helps control weight/reduces the risk of obesity; Improves blood pressure and cholesterol levels; Reduces feelings of depression; Boosts self-esteem Promotes psychological well-being. Mass health, fitness and extra curriculum sports events walks, sport games, swimming, backpacking tours, Spartakiada games, cross-country running, sports competitions etc. will help for students to be active in their social life. Outdoor play keeps students active and provides a means to increase their physical stamina and fitness, strengthen their muscles and bones, build immunity, lower the risk of many diseases like diabetes, heart problems, obesity and promote overall better health.

Speaking about the importance of using elements of outdoor games as tool to combat physical inactivity, S.D. Neverkovich argued that the use of competition in natural forms of movement would facilitate the use of outdoor games in preparation for sports[8.p 130] The role of physical activity in bone health: a new hypothesis to reduce risk of vertebral fracture.[9.p958-608]

The use of various combinations of movements in outdoor games not only activates the creative activities of children, but also promotes the use of outdoor games as a means of solving communication tasks and the main factor of their expressiveness. It is important that the children in the game strive to enjoy physical exercises that can give intense speech effort. In every outdoor game, communication is a must. Even in the absence of special pedagogical guidance for the development of communication activities, it is spontaneously and spontaneously always present and develops in the game.

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In the lessons and in extracurricular activities, we play various outdoor games with the children. They can be individual “game of tag”, “Trap”, “Hunger games” “Who will throw further”, “Wolf in the ditch”, etc., in which stubbornness, character, a healthy desire to be better are developed, leadership develops quality; and group (“Shootout”, “Ball to the captain”, “Race of balls”, “Protection of the fortress”, “Hares in the garden”, “Hunters and ducks”, etc.), which teach cohesion, partnership, mutual assistance. I recommend these games:

**Outdoor game 1. “Vegetables and fruits”.** Pupils move in a column one at a time on skis. The host calls various vegetables and fruits. If the word refers to vegetables, everyone goes in a squat, hands on their knees; if to fruit — on toes, hands behind the head. The mistaken ones stand at the end of the column.

**Outdoor game 2. “Take the place of”.** The players ski 1.5 – 2 m one after another a vicious circle. The driver follows the circle in the opposite direction, gives the command “Stop!” He touches the stick of one of the skiers and continues to quickly move in a circle. At the signal, everyone stops, and the player, who is settled by the driver, quickly runs in a circle in the same direction. Everyone seeks to take a free place. Not having time to take free the place becomes driving, the game continues.

### Outdoor game 3. Shark Attack:

The game is held on a limited platform. From among the strongest participants, a “shark” (driver) is selected. All other participants (fish) remove the sticks, put them in the center of the site and scatter. At the signal, the “shark” begins to catch “fish”. The one

whom the “shark” inflicts becomes a “shark”. He takes his sticks and also begins to catch “fish”. The game ends when they catch the last “fish”. Players can only be pushed by hand.

So, physical culture should be considered as a special kind of cultural activity, the results of which are useful for society and the individual. In sports, a person seeks to expand the boundaries of his capabilities, this is a huge world of emotions generated by successes and failures, the most popular sight, an effective means of educating and self-education of a person, and it contains the most complicated process of anti human relations. Sport is actually a competitive activity and special preparation for it. It lives by certain rules and standards of behavior. It clearly shows the desire for victory, achieving high results, requiring the mobilization of the physical, mental and moral qualities of a person. Therefore, they often talk about the athletic nature of people who successfully prove themselves in competitions. Satisfying many human needs, sports become a physical and spiritual necessity. The value and role of physical culture and sport in the life of every person is of great importance.

Thus, we can conclude that physical education is a process of certain educational and educational tasks for the development of personality, which is characterized by a pedagogical character. A distinctive feature of physical education is that it provides a systematic formation of motor skills, abilities and knowledge, directed development of a person’s physical qualities, the totality of which determines his physical capacity as a whole.

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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: 2020 Issue: 01 Volume: 81

Published: 12.01.2020 <http://T-Science.org>

QR – Issue



QR – Article



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## SYNTAGMATIC MEANING AND ITS WAYS OF EXPRESSION

**Abstract:** This article analyzes the syntactic relationship between language units and the linguistic features of the means to express such relations.

**Key words:** syntactic meaning, level relation, speech activity, functional meaning, referent meaning, syntactic form, morphological form.

**Language:** English

**Citation:** Usmonova, H. (2020). Syntagmatic meaning and its ways of expression. *ISJ Theoretical & Applied Science*, 01 (81), 128-130.

**Soi:** <http://s-o-i.org/1.1/TAS-01-81-25> **Doi:**  <https://dx.doi.org/10.15863/TAS.2020.01.81.25>

**Scopus ASCC:** 1203.

### Introduction

Our definitions of the objective world are formed by the use of material, which is formed by the sequence of sounds. In this process, there is a discrepancy between the sequence of sounds, the location of the language units in a single line, and the level of meaning (hierarchical), "tree of subordination". That is why A.Martine said that the vocal nature of our language requires a linear representation of our nonlinear experiences [3.277]. An example of this is the relationship between headaches and speech patterns. In fact, there is no linearity in the case of human headaches. However, a linear structure is used to describe this condition in a particular language: To explain this to the physician, we use consecutive linguistic means like I have a head-ache. Speech activity requires segmentation. Segmentation requires large integrity to be subdivided from simple to complex based on small elements.

According to some authors, the existence of a separate syntactic meaning in the passage of speech requires a shift from a chain-like arrangement of word forms to a "tree-like" meaning.

First of all, the syntactic meaning combines the functional meaning of the words with the lexical meaning. For example, the syntactic meaning of the word *bugun(today)* is combined with its lexical meaning of the word *bu kun(this day)*. There is a balance between the referent meaning of the word and the syntactic function of the word.

Often there may be a mismatch between the functional meaning of the word and the referent meaning. This is particularly the case in a case of functional transposition.

As noted above, there is a distinction between dividing the speech chain into phonetic segments and meaningful parts. There is often a mismatch between them. Taking into account such disproportions, linguistics also differ in terms. Functional meaning and syntactic function are overlapped.

Functional meaning also refers to meaningful integrity. It contains the lexical meaning of the word and its functional meanings in the chain of speech. Functional meaning can combine several referenced meanings. For example, when is the combination of *kecha kechqurun(last night)* in the whole sentence? The answer to the question is a single functional meaning. The verb, formed in the form of a cross-section, is a syntactic unit that complements the **temporal** valence of the predicate.

Likewise, when considering the relation of form and meaning in syntactic units, its formative aspect consists of the interaction of syntactic function or syntactic form and morphological forms, with a dialectic of generality and identity.

Any syntactic form represents the complete integrity of syntactic units. The syntactic form, in turn, consists of morphological forms. Therefore, the material agents that form the syntactic form are morphological forms.

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Although the syntactic form and the morphological form are interconnected concepts, they are mutually exclusive.

First of all, these two concepts are quite different in level. If the morphological form is related to the morphological level of the language, the syntactic form is the syntactic unit. Therefore, the morphological form acts as a material basis for the syntactic form. The syntactic form now consists of a morphological form.

The syntactic form and the morphological form are often inconsistent. Just as a syntactic form can be composed of a single morphological form, it can also consist of several morphological forms.

When a syntactic form consists of a single morphological form, there is a quantitative coherence between the two forms.

If a certain syntactic form consists of several morphological forms, then there is a discrepancy between the syntactic form and the morphological form. For example, a combination of *Shamoldan tez uchgan poezd (the train flew faster than the wind)* is composed of two parts, from the point of view of the syntactic form - four components, and the morphological four. The previous three morphological forms are interconnected and come in one syntactic function for the word *train*. Therefore, within these compounds, these three morphological forms act as one syntactic form. The grammatical agents that generate morphological forms are nonfunctional for the syntactic form. Their function applies only to the internal members of the syntactic form.

For example, *the apricot erected in the yard of Murodali was the largest of all trees in the village.*

In the given sentence, the combination of *apricots raised in the yard of Murodali* consists of two parts - the detectors of the *erected in the yard of Murodali* and *the apricot* identification form three unity morphological units.

Accordingly, word forms that have such a grammatical value, that is, morphological forms, also serve as the inner members of the syntactic form.

It is important to note that the syntactic structure of the sentence is not only a syntactic approach, but also a lexical meaning of the verbs that are the grammatical and meaningful center of the sentence. Therefore, the more meaningful the syntactic connection between the members of the sentence, the

more the lexical meaning of the verb in the sentence is. With this in mind, the meaningful study of the verb was also based on its syntactic relation. Also, in recent years, the syntactic analysis of the sentence has become more and more important.

Studying the structural content of syntactic connections by structural methods has somehow prevented the asymmetric relationship between the meaningful and formative structure of syntactic units. Structural methodological study of linguistic units has focused mainly on the formal aspect of syntactic units. The main goal was to model syntactic units based on the formal side.

Further emphasis on the existence of synonyms and synonyms in syntactic units has increased the need to illuminate the relationship between form and content of syntactic units as one is convinced that a syntactic situation can be expressed by several syntactic units.

As a result of an in-depth study of the relationship between form and content of syntactic units, E. Kurilovich has come to the conclusion that there are two types of syntactic functions: primary and secondary functions [1.182; 2.59]. He came to this view because of the asymmetric relationship between the form and the content of the syntactic units.

First of all, it is a syntactic designation that takes into account the specific grammatical forms of the lexeme in the sentence. However, asymmetry involves not only functional indicators, but also syntactic positions that are free from the specific form of syntactic meaning. In the first case, we are talking about the different meanings of particular words that take part in the speech process, and in the second case the poly functionality of syntactic positions. In particular, the position may include not only the subject of action, but also the names of other participants in the objective reality, speech state - object or other participants.

Apparently, according to E. Kurilovich's conception, the speech situation is more specific for the position of the subject and the subject with the aggressive type of participants. However, having a position is not limited to *agens*. At the same time, *agens* do not always have to be in a position of subject. Therefore, the presence of the subject-*agens* in its existing position is its primary function, and the remaining position is its secondary function.

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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: 2020 Issue: 01 Volume: 81

Published: 10.01.2020 <http://T-Science.org>

QR – Issue



QR – Article



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## FERGANA EVENT OF THE SOVIET RECONSTRUCTION POLICY

**Abstract:** This article provides information connected with the protests in the allied countries, social severe presence of the national conflict, its causes and effects in Uzbekistan during the last years of Soviet government.

**Key words:** Soviet government, Fergana, national conflict, reconstruction (restructuring) policy, economic retardation, social situation.

**Language:** English

**Citation:** Abuyev, H. O. (2020). Fergana event of the Soviet reconstruction policy. *ISJ Theoretical & Applied Science*, 01 (81), 131-134.

**Soi:** <http://s-o-i.org/1.1/TAS-01-81-26> **Doi:**  <https://dx.doi.org/10.15863/TAS.2020.01.81.26>

**Scopus ASCC:** 1202.

### Introduction

The difficult socio-economic and socio-political situation in the Soviet government in the late 1980s led to protests against the regime in the allied national republics.

The economic backwardness was combined with the need to revise the internal relations of the USSR, focus on the fate of nations, and grant sovereignty to the republics. The impact of the reconstruction process on public consciousness led to the democratization of the state's religious beliefs and religious people. In particular, religious life and religious groups in Uzbekistan were revitalized, and the activities of the Central Asian Muslim religious administration radically changed.

The emergence of the People's Front in the Baltic Countries, as well as their slogans on giving the national language status to their languages, made a great influence on Uzbek intellectuals. To that time, socially and politically independent organizations emerged in Uzbekistan. Some members of Tashkent intelligentsia joined the Aral Sea Rescue Committee. Several members of this committee on November 11, 1988 organized “Birlik” initiative group. Researchers admit that

“Birlik” organization is similar in origin and activities to Baltic People's Front. [1: 15-27-p].

During the years of reconstruction in Uzbekistan, there were no ethnic conflicts or fights.

In the different spheres of State governing bodies the number of non-local representatives exceeded the number of local representatives. In the industrial and other cities, there was a large number of European representatives in the governing bodies. Nevertheless, there was no ethnic conflict during the reconstruction years because there was no aggressive nationalism in the psychology and worldview of Uzbek people, moreover they had increased respect and esteem for other ethnic groups and nations. No national conflict arose during the governing period of the Soviet Union. Even the Law on giving “The Status of State Language to Uzbek language” dated from 1989 [2] was written in a very lenient way. The separate articles of the current Constitution of Uzbekistan [3] also include a provision that the languages of other nationalities living in the republic of Uzbekistan should be respected and developed.

The disagreement between the Meskhetian Turks and the locals in the Fergana Valley was an artificial provocation, it was not an indication of aggression of local people against the other nationalities. On the contrary, the governing center was interested in increasing artificial inciting national hatred in Uzbekistan to mislead the public. Analyst of the events in Fergana H. Bobobekov showed that the main cause of this event was the poor socio-economic situation and, as a consequence, the tension between them increased year by year. [4] The media, which was

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closely linked to the center, sought to make the event as a national one.

According to a well-thought-out plan of some forces interested in aggravation of the situation in the country a social conflict of non-national importance was shown as an interethnic conflict. Over a hundred ethnic groups lived in Uzbekistan during the Soviet period, and the Uzbeks lived in peace and harmony with them. However, some researchers try to interpret the ethnic conflicts, which were the result of social problems, as a conflict in the spirit of nationalism. [5] It is natural that there is a sense of instinctive nationalism among all nations.

In June 1989, the social conflict among the population of Fergana region which is known as "Fergana Event" or "Fergana tragedy" was stamped and interpreted as the ethnic conflict between Turks and Uzbeks at the center and became the cause of sensation.

In order to provide the security of state borders during the Second World War, the Meskhetian-Turks were resettled to the interior parts of Georgian SSR, as well as to the Central Asian Countries such as Kazakhstan, Uzbekistan and Kyrgyzstan, according to an absolutely confidential document №789 issued by the State Department of Defense from July 24, 1944. [6:16-p]

According to the population census of the Soviet Union in the 1989, 207,500 Turks lived in the USSR. [7:22-p] More than 90 percent of them were relocated from Akhalsikh, Adigen, Akhalkalak, Aspindz and Baghdad areas, the five administrative districts of South Georgia on the border with Turkey in the former USSR. These were the historic provinces of Georgia, where the Meskhetians inhabited. For this reason, the population of these areas is known as the Meskhetian-Turks or the Turk-Meskhetian.

In 1956 the Meskhetian Turks were brought under the administrative control, but never returned to their homeland. In the 50-60s of the XX century a small number of the Meskhetian Turks migrated to Azerbaijan and the North Caucasus, but most of them stayed to live in Central Asia and Kazakhstan. In 1989, the largest number of them lived in Uzbekistan, that is, 106.3 thousand Turks based on the census. [8: 113-p.] Of these, 43.2 thousand Turks lived in Tashkent region, 18.5 thousand in Samarkand, 18.7 thousand in Syrdarya, and 13.6 thousand in Fergana (during Fergana Event the number was recorded about 17 thousand) [9: 22-p], about 5 thousand in Andijan, 3 thousand in Namangan, 1.5 thousand in Bukhara. [10]

According to the Fergana population census in 1989, the number of total population was 2142000, from them 1735,000 Uzbeks, 123800 Russians, 114500 Tajiks, 43,600 Kyrgyzs, 22,700 Tatars, 13,600 Crimean Tatars and Turks. [11:100-p] The non-Uzbek population was located in Fergana. The

Uzbeks, the majority of the population, lived in Margilan and Kokand

The Meskhetian Turks in Uzbekistan were mainly concentrated in rural areas, in the areas near the provincial and district centers. Most Turks, mainly in Tashkent and Syrdarya regions, were engaged in agricultural production, as well as in industrial and construction works in Samarkand and Ferghana Valley. You can see that there was a small number of intellectuals among the Meskhetian Turks. Intellectuals were mainly teachers, doctors, engineers and workers. In many regions the majority of Meskhetian Turks received the highest income from their lands and agriculture, in comparison with other ethnic groups living in Uzbekistan. They were also rarely seen in the lower ranks of party management in the government.

In 1988, the reconstruction process began to manifest itself in Uzbekistan. In the country, especially among Uzbek intellectuals, there was a press release on corruption, abuse of government and restructuring of the "Gdlyan case", environmental problems, including the Aral Sea tragedy, which led to serious changes in the social consciousness of the population. The publications on these topics proved that most of the people of Central Asia lived in a difficult situation.

The tragic poverty of Central Asia and the rise of socio-economic problems at the same time caused the discontent of the intelligentsia over the resolute and weak activity of the existing government of the UzSR in solving these problems.

The First President of the Republic of Uzbekistan I.Karimov wrote about the reasons of conflict of Uzbek and Meskhetian-Turkish people, who lived in a mutual and peaceful co-existence for fifty years. I.Karimov wrote: "The events in Fergana and subsequent ones gave rise to distrust among people of different nationalities. Who started it? I am convinced that the center of these incidents is outside the country. A critical situation of the allied republics in the period of transition to the market relations is necessary for someone. Under such circumstances, it is possible to intervene into their internal affairs at any time and to resolve the issue in any direction." [12]

According to the sources, 103 people were killed and 1009 injured during the June events of 1989, 137 of them were servicemen. In addition, 650 homes were burned down and over 100 cars set on fire. Several hundred people were detained and prosecuted. 5661 firearms were confiscated from the population. 4981 Meskhetian Turks, including 1765 children, were evacuated by plane to the refugee camp. [13: 66-p.]

According to the commission of the Central Committee of Uzbek SR, 103 people were killed, 52 of them were Meskheti-Turks, 36 of them were Uzbeks, 1011 were injured, 137 servicemen of internal troops and 110 police officers were injured,

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757 houses, 27 state objects, 275 vehicles were plundered. [14]

According to the information given by B. Dziov, the Deputy Chief of the Main Executive of Criminal Investigation of the Ministry of Internal Affairs of the USSR, 106 people were killed by the end of July. [15] According to the USSR Prosecutor General Office in the late 1990s, 112 people were killed and 51 were Turks. [16] According to the investigation group at the end of July, about 2,000 were involved in the violations, of which about 600 were active. At the beginning of October 1989, 225 people were arrested, 41 of whom were imprisoned for premeditated murder. In December 238 criminal cases were launched. [17] At the end of 1990 364 people were persecuted, [18] 408 people were taken to administrative prison. [19] In 1991, the court issued a sentence to about 100 people, two people were sentenced in a special order. 250 criminal cases were sentenced to 5 years. In total, 420 people were considered guilty. [20]

On June 23, 1989 in the 14<sup>th</sup> plenum of the Communist Party's Central Committee of the Republic of Uzbekistan R. Nishanov was elected as a Chairman of the All-Union National Council of the USSR, in connection with the fact that he was dismissed from the post of First Secretary of the Communist Party of UzSSR, Islam Karimov was

elected to the position of the First Secretary CP of UzSSR. [21] Under the influence of the party, 124 people were taken under severe penalties. The Minister of Internal Affairs of Uzbekistan U.S. Rakhimov, the Head of the Department of the State Security Committee of Fergana region N.G. Leskov and the Head of the Department of Internal Affairs of Fergana region S. Yu. Burkhonov were dismissed from their positions. [22] At the beginning of 1991 year more than 90 thousand Turks left the territory of Uzbekistan.

The occurrence of these events is supported by another researcher as following: "The State Security Committee and other forces outside the republic were involved in these tragedies, by this way the center wanted to show that without their control and assistance the population of the UzSSR or any other republic of the USSR could be easily exposed to irregularities, disorders and violence". [23: 154-15-p.] In the photos of Fergana events the people who were dressed in national clothes actually were people of other nationalities not Uzbek ones. [24]

## CONCLUSION

The center used these methods in order to keep its power and protect its interests. Nothing could stop the center in achieving their goals even the violation of the rights and interests of other nations.

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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: 2020 Issue: 01 Volume: 81

Published: 23.01.2020 <http://T-Science.org>

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QR – Article



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## COGNITIVE SIMULATION OF PRICE CHANGES AND MONEY COSTS OF THE POPULATION OF THE REPUBLIC OF KAZAKHSTAN

**Abstract:** The problem is solved in the article: for a given real multidimensional sample of values  $m = 44$  values of 6  $x$ -factors and  $m = 44$  values of the “dial-up traffic” indicator, find generalized factors of very low purchasing power of the population of the Republic of Kazakhstan. 3 generalized factors containing change indicators are found prices and cash expenses of the population of the Republic of Kazakhstan and 2 measurable indicators - “the need to buy (save money, build) a house (apartment)” (urgent need, 20,98%) and the strongly expressed “need for the Internet” (civilized income of an individual, 25.745). The dynamics of these factors and indicators reduced the purchasing power of the population.

**Key words:** dial-up service, cognitive simulation of price changes.

**Language:** Russian

**Citation:** Zhanatauov, S. U. (2020). Cognitive simulation of price changes and money costs of the population of the republic of Kazakhstan. *ISJ Theoretical & Applied Science*, 01 (81), 135-143.

**Soi:** <http://s-o-i.org/1.1/TAS-01-81-27> **Doi:**  <https://dx.doi.org/10.15863/TAS.2020.01.81.27>

**Scopus ASCC:** 2604.

### КОГНИТИВНОЕ МОДЕЛИРОВАНИЕ ИЗМЕНЕНИЙ ЦЕН И ДЕНЕЖНЫХ РАСХОДОВ НАСЕЛЕНИЯ РЕСПУБЛИКИ КАЗАХСТАН

**Аннотация:** В статье решена новая задача: для заданной реальной многомерной выборки значений  $m=44$  значений 6  $x$ -факторов и  $m=44$  значений показателя «трафик dial-up» найти обобщенные факторы очень низкой покупательной способности населения Республики Казахстан. Найдены 3 обобщенные факторы, содержащие показатели изменений цен и денежных расходов населения Республики Казахстан и 2 измеряемых показателя – «необходимость купить (копить деньги, строить) дом (квартиру)» (насущная потребность, 20,98%) и сильно выраженная «потребность в интернете» (цивилизованная потребность индивида, 25.745). Динамики этих факторов и показателей снизили покупательную способность населения.

**Ключевые слова:** dial-up услуга, когнитивное моделирование изменений цен

#### Введение

С появлением широкополосного доступа в интернет, использование dial-up услуг уменьшилось в значительной степени по сравнению с 90-ми годами 20 века. Скорость около 2 Мбит/сек предоставляемыми услугами широкополосной связи является основной причиной падения dial-up сервиса. Тем не менее, многие люди используют интернет только для

целей открытия веб-браузера и доступа к электронной почте. Это не требует высокой пропускной способности или скорости линий связи по проводам. Модемы, которые используются в dial-up-подключениях на скоростях до 56 Кбит/сек.

Мы не рассматриваем интернет-контенты такие как «streaming media», видеоконференции и онлайн-игры. dial-up service сохранил свою



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жизнеспособность в селах Казахстана, находящихся далеко (в отдаленных районах) от инфраструктурных объектов Шелкового пути «Западная Европа-Китай», в отдаленных районах, в опустевших малых городах. Несмотря на относительно высокие тарифы (7499-8999 тенге) dial-up услуги (до 200 Мбит/с) востребованы.

Для некоторых high-end сервисов в интернете даже не требуются клиенты. Dial-up соединения в таких случаях служат цели удовлетворения потребностей клиентов с низким и ограниченным бюджетом. Таким образом, было бы уместно сказать, что dial-up интернет соединение будет еще долго востребован населением с низкой покупательской способностью (<http://www.titus.kz/?previd=102368>).

«Так, у РК в мировом рейтинге 88 баллов из 240 возможных. По представленной шкале, где имеется три сектора (красный, желтый, зеленый) и пять основных уровней, это незначительно выше «красной зоны», что значит «умеренный».

«Качество жизни в городах и странах ...» на интернет-ресурсе <http://www.titus.kz/?previd=102368> от 22 Января 2019 года имеется информация «на основе данных о стоимости жизни и покупательной способности денег, доступности жилья, преступности, уровне здравоохранения, состоянии окружающей среды и т. д.» «Также в Казахстане, по данным указанного сайта, очень низкий индекс покупательной способности (38,3) и стоимости жизни (29,64). При этом высокий уровень загрязнения (74,37). Что касается доступности недвижимости или соотношения ее цены к доходу, то статус значится как умеренный (11,55)».

Интересны показатели РК по значениям разных индексов и их качественных характеристик:

«Индекс покупательной способности 38,3. Очень низкий.

Индекс безопасности 35,5. Низкий.

Индекс здравоохранения 51,73. Умеренный.

Климатический индекс 39,78. Умеренный.

Индекс стоимости жизни 29,64. Очень низкий.

Соотношение цены недвижимости к доходу 11,55. Умеренное.

Индекс времени движения до минимума 29,75. Низкий.

Индекс загрязнения 74,37. Высокий.

Итого: индекс качества жизни 88,06. Умеренный.

Кроме того, приведена аналитика по двум казахстанским городам. В Алматы уровень жизни хуже, чем в Астане, - 87,9 балла против 111,13. Столице присвоена высокая оценка по критериям безопасности, доступности жилья и загрязнению»<sup>1</sup>.

Мы ниже рассматриваем покупательную способность населения Казахстана, она показывает, сколько среднестатистический потребитель может купить на определенную сумму денег товаров и услуг при существующем уровне цен. Падение покупательной способности и рост покупательной способности валюты тенге не рассматриваем.

«Индекс покупательной способности 38,3 и Индекс стоимости жизни 29,64 находятся в левом конце шкалы индексов и оценены 22 Января 2019 года как «Очень низкий»<sup>1</sup>. Такие же оценки, а может еще негативнее, эти индексы имели место в 1999-2001 годах. Наш анализ подтверждает эти оценки. Причир - внезапно возникшая необходимость купить (копить деньги, строить) дом (квартиру) и сильно выраженная потребность в интернете (цивилизованная потребность индивида). Эти виды затрат отсутствовали в СССР. Динамики ростов их значений видна из данных Таблицы 1. Вследствие этих причин повседневная покупательная способность населения падала. И 22 Января 2019 года индекс покупательной способности населения РК соответствовал оценке «очень низкий».

Значительно худшие значения разных индексов и их качественных характеристик по рейтингу РК были в 1999-2001 годах. Ниже приведены данные, собранные в эти годы и мы анализируем их ниже.

В те годы население массово строило дома, наблюдался строительный бум, появились новые невиданные стройматериалы, появился интернет (dial-up услуги).

Рассмотрим набор существенных для рассматриваемого периода времени показатели изменений цен и денежных расходов населения Республики Казахстан. Проведем Когнитивное моделирование изменений цен и существенных денежных расходов населения на жилье, непродовольственные товары, интернет Dial up и прочие товары повседневного потребления»

Расчеты по данным показывают: менеджеры ОАО "Казахтелеком" назначали цены на виды услуг связи, обусловленные необходимостью покрыть расходы. С точки зрения маркетинга эффективное ценообразование определяется спросом потребителей и уровнем конкуренции за исключением того предела, ниже которого продажи становятся нерентабельными. Похоже, что допущение экономистами оптимальной цены в виде известной кривой спроса является безнадежно нереальной в телекоммуникационной отрасли РК.

Ниже убедимся, что цены на виды услуг связи практически не влияют на объемы видов услуг связи Y1, Y2, Y3, Y4, Y5, Y6 для населения с низкой покупательной способности их денег. Из 6 видов услуг связи для населения:

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Количество новых подключений  
(Количество шт. ОТА, Y1)

Количество абонентов сети (Количество шт. ОТА, Y2)

Междугородный трафик (минуты, Y3)

Международный трафик на СНГ (минуты, Y4)

Международный трафик на ДЗ (минуты, Y5), мы здесь рассматриваем «трафик Интернет Dial up (минуты, Y6). Рост потребления этого вида связи и рост ввода новых домов наблюдался в рассматриваемый нами промежуток времени. Мы рассмотрим показатели, влияющие на Y6=«трафик Интернет Dial up (минуты) для населения». Заметим, что в настоящее время трафики видов услуг связи измеряются в тысячах минут, среди них нет интернета Dial up.

На виды услуг связи для населения Y1, Y2, Y3, Y4, Y5, Y6 (Y-факторы) практически не влияют следующие X-факторы: X4=Численность городского населения, X6=Уровень официально зарегистрированной безработицы, X8=Денежные доходы населения (в среднем на душу населения), X9=Величина прожиточного минимума на душу населения, X10= Изменение цен на потребительские товары и услуги, X14=Изменение цен на услуги связи для населения, X17=Покупка товаров для содержания домашних хозяйств (в среднем на душу населения), X18=Налоги, сборы, платежи (в среднем на душу населения), X19=Расходы населения на услуги связи

Показатель X14=Изменение цен на услуги связи для населения не входит в число X-факторов, оказывающих влияние на трафик, то этот факт служит основанием для вывода: спрос на виды услуг связи Y1, Y2, Y3, Y4, Y5, Y6 для населения не эластичен. Почему? Ответы будут даны ниже.

Мы не рассматривали эластичности спроса на виды услуг связи Y1, Y2, Y3, Y4, Y5, Y6 для населения по каждому X- фактору. Но по микроэкономической теории спроса на услуги или товары [4] рассматривается эластичность спроса населения по цене. Следовательно в 1999-2001 годы экономика РК находилась в переходной фазе, регулировалась не по законам рынка. Развал плановой экономики, не перешедшей в ту, у которой была бы своя эмпирическая теория, привел к ситуации, анализируемой нами по реальным данным и Таблицы 1. Выявились многие факты, не укладывающиеся в микроэкономическую теорию спроса и предложения [4]. Спрос по цене на виды услуг связи Y1, Y2, Y3, Y4, Y5, Y6 для населения оказался неэластичным.

Научно обоснованные решения маркетологов ОАО "Казахтелеком" опирались на известную теорию спроса и предложения, а желания покупателей услуг связи очень часто

противоречали друг другу из-за очень низкой покупательной способности населения. Менеджеры ОАО "Казахтелеком" определяют высший уровень цены, чтобы получить прибыль и вернуть инвестиции, а маркетологи выявляют низший уровень цены, изучая потребителей. В итоге цена проявляется как результат переговоров, а не как сущность продуманной и апробированной стратегии. При таком подходе все теоретические изыскания по поводу политики и стратегии цен на виды услуг связи является надуманными и плохо реализуемыми, в то время как политика становится адаптивной, неустойчивой и не обеспечивающей необходимые финансовые решения.

С позиции традиционного бухгалтерского учета точка зрения менеджеров ОАО "Казахтелеком" обусловлена необходимостью покрыть израсходованные затраты доходами от предоставленных услуг связи. С точки зрения традиционного маркетинга эффективное ценообразование определяется спросом потребителей и уровнем конкуренции за исключением того предела, ниже которого продажи становятся нерентабельными. Но ОАО «Казахтелеком» являлся естественным монополистом, конкуренция отсутствовала, рынка не было. Стандартные методы анализа рынка не пригодны, требовались иные модели анализа. Наш подход является ориентированным на реальные данные, применялся в практике работы автора в Экономическом Департаменте ОАО «Казахтелеком».

По нашим расчетам видно, что допущение экономистов о том, что существует оптимальная цена на виды услуг связи Y1, Y2, Y3, Y4, Y5, Y6 для населения в виде известной кривой спроса является безнадежно нереальной в условиях РК 1999-2001 годов. Ценообразование для большинства компаний в рассматриваемый период времени оставалось в ловушке между затратным подходом и подходом, опирающимся на потребителя, которые совершенно несовместимы между собой.

Если цена не определяет спрос, что было выявлено нами в расчетах и обосновано выше, то надо рассматривать те факторы, те причины, которые на практике влияют на объем трафика. экспериментальным

Таковыми факторами, как мы показали при расчетах оказались 6 X- факторов: x12, x13, x15, x16, x20, x21.

**Исходные реальные данные по 6 существенным X-факторам и по оплаченным населением за минуты услуг интернета Dial up**

Рассмотрим многомерную выборку значений  $X_{mn}^0 = \{x_{i,j}^0\}$  m=44 значений 6 X-факторов (первые 6

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столбцов  $X_{mn}^0$ ) и  $m=44$  значений показателя  $u$  (трафик dial-up, 7-ый столбец  $X_{mn}^0$ ).

Определим средние значения  $x_{cp}=(104.1522727, 103.7522727, 4288,3930,216, 108681, 7838,6)$   $x$ -факторов, а также среднее значение объема трафика Dial up. Определим стандартные отклонения  $(s_1, s_2, \dots, s_6, s_7)=(1322.089773, 262.0497727, 31787266.61, 38281166.6, 179555.9514, 66917539678.80, 1537407926.01)$ .

Вычислим стандартизованную матрицу  $Z_{44,7}=\{z_{ij}=x_{ij}/s_j$ . Формула  $x^0=x^{cp}+zs$  показывает структуру разложения измеренного значения  $x^0$  на слагаемые. Первое слагаемое ( $x^{cp}$ ) называется ожидаемым значением, его значение является главной частью значения  $x^0$  реального показателя и имеет единицу измерения. Второе слагаемое ( $zs$ ) показывает число  $z=(x^0-x^{cp})/s$  отклонений (стандартных) в отклонении исходного значения  $x^0_{ij}$  от значения выборочного среднего:  $x_{ij}=(x^0_{ij}-x_j^{cp})$ ,  $z_{ij}=x_{ij}/s_j$ , где  $x_{ij}=(x^0_{ij}-x_j^{cp})=z_{ij}s_j$ .

Смыслы 6  $x$ -факторов и трафика соответствуют смыслам  $z$ -переменных.

z1 -Изменение цен на непродовольственные товары

z2 - Изменение цен на платные услуги

z3 -Денежные расходы населения (в среднем на душу населения)

z4-Потребительские расходы (в среднем на душу населения)

z5-Прочие расходы (в среднем на душу населения)

z6-Ввод в действие жилых домов

z7-Трафик интернета Dial up (минуты)

Матрица из Таблицы 2 вычислена по выборке (Таблица 1) объема 44 (за 44 месяцев 1999-2001гг интенсивного периода пользования услугой интернета Dial up). Матрица собственных векторов из Таблицы 2 применяется для Когнитивного моделирования изменений цен и денежных расходов населения Республики Казахстан. В Таблице 1 имеются данные, ранее отсутствовавшие в советское время. Для населения интернет был необычным занятием, влияющим на его новые денежные расходы. Другой вид затрат – необходимость иметь (строить, купить) свой дом (квартиру).

Ниже найдем 3 обобщенные факторы, содержащие показатели изменений цен и денежных расходов населения Республики Казахстан и 2 измеряемых показателя – «необходимость купить (копить деньги, строить) дом (квартиру)» (насушенная потребность, 20,98%) и сильно выраженная «потребность в интернете» (цивилизованная потребность индивида, 25.745). Динамики этих факторов и показателей снизили покупательную способность населения.

Они не удовлетворяют допущениям экономистов об оптимальной цене в виде известной кривой спроса является безнадежно нереальной в телекоммуникационной отрасли РК.

Таблица 1

1	2	3	4	5	6	7	8	9
	X-факторы	X12	X13	X15	X16	X20	X21	Y6
1	01,01,1999	99,9	102	2 973	2 611	188	45 853	418,8
2	01,02,1999	99,6	102	2 904	2 564	167	69 978	501,9
3	01,03,1999	99,2	102	2 786	2 475	144	80 691	692,1
4	01,04,1999	106	103	2 786	2 467	162	65 248	721,1
5	01,05,1999	107	104	2 962	2 580	195	73 459	1002,9
6	01,06,1999	112	105	3 294	2 800	266	109 003	994,1
7	01,07,1999	113	107	3 248	2 839	183	65 308	942,9
8	01,08,1999	114	108	3 578	3 119	226	60 676	1118,1
9	01,09,1999	116	108	3 600	3 088	212	133 817	1436,6
10	01,10,1999	117	109	3 681	3 233	207	95 726	2251,4
11	01,11,1999	119	110	3 748	3 265	250	85 074	2523,2
12	01,12,1999	120	110	4 367	3 829	295	220 629	3037,3
13	01,01,2000	100	103	3 747	3 303	237	49 059	3018,5
14	01,02,2000	100	103	3 680	3 227	247	99 853	3275,3
15	01,03,2000	100	103	3 660	3 156	272	98 187	3543,2
16	01,04,2000	101	103	3 599	3 102	268	66 072	3389,9

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17	01,05,2000	101	103	3 828	3 235	363	91 311	3847,0
18	01,06,2000	102	104	3 961	3 318	375	224 314	3624,4
19	01,07,2000	103	104	3 881	3 314	280	95 648	4000,4
20	01,08,2000	103	104	4 171	3 580	287	84 101	4425,9
21	01,09,2000	104	105	4 273	3 634	292	119 598	4946,5
22	01,10,2000	104	106	4 359	3 782	272	88 575	7323,0
23	01,11,2000	105	107	4 320	3 804	254	60 394	8172,8
24	01,12,2000	106	107	4 463	3 893	318	140 570	8335,3
25	01,01,2001	100	102	4 583	4 449	150	107 536	10027,0
26	01,02,2001	100	101	4 502	4 347	156	98 764	9857,8
27	01,03,2001	101	101	4 477	4 251	172	109 699	10419,7
28	01,04,2001	101	102	4 164	4 080	111	90 981	10025,6
29	01,05,2001	101	102	4 429	4 255	151	137 506	9903,2
30	01,06,2001	101	102	4 583	4 364	156	140 779	10273,3
31	01,07,2001	102	102	4 523	4 373	138	104 366	10369,2
32	01,08,2001	102	102	4 861	4 724	141	127 193	10484,0
33	01,09,2001	103	102	4 980	4 795	144	132 099	11048,0
34	01,10,2001	104	103	5 293	5 101	146	141 257	12707,2
35	01,11,2001	104	103	5 246	5 130	136	113 962	13723,4
36	01,12,2001	105	104	5 420	5 250	170	202 184	15323,2
37	01,01,2002	99,5	101	5 499	5 333	190	112 636	17458,8
38	01,02,2002	99,2	101	5 400	5 210	198	107 162	16393,9
39	01,03,2002	99,1	102	5 371	5 096	218	120 067	17878,9
40	01,04,2002	99,5	103	4 968	4 839	161	109 789	17650,0
41	01,05,2002	102	103	5 285	5 046	219	124 172	17098,9
42	01,06,2002	103	103	5 468	5 176	226	154 799	15967,4
43	01,07,2002	103	104	5 740	5 357	266	106 626	16825,6
44	01,08,2002	103	104	5 990	5 526	299	117 224	17921,8

### Модели и задачи

Размерности 6 x-факторов: x12,x13,x15,x16, x20,x21 разные. Поэтому вычисляем стандартизованные безразмерные значения z-переменных с номерами 1,2,3,4,5,6,7. Полученную из исходной реальной матрицы  $X_{44,7}^0$  (Таблица 1) стандартизованную матрицу  $Z_{44,7}$  преобразуем, применив соотношения из модели ПМ ГК [1,2]. Для вычисленной корреляционной матрицы  $R_{7,7}$  решам Прямую Спектральную Задачу (ПСЗ):  $R_{7,7} \Rightarrow (\Lambda_{7,7} C_{7,7})$ . ПСЗ - прямая задача диагонализации известной выборочной корреляционной матрицы  $R_{nn}$ . Она решается для симметрической матрицы  $R=R^T$ , в результате вычисляются 2 матрицы: ортонормированная матрица  $C_{nn}$  собственных векторов  $c_j=(c_{1j},c_{2j},\dots,c_{nj})^T$ , расположенных по её столбцам:  $C_{nn}=[c_1|c_2|\dots|c_n]$ , согласованная со спектром  $\Lambda_{nn}=diag(\lambda_1,\dots,\lambda_n)$  таким образом, что  $RC=CA$ ,

$$C^TC=CC^T=I_{nn}, \quad \text{diag}(R_{nn})=(1,\dots,1), \\ \text{tr}(R_{nn})=1+1+\dots+1=\text{tr}(\Lambda_{nn})=\lambda_1+\dots+\lambda_n=n, \lambda_1 \geq \dots \geq \lambda_n \geq 0.$$

Для анализа вычисленных значений элементов спектра  $\Lambda_{7,7}=\Lambda_{nn}=diag(\lambda_1,\dots,\lambda_7)$  такого что:  $RC=CA, C^TC=CC^T=I_{nn}, \text{diag}(R_{nn})=(1,\dots,1), \text{tr}(R_{nn})=1+1+\dots+1=\text{tr}(\Lambda_{nn})=\lambda_1+\dots+\lambda_n=n=7, \lambda_1 \geq \dots \geq \lambda_n \geq 0$ , используем Математическую Модель Спектра Неизвестной Корреляционной Матрицы [3].

Для анализа вычисленных значений элементов матрицы собственных векторов  $c_j=(c_{1j},c_{2j},\dots,c_{nj})^T$ , где его компоненты иначе интерпретируются. Матрица  $C_{7,7}$  теперь в рамках разработанной новой Когнитивной Модели Изменений Цен и Денежных Расходов Населения Республики Казахстан интерпретируется как «матрица  $C_{7,7}$  коэффициентов комбинационных связей» [5]. Комбинационная связь - связь между одной y-переменной и n z-переменными,

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представляется в виде вектора  $\mathbf{c}_j = (c_{1j}, c_{2j}, \dots, c_{nj})^T$ . По определению [2,5] она является единственным решением ПСЗ и является матрицей собственных векторов. В задачах извлечения знаний из цифровых данных, представленных в виде таблицы типа «объекты-свойства» [6-10] анализу подвергаются коэффициенты комбинационной связи из матрицы  $C_{7,7} = [\text{cor}(z_i, y_j)], i=1, \dots, 7; j=1, \dots, 7$ ,  $(z_i, y_j)$ -корреляций. В Обратных Спектральных Задачах матрицы коэффициентов комбинационной связи  $C_{nn}$ ,  $n=6$ , моделируются [11-19].

Компоненты вектора  $\mathbf{c}_j = (c_{1j}, c_{2j}, \dots, c_{nj})^T$  комбинационной связи подчиняются условию  $\text{cor}^2(z_i, y_1) + \text{cor}^2(z_i, y_2) + \text{cor}^2(z_i, y_3) + \text{cor}^2(z_i, y_4) + \text{cor}^2(z_i, y_5) + \text{cor}^2(z_i, y_6) + \text{cor}^2(z_i, y_7) = 1, \text{cor}^2(z_1, y_j) + \text{cor}^2(z_2, y_j) + \text{cor}^2(z_3, y_j) + \text{cor}^2(z_4, y_j) + \text{cor}^2(z_5, y_j) + \text{cor}^2(z_6, y_j) + \text{cor}^2(z_7, y_j) = 1, i=1, \dots, 7; j=1, \dots, 7$ .

Смысл  $z$ -переменной задан в ее имени (в Прямой Смысловой Задаче [2]) или когнитивно определяется (в Обратной Смысловой Задаче [15-19]). Смысловое имя  $z$ -переменной в ОСЗ когнитивно конструируется фразой, имеющей мысл, тесно связанный со смыслом  $y$ -переменной. Эта  $z$ -переменная такова, что обладает весомым «весом». Например, в линейной комбинации для  $y$ -переменной с номером 1 вида  $y_1 = 0.4349 * z_1 + 0.4195 * z_2 + 0.4005 * z_4 + 0.4194 * z_5 + 0.4389 * z_6 + \varepsilon_1$ , где  $c_{11} = 0.4349 = \text{cor}(z_1, y_1)$ ,  $c_{21} = 0.4195 = \text{cor}(z_2, y_1)$ ,  $c_{41} = 0.4005 = \text{cor}(z_4, y_1)$ ,  $c_{51} = 0.4194 = \text{cor}(z_5, y_1)$ ,  $c_{61} = 0.4389 = \text{cor}(z_6, y_1)$ , весомыми «весаами» обладают  $z$ -переменные  $z_1, z_2, z_4, z_5, z_6$ . Значения «весов» при значениях этих  $z$ -переменных по абсолютной величине превышают 0.4. По шкале Чэддока пороговое значение 0.4 относится к интервалу «умеренных» корреляций. Поэтому мы должны использовать смыслы  $z$ -переменных  $z_1, z_2, z_4, z_5, z_6$  для когнитивного конструирования фразы-смысла  $y$ -переменной с номером 1.

Мы ниже решаем Прямую Смысловую Задачу [6-10] и когнитивно конструируем одну фразу, имеющую мысл, равный сумме смыслов только тех  $z$ -переменных, которые имеют заметные веса из совокупности весов  $\text{cor}^2(z_1, y_j)$ ,  $\text{cor}^2(z_2, y_j)$ ,  $\text{cor}^2(z_3, y_j)$ ,  $\text{cor}^2(z_4, y_j)$ ,  $\text{cor}^2(z_5, y_j)$ ,  $\text{cor}^2(z_6, y_j)$ ,  $\text{cor}^2(z_7, y_j)$ ,  $i=1, \dots, 7; j=1, \dots, 7$ .

Полученный общий смысл должен быть тесно связан со смыслами заметных по весомости  $z$ -переменным [6-10]. В результате, как показано ниже, конструируем новый, отличающийся смыслом от заданных смыслов  $z$ -переменных цифровой смысл-знание в виде фразы, имеющей обоснованный смысл. Источниками знания являются числа из таблиц (матриц  $Z_{44,7}$ ,  $C_{7,7}$  числовых данных), из векторов  $\mathbf{c}_j = (c_{1j}, c_{2j}, \dots, c_{nj})^T$ ,  $j \in \{1, \dots, 7\}$ , подчиняющихся определенным равенствам многомерной математической модели.

Суть «цифрового» знания отображается через смыслы  $y$ - и  $z$ -переменных.

В решаемой Прямой Смысловой Задаче элементы матрицы  $Z_{44,7}$  [6] интерпретируются как квадраты коэффициентов корреляций:  $\text{cor}^2(z_1, y_j) + \text{cor}^2(z_2, y_j) + \text{cor}^2(z_3, y_j) + \text{cor}^2(z_4, y_j) + \text{cor}^2(z_5, y_j) + \text{cor}^2(z_6, y_j) + \text{cor}^2(z_7, y_j) = 1, i=1, \dots, 7; j=1, \dots, 7$ .

При когнитивном моделировании смыслов  $z$ -переменных, не используется формула дисперсии  $z$ -переменной:  $\text{cor}(z_j, z_i) = 1, j=1, \dots, 5$  но используются доминирующие значения дисперсий  $\text{covar}(y_j, y_i) = \lambda_j, j=1, \dots, \ell < 7$   $y$ -переменных, вычисленных при решении Прямой Спектральной Задачи.

Матрица  $(z, y)$ -корреляций - другое название матрицы собственных векторов  $C_{nn}$ . Цифровые знания-фразы, имеющие обоснованные смыслы (являются новым знанием, дополняющим известные знания [3-7]), источником их являются цифры в числах из таблиц (матриц цифровых данных), векторов, подчиняющихся определенным равенствам многомерной математической модели.

Решаемая здесь ПСЗ отличается от Обратной Смысловой Задаче [11-19]. В ОСЗ для анализа значений элементов матрицы  $C_{7,7}$  решается Обратная Спектральная Задача и Оптимизационная Задача [11-19]. Имеются несколько вариантов ОСЗ и Оптимизационных Задач. В 5 исследуемых таблицах данных [6-10] используются 2 математические модели (ПМ ГК, ОМ ГК). А на полевом этапе извлечения 5 разных знаний из 5 предметных областей: телекоммуникации, педагогика, финансы, ГЦБ - применяются 5 отличающиеся друг от друга когнитивные модели, приписываются 5 множества когнитивных смыслов 5 множествам  $z$ -переменных.

Ниже покажем, что за эти 6  $x$ -факторы эквивалентны 3 обобщенным факторам. Они некоррелированы друг с другом (в отличие от 6  $x$ -факторов). Каждый из 3-х обобщенных факторов равна линейной комбинации некоторого числа  $z$ -факторов:

$$y_1 = 0.4696 * z_3 + 0.4999 * z_4 - 0.5074 * z_7 + \varepsilon_1, \\ y_2 = -0.4969 * z_1 - 0.5372 * z_2 - 0.3681 * z_5 - 0.4580 * z_6 + \varepsilon_2,$$

$$y_3 = -0.4706 * z_1 + 0.8311 * z_5 + \varepsilon_3, \text{ где } \varepsilon_1, \varepsilon_2, \varepsilon_3 - \text{погрешности, связанные с отбрасыванием } z\text{-переменных с малыми весами (см ниже).}$$

Эти 3 обобщенные факторы содержательно интерпретируются и являются существенными факторами, определяющими реальный спрос населения на трафик Интернет Dial up (минуты). Траты на данный вид связи явились новшеством для населения. При «очень низкой платежеспособности» населения Казахстана появление спроса на интернет-услуги требует от государства больших усилий. Как видим из

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Таблицы 1, этот спрос появился и возрастал ежемесячно. Темп роста измерялся сотнями минут, а в настоящее время темпы роста измеряются в сотни тысяч минут.

Спрос той части населения, в которой имелись люди, нуждавшиеся в интернете. Они предпочли тратить небольшие суммы денег на интернет. Они предпочли деньги тратить на интернет, а не на другое. У них были свои верования на этот интеллектуальный ресурс. Наверное это были обучающие и обучаемые индивиды. Или бизнесмены, оценившие преимущества наличия этого вида связи в квартире.

Среди каких x-факторов фактор «трафик Интернет Dial up» является одним из заметных факторов? Ясно, что расходы на него не могут

быть среди расходов на продукты. Решим вышеприведенные задачи и применим модели, обозначенные выше. Проведем расчеты с применением ППП «Спектр» [20].

Число  $\ell=3$  и структуру обобщенного фактора, включающего z-переменную  $z_7$  (трафик интернета Dial up) и z-переменную  $z_6$  (ввод в действие жилых домов) узнаем применив ПМ ГК (метод главных компонент) []. Расчеты по программе метода дали следующие результаты.

$$f_1(\Lambda_{7,7})=7, f_2(\Lambda_{7,7})=17.5105, f_3(\Lambda_{7,7})=5462.3340, \\ f_4(\Lambda_{7,7})=0.9056, f_5(\Lambda_{7,7})=0.3390E-05, \\ f_6(\Lambda_{7,7})=66.1478, =0.5003, \Lambda_{7,7} \Lambda_{7,7} = \text{diag}(\lambda_1, \dots, \lambda_7) = \\ \text{diag}(3.5817, 1.8984, 0.8594, 0.5795, 0.0493, 0.0310, 0.0007).$$

Таблица 2

	1	2	3	4	5	6	7
1	0,2985	-0,4969	-0,4706	0,0270	0,6557	-0,1022	0,0391
2	0,3130	-0,5372	-0,2060	0,2632	-0,7058	-0,0071	-0,0593
3	-0,4796	-0,2679	-0,0150	0,2397	0,0247	0,4465	0,6638
4	-0,4999	-0,1926	-0,1236	0,1712	0,0833	0,3431	-0,7374
5	0,1651	-0,3681	0,8311	0,2905	0,2271	-0,0543	-0,0873
6	-0,2197	-0,4580	0,1598	-0,8373	-0,1078	-0,0605	0,0071
7	-0,5074	-0,1022	-0,0667	0,2402	-0,0346	-0,8160	0,0540

### Когнитивное моделирование изменений цен и денежных расходов населения Республики Казахстан

Рассмотрим данные, содержащие ранее отсутствовавшие в советское время. Обратим внимание на z-переменных с номерами 6 и 7.

Найдем смыслы y-переменных, имея формулы зависимостей y- и z-переменных.

Так как по критерию Джоллиффа число доминирующих собственных чисел равно  $L_{Дж}=3$ , т.е. доля дисперсий первых 3-х y-переменных (обобщенных факторов) равна 90.56%. Вариабельность наших 7 x-факторов примерно равна вариабельности 3-х y-переменных (обобщенных факторов)  $y_1, y_2, y_3$ , каждая из которых равна линейной комбинации некоторого числа z-переменных. Каждая z-переменная соответствует своему x-фактору. Используя матрицу собственных векторов  $C_{7,7}$  преобразуем матрицу  $Z_{44,7}$  и имеем матрицу y-переменных  $Y_{44,7} = Z_{44,7} C_{7,7}$ . В первых 3-х столбцах используем значимые «веса»  $c$ , удовлетворяющие условию  $\text{abs}(c_{kj}) \geq 0.4$ ,  $k \in \{1,2,3,4,5,6,7\}$ ,  $j=1,2,3$ . Имеем 3 y-переменные

$$y_1 = 0.4696 * z_3 + 0.4999 * z_4 - 0.5074 * z_7 + \varepsilon_1, \\ y_2 = -0.4969 * z_1 - 0.5372 * z_2 - 0.3681 * z_5 - 0.4580 * z_6 + \varepsilon_2,$$

$y_3 = -0.4706 * z_1 + 0.8311 * z_5 + \varepsilon_3$ , где  $\varepsilon_1, \varepsilon_2, \varepsilon_3$  – погрешности, связанные с отбрасыванием z-переменных с малыми весами.

Каждая y-переменная содержательно интерпретируется следующим образом.

Так как  $y_1 = 0.4796 * z_3 + 0.4999 * z_4 - 0.5074 * z_7 + \varepsilon_1$ ,

то  $\text{смысл}(y_1) = \text{смысл}(z_3) + \text{смысл}(z_4) + \text{смысл}(z_7) =$  денежные расходы населения, на потребительские расходы (продукты питания), на услуги интернета Dial up.

Доля проявления таких факторов авна  $\lambda_1 = 7 = 3.5817 / 7 = 51,17\%$ . А доля расходов на Dial up по «неправильным» тарифам равна  $c_{71}^2 = (-0.5074)^2 = 25.745476\%$  из 100%.

Так как  $y_2 = -0.4969 * z_1 - 0.5372 * z_2 - 0.3681 * z_5 - 0.4580 * z_6 + \varepsilon_2$ , то  $\text{смысл}(y_2) = \text{смысл}(z_1) + \text{смысл}(z_2) + \text{смысл}(z_5) =$  «изменение (повышение) цен на непродовольственные товары, на платные услуги, увеличение прочих расходов, увеличение расходов в связи с появлением жилого дома (строящегося или купленного)». Доля проявления таких факторов равна  $\lambda_2 = 7 = 1.8984 / 7 = 27,12\%$ . А доля расходов населения на «ввод в действие жилых домов» равна  $c_{61}^2 = 0.4580^2 = 20,98\%$  из 100%.

Так как  $y_3 = -0.4706 * z_1 + 0.8311 * z_5 + \varepsilon_3$ , то  $\text{смысл}(y_3) = \text{смысл}(z_1) + \text{смысл}(z_5) =$  «изменение

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(повышение) цен на непродовольственные товары и с появлением из-за этого других расходов». Доля проявления таких факторов авна  $\lambda_3=7=0.8594/7=12,28\%$ .

«Расходы на продукты питания, расходы на услуги интернета Dial up» +2 повышение цен на 2-х типов («Повышение цен на платные услуги и жилой дом»+«Повышение цен на непродовольственные товары») стимулируют очень низкую платежеспособность населения РК в 1999-2001 годах. Новыми относительно прежних расходов являются затраты на интернет Dial up и приобретение дома. Ранее в СССР квартиры распределялись бесплатно, редко кто строил частный дом. Появление 2-х новых типов расходов еще больше снизили очень низкую платежеспособность.

Значимость затрат на «иметь (строить, купить) свой дом (квартиру)» в 2 раза превышает значимость затрат на «иметь доступ в интернет». Эти 2 затраты независимы: одна «входит в  $u_1$ », другая «входит в  $u_2$ ».

В «корзине расходов» доли «денежные расходы», «повышение цен на продовольственные товары и непродовольственные товары» упорядочены в порядке убывания их важности  $51,17\% > 27,12\% > 12,28\%$ .

Заметим, что потребление нового вида услуг «Интернет Dial up для населения» попало в группу наиболее важных расходов населения. Несмотря на «очень низкий» «индекс покупательной способности» населения. При этом чем больше расходов разных, тем больше расходов и на интернет. Это свидетельствует о том, что интернетом пользуется более обеспеченная часть населения, нейтрально реагирующая на фактор «денежные расходы населения» ( $c_{31}=-0,4796 \cdot z_3$ ). Веса  $c_{32}, c_{33}$  в 2 другие обобщенные факторы  $u_2, u_3$  не входят. Наши 3 обобщенные факторы в «корзине расходов» независимы друг от друга.

### Заключение

Матрица коэффициентов парных корреляций  $R_{7,7}$  хотя содержит сведения про наши новые  $x$ -факторы, но не дает ответ на вопрос: среди каких  $x$ -факторов фактор «трафик Интернет Dial up» является одним из заметных факторов? Первые 6 строк и 6 столбцов матрицы  $R_{7,7}$  содержат парные коэффициенты корреляции между  $x$ -

факторами. В частности,  $r_{12}=r_{21}=0,9060$  - коэффициент корреляции между  $z_1=(x_{12})$  - Изменение цен на непродовольственные товары и  $z_2=(z_{13})$  - Изменение цен на платные услуги. Величина  $r_{12}=r_{21}=0,9060$  довольно большая и интерпретируется так: цены на непродовольственные товары изменяются прямо пропорционально ценам на платные услуги. Что соответствует действительности. Аналогично интерпретируется  $r_{43}=r_{34}=0,9866$  - коэффициент корреляции между  $z_3=(x_{15})$  - Денежные расходы населения (в среднем на душу населения) и  $z_4=(x_{16})$  - Потребительские расходы (в среднем на душу населения). Ту же интерпретацию имеет коэффициент корреляции  $r_{43}=r_{34}=0,9866$ , измеряющего положительную степень выраженности линейной связи между  $z$ -переменной  $z_4=(x_{16})$  - Потребительские расходы (в среднем на душу населения) и  $z_6=(x_{21})$  - Ввод в действие жилых домов. И так далее.

Ответ на наш вопрос дает наша когнитивная модель изменений цен и денежных расходов населения Республики Казахстан. Анализируемые данные содержат сведения о затратах на жилье, непродовольственные товары, интернет Dial up и прочие товары повседневного потребления. В результате когнитивного моделирования получены знания о 3-х обобщенных факторах. Соответствующие им 3-переменные имеют смыслы, содержащие новые знания о «очень плохой» платежеспособности.

Смысл( $u_1$ )=«изменение денежных потребительских расходов населения на приобретаемое жилье и его обустройство»

Смысл( $u_2$ )=повышение цен и тарифов на интернет и платные услуги.

Смысл( $u_3$ )=«изменение цен на непродовольственные товары, на интернет и прочие товары повседневного потребления»

В формуле для  $y$ -переменной с номером 2 «веса» при  $z$ -переменных с номерами 2,5,7 имеют знак минус, поэтому надо применить фразу «повышение цен и тарифов». При конструировании смыслов  $y$ -переменных с номерами 1 и 3 применяем фразу «изменение цен на...», так как знаки «весов» меняются: +/- или -/+ при  $z$ -переменных, входящих в формулы  $u_1, u_3$ . Под фразой «приобретаемое жилье» подразумевается построенное или купленное по низкой цене жилье.

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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: 2020 Issue: 01 Volume: 81

Published: 25.01.2020 <http://T-Science.org>

QR – Issue



QR – Article



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## THE LIFESPAN OF FEMALE SILKWORM MOTHS, VARIABILITY AND REPRODUCTIVE INDICATORS

**Abstract:** The lifespan of female silkworm moths was studied for the first time in two different sharply different breeds and systems. If the lifespan of female silkworm moth in the large cocoon breed Marvarid breed was 5-24 days, then in the medium-caliber with high technological parameters of the Line 27 system of this indicator was 3-17 days. For theoretical and practical selection, it was determined that the variability of the lifespan of moths is 33.9-56.65%. Such variability indicates the existing diversity in populations of breeds and systems.

**Key words:** silkworm moth, lifespan, Marvarid breed of silkworm, variability, reproductive indicators.

**Language:** Russian

**Citation:** Navruzov, S. N., Nasirilaev, B. U., Rajabov, N. O., & Khudayberdieva, U. S. (2020). The lifespan of female silkworm moths, variability and reproductive indicators. *ISJ Theoretical & Applied Science*, 01 (81), 144-148.

**Soi:** <http://s-o-i.org/1.1/TAS-01-81-28> **Doi:**  <https://dx.doi.org/10.15863/TAS.2020.01.81.28>

**Scopus ASCC:** 1101.

### ПРОДОЛЖИТЕЛЬНОСТЬ ЖИЗНИ БАБОЧЕК САМОК, ИЗМЕНЧИВОСТЬ И РЕПРОДУКТИВНЫЕ ПОКАЗАТЕЛИ

**Аннотация:** В условиях Узбекистана впервые изучена продолжительность жизни бабочек самок (порода Марварид) в двух разных резко различающихся породах и системах. Если продолжительность жизни бабочек самок в крупнокочной породе Марварид составил 5-24 суток, то у средне калиброванного с высоко технологическими показателями системы Линия 27 этот показатель составил 3-17 суток. Для теоритической и практической селекции определено, что изменчивость продолжительности жизни бабочек равна 33,9-56,65%. Такая изменчивость указывает на имеющуюся разнообразность в популяциях пород и систем.

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**Ключевые слова:** бабочки тутового шелкопряда, продолжительность жизни, порода Марварид, изменчивость, репродуктивные показатели.

### Введение

УДК: 638.221.8 + 638.222

Республика Узбекистан по объему производства шелковичных коконов в мире занимает одно из ведущих мест, в последние годы стабильно заготавливается 15-18 тыс. тонн коконов. Правительством республики уделяется особое внимание в дальнейшем развитии этой отрасли. Примером к этому можно привести постановление президента республики Узбекистан от 29 марта 2017 года за №ПП2856 "Об организации деятельности ассоциации Узбекипаксаноат", где указываются конкретные параметры объемов производства по годам и ответственность за ее выполнение возложена соответствующим министерствам и ведомствам, а также интенсивно развивать и укреплять кормовую базу шелководства, стабильно совершенствовать процессы выкормки тутового шелкопряда и заготовки шелковичных коконов, всё шире внедрять успешные методы глубокой переработки коконов, шелка сырца, шелкокручения, наладить производство шелковых материалов и готовой продукции.

В научной сфере шелководства республики достигнуты определенные успехи. Для обеспечения потребности фермерских хозяйств на грену тутового шелкопряда функционируют три племенные шелководческие станции и семнадцать гренажных заводов.

Для производства больших объёмов высокошелконосных шелковичных коконов с хорошим качеством и технологическими показателями немаловажную роль играют породы и гибридные комбинации, соответствующие погодно-климатическим условиям каждого региона республики. Тогда появятся больше возможностей для выполнения тех параметров, установленных постановлениями президента республики Узбекистан.

Надо отдельно отметить что, ведущие хозяйственно ценные признаки тутового шелкопряда проявляются с помощью полигенов. Поэтому, в каждом этапе селекции и размножения пород требуется отбор самых сильных генотипов и повышение показателей племенного материала в последующих поколениях. В противном случае, наблюдается понижение показателей продуктивности и жизнеспособности популяции.

Такие важные показатели как жизнеспособность и продуктивность племенного материала все время находиться в центре внимания селекционеров и для создания всяких селекционных линий прежде всего надо изучить коррелятивную связь признаков, изменчивости и

наследственности. После этого будет целесообразным составить план параметров этих показателей.

Такие селекционные признаки как, продуктивность, жизнеспособность и репродуктивные показатели изучены достаточно, но влияние продолжительности жизни бабочек тутового шелкопряда на основные показатели почти не изучены. Поэтому, считаем перспективным, с научной точки зрения, направлением селекции тутового шелкопряда, изучить свойства и их взаимосвязь с хозяйственно ценными признаками.

Значение работы с бабочками в гренопроизводстве существенно, но выполненные в этом направлении работы недостаточны. М.Х.Валиуллиной выполнены некоторые научные исследования, в том числе определено, что качество и масса кладки напрямую связано с продолжительностью и кратностью скрещивания бабочек во время папильонажа. Вместе с этим доказано, что температура воздуха во время скрещивания и откладки грены играют основную роль.

Академиком В.И.Струнниковым всесторонне изучено появление половых клеток в теле бабочек и доказано возможности управлять процессом оплодотворения. А профессор У.Н.Насириллаев предлагает возможности многократно использовать бабочек самцов в племенных шелководческих станциях и указывает что 2-4 кратное повторение этого процесса улучшает селекционный дифференциал.

По улучшению качества и увеличению объемов, а также репродуктивных показателей племенных коконов выполнены многочисленные научные исследования. К таким исследованиям можно отнести научные работы С.Я.Демьяновского, В.А.Рождественской, Е.И.Стаховской, О.Н.Мамедниязова, М.Н.Шулика, Т.Т.Тучковой, А.М.Музаффарова, Т.Т.Таубаева, У.Н.Насириллаева, Х.Ф.Якубова, И.Эльмуродовой, А.И.Хаханова, В.А.Парпиева, В.Г.Воронкова, В.М.Дьякова, Б.А.Парпиева, С.М.Ачилдиева, П.М.Соложенкина, А.А.Горностала и др.

### Материалы и методы

Изыскательные работы в течении 2015-2016 годов проводились в специальных червоводнях научно исследовательского института шелководства. Подопытные гусеницы оживлялись в инкубациях при температуре 24-25°C и 70-75% относительной влажности воздуха. При выкормки гусениц исходили из нормы расхода листа на одну коробку 1200кг. Подопытные породы

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выкармливались листьями из тутовых плантаций института шелководства.

Для этого выбирали крупноконную, округлой формы породу Марварид и коконы среднего размера цилиндрической формы Линия 27. Если порода Марварид является компонентом районированных в республике промышленных гибридов «Олтин водий -1» и «Олтин водий-2», то Линия 27 входит в состав промышленных гибридов «Мусаффо тола-1» и «Мусаффо тола-2», проходящего государственное испытание.

Для определения продолжительности жизни бабочек самок, их разместили внутри специальных круглых чашек, где и было обеспечено откладка яиц бабочками. Каждая бабочка имела свой порядковый номер и каждое утро (9-00 часов) в одно и то же время наблюдалась их жизненность. Этот процесс продолжился до естественной гибели бабочек, а результаты зафиксировали в специальный журнал.

Продолжительностью жизни бабочек породы Марварид и Линия 27 считается период с первого дня их выхода из коконов и до последнего дня естественной гибели. После этого в течение 45 дней их высушили а потом с ними проводили микроскопический анализ на наличие болезней, что является немаловажным показателем для научных

исследований. Этот процесс осуществился по методу целлюлярного приготовления грены тутового шелкопряда.

### Результаты исследования и их обсуждение

Среди хозяйственно ценных признаков тутового шелкопряда репродуктивные показатели имеют особое значение и во многом определяют успешную работу племенных шелководческих станций и гренажных заводов. Поэтому мы в своих исследованиях, прежде чем изучить продолжительности жизни бабочек, определили репродуктивные показатели породы Марварид и Линия 27.

Работы многих ученых посвящены вопросам изменчивости и наследственности репродуктивных показателей. В этих исследованиях, с научной точки зрения, изучены влияние репродуктивных показателей на другие селекционные признаки самок тутового шелкопряда и их взаимодействие. Репродуктивное значение изучаемого нами признака, подтолкнуло нас исследовать характеристики плодовитости этих пород, а степень влияния продолжительности жизни бабочек самок на репродуктивные показатели имеет большое значение для практической и теоретической селекции.

Таблица 1. Репродуктивные показатели пород Марварид и Линия 27

Название пород	Количество яиц в кладке $X \pm S_x$ , штук	Масса яиц в кладке $X \pm S_x$ , мг	Физиологический брак $X \pm S_x$ , %
Марварид	726 $\pm$ 3,69	459,0 $\pm$ 2,30	1,6 $\pm$ 0,66
Линия 27	549,9 $\pm$ 8,08	305,5 $\pm$ 5,10	1,8 $\pm$ 0,26

Анализируя репродуктивные показатели, приведенные в таблице №1 убеждаемся, что эти показатели у породы Марварид выше чем у Линии 27. Количество яиц в кладке - 726 штук, масса грены в кладке - 459 мг и физиологический брак составляет 1,6%. Точно такие же показатели у Линии 27 соответственно составляет - 549 штук, 305,5 мг и 1,8%, а физиологический брак в популяции обоих пород почти одинаков.

Одним из основных задач наших исследований являлось изучение влияния продолжительности жизни бабочек самок на репродуктивные показатели. Поэтому, для каждой бабочек самок была определена продолжительность жизни и основные репродуктивные показатели.

Таблица 2. Продолжительность жизни бабочек самок и репродуктивные показатели пород Марварид и Линия 27

Продолжительность жизни бабочек самок в сутках	Количество яиц в кладке, штук	Масса яиц в кладке, мг	Количество высохших яиц, штук	Физиологический брак, %
1	2	3	4	5
<b>Марварид</b>				
1	9	809	525	0,6
2	6	450	301	6,9
3	6	774	522	0,8

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4	9	685	438	3	0,43
5	11	700	475	6	0,9
6	24	774	450	11	1,4
7	5	804	510	8	1,0
8	17	778	440	8	1,0
9	6	715	476	16	2,2
10	16	774	456	7	0,9
<b>Линия 27</b>					
1	6	700	325	18	2,6
2	6	712	301	31	4,4
3	9	674	322	9	1,3
4	3	685	308	3	0,4
5	4	700	475	5	0,7
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	
6	14	704	300	15	2,1
7	4	704	310	4	0,6
8	17	676	296	19	2,8
9	4	735	312	6	0,8
10	14	674	256	15	2,2

По данным таблицы №2 трудно определить определенную закономерность в сопоставлении продолжительности жизни бабочек самок с репродуктивными показателями, но можно наблюдать, что бабочки самки Линии 27, коконы которой среднего калибра с высокими технологическими показателями, доля физиологического брака в кладках грены настолько меньше, насколько они меньше живут. Например, в кладках бабочек самок под номерами 4,5,7,9 проживших всего 3-4 суток, процент физиологического брака составил всего 0,4-0,8%,

тогда как у бабочек долгожителей этот показатель составил 4,4%.

В проявление любого селекционного признака в популяции основную роль играет степень изменчивости. Если изменчивость проявляется в широком масштабе, то это означает разнообразность в популяции. В связи с этим мы в своих исследованиях изучили коэффициент изменчивости продолжительности жизни бабочек самок (Табл. 3).

**Таблица 3. Продолжительность жизни бабочек самок пород Марварид и Линия 27 (2015 г)**

Название пород	Продолжительность жизни бабочек самок $X \pm S_x$ в сутках	Изменчивость продолжительности жизни бабочек самок $C_v$ , %
Марварид	10,9±1,95	56,55
Линия 27	12,8 ±0,99	33,9
В среднем	11,9	42,3

Прежде чем анализировать показатели в таблице №3, хотели бы подчеркнуть, что в некоторых литературах приведены данные о том, что бабочки самки живут от 2-3 до 20суток и считалось, что этот признак, с точки зрения селекции не имеет большого значения. А в работах А.Б.Якубова говорится что отбор бабочек самцов по двигательной активности способствует получению следующего поколения с наилучшими показателями жизнеспособности. В работах академика В.А.Струнникова установлено, что получение особи с генотипов, способностью бабочек самцов быстро копулироваться, жизнеспособности гусениц повышается на 20-30%, исходя из вышеизложенных, возможность использования способности бабочек самок по

продолжительности жизни находилась в центре внимания нашей работы.

В наших предварительных результатах продолжительность жизни бабочек самок у пород Марварид и Линия 27 составила 10,9-12,8 суток соответственно. А изменчивость этого признака в пределах 33,9-56,65%. Коэффициент изменчивости ( $C_v$ ) указывает на степень разнообразности и изменчивости этого признака в популяции, а его степень в свою очередь определяет наличие основы для отбора в селекционной популяции. Установленный коэффициент изменчивости в популяциях пород Марварид и Линия 27 указывает на разнообразность в широком масштабе. Значит, в популяции этих пород по признаку продолжительности жизни бабочек самок есть

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возможность вести селекционные работы, которые подтверждают полученные нами результаты.

### Выводы

Установлено, что продолжительность жизни бабочек самок пород Марварид и Линия27 в среднем составляет 10,9 и 12,8 суток соответственно.

Впервые определено, что основной генетический параметр признака

продолжительности жизни бабочек самок, то есть коэффициент изменчивости, находится в пределах  $C_v=33,9-56,65\%$ . Эти коэффициенты изменчивости указывают на то, что в популяциях пород Марварид и Линия27 по этим признакам имеются разнообразные генотипы.

В наших исследованиях определено что, продолжительность жизни бабочек самок напрямую влияет на показатели репродуктивных признаков

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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: 2020 Issue: 01 Volume: 81

Published: 26.01.2020 <http://T-Science.org>

QR – Issue



QR – Article



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## DEVELOPMENT OF A INTEGRAL-SYSTEM CYCLE OF FORENSIC EXPERTISE

**Abstract:** The article deals with the conditions for building and developing a integral-system cycle of forensic expertise in relation to the subject and activity components of the process of building an absolute generalized form of forensic expert activity. At the same time, the author analyzes the subject, technological means, subject conditions and results of forensic expertise, which are implemented through the organization of the General, technological and control phase of building a judicial expertise through its holistic and systemic development.

**Key words:** construction, development, integral-system cycle of forensic expertise, subject, activity factors, process, absolute generalized form.

**Language:** Russian

**Citation:** Vishnevskaya, I. L. (2020). Development of a integral-system cycle of forensic expertise. *ISJ Theoretical & Applied Science*, 01 (81), 149-155.

**Soi:** <http://s-o-i.org/1.1/TAS-01-81-29> **Doi:**  <https://dx.doi.org/10.15863/TAS.2020.01.81.29>

**Scopus ASCC:** 3308.

### РАЗВИТИЕ ЦЕЛОСТНО-СИСТЕМНОГО ЦИКЛА СУДЕБНОЙ ЭКСПЕРТИЗЫ

**Аннотация:** В статье рассмотрены условия построения и развитие целостно-системного цикла судебной экспертизы относительно предметных и деятельностных составляющих процесса построения абсолютной обобщённой формы судебной экспертной деятельности. При этом анализируются субъектные, технологические средства, предметные условия и результаты деятельности судебной экспертизы, которые реализуются через организацию всеобщей, технологической и контрольной фазы построения судебной экспертизы через её целостно-системное развитие.

**Ключевые слова:** построение, развитие, целостно-системный цикл судебной экспертизы, предметные, деятельностные составляющие, процесс, абсолютная обобщённая форма.

#### Введение

УДК 34.037

Развитие целостно-системного цикла судебной экспертизы представляет собой процесс общего развития взаимосвязанных предметных и деятельностных элементов циклического процесса жизнедеятельности в условиях построения инвариантной формы абсолютной судебной экспертной деятельности. При этом наблюдается не только циклический характер процесса организации судебной экспертной деятельности, но и её симметричный характер

развития относительно результата достижения построения судебной экспертизы.

Это проявляется в развитии субъектной составляющей второй фазы целостно-системной жизнедеятельности, когда полученный результат приобретает субъектный характер и является предметно-активным элементом в развитии уже самого судебного эксперта. Наблюдаем установление фазовых моментов развития: субъект экспертной деятельности – супер-субъект экспертной деятельности; обобщённая экспертная деятельность – развивающая экспертная деятельность; целостно-системные средства экспертной деятельности – компаунд-субъект

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экспертной деятельности; целостно-системная технологическая экспертная деятельность – целостно-системная восходящая экспертная деятельность; предмет экспертной деятельности – опредмеченная потребность экспертной деятельности; целостно-системная контрольная экспертная деятельность – целостно-системная ритуальная экспертная деятельность.

Данные фазовые соответствия устанавливают гомеоморфные отношения в развитии целостно-системного цикла судебной экспертизы и всей её нормативной базы.

### Materials and Methods

Условия построения и развитие целостно-системного цикла судебной экспертизы относительно предметных и деятельностных составляющих процесса построения абсолютной обобщённой формы судебной экспертной деятельности задаются анализом всех составляющих цикла судебной экспертизы цикла судебной экспертизы. При этом анализируются субъектные, технологические средства, предметные условия и результаты деятельности судебной экспертизы, которые реализуются через организацию всеобщей, технологической и контрольной фазы построения судебной экспертизы через её целостно-системное развитие.

Сформулированные основные требования к эксперту, в исполнение статей Федерального закона «об экспертной деятельности, статьи 7,8», это незаинтересованность в исходе дела, объективность мнений и суждений, возможность проявления инициативы при проведении исследования, в целях обнаружения объективных признаков, которые в делопроизводстве, проверяемые и оцениваемые судом могут привести к истине. Оценка заключений экспертов, в соответствии с требованиями статей 84, 85, 86 ГПК РФ проверяется и оценивается судом, следственными органами [5, с.115].

Определяя субъектные качества специалиста, основным из которых, в статусе эксперта, является специфика познавательного труда, методология экспертных исследований, понимание общей концепции направления экспертного заключения с системой знаний свойств, законов и закономерностей изучаемого объекта.

Процесс экспертной деятельности способствует возникновению новых знаний, разработок, как пути к методам высокой степени научной обоснованности судебных заключений. Субъектные качества эксперта, как и специальные знания, полученные и ограниченные профессиональным образованием, обеспечиваются высокими требованиями и закрепляются в процессе подготовки по конкретной экспертной специальности.

В пути экспертного познания, происходящий синтез какой-либо материи или сущности, определяет возможности логического мышления в категории формальной логики, определяющей понятия анализа, синтеза, индукции, дедукции, гипотезы, аналогии и не только, все это уже не связано с конкретным предметом исследования, а связано с мыслительным процессом обработки имеющихся фактов. Из соблюдаемых требований формальной логики и её эффективного действия и следует превосходство целостно-системной логики, как всеобщей методологии, являющейся базовой.

Включая изложенные категории в круг понятий психологии, с образованием и моделированием аппарата мышления, в итоге создается субъективный образ судебной экспертизы, в числе других аспектов познания, позволяемых субъекту складывать противоречия и постигать тождество противоположностей в классических исследованиях психологии [6, с.47].

Все эти категории, в сравнении с методами исследований, относятся к ступеням более высокого порядка, являющимися важной составляющей интеллектуальных субъективных возможностей, определяющих статус эксперта.

Признание причинности и закономерности явлений основано на целостно-системном понимании научного познания мира. Следовательно, в процессе доказывания в судопроизводстве, экспертом устанавливается искомая причина, к соответствующему ей следствию.

Судебная экспертиза, состоящая из различных видов и форм исследования, определяет систему взаимодействий субъекта, объекта, права, объединяет ее задачи в процессе доказывания. Поэтому в экспертной деятельности важнейшая роль отводится индивидуальным и интеллектуальным качествам эксперта, поскольку, познание осуществимо субъектом, имеющим личностный характер [1, с. 57].

Коммуникативная деятельность возникает во взаимодействии с участниками процесса как и конструктивная, связанная с планированием процесса производства судебной экспертизы.

Организаторская деятельность судебного эксперта связывается с конструктивной, так как учитывает планирование предстоящей работы относительно основного процесса судопроизводства. Это позволяет судебному эксперту реализовать практически планы и решения в проведении профессиональной деятельности относительно её всеобщей структуры. Базисной характеристикой деятельности судебной экспертизы является систематичность, способствующая накоплению опыта практической работы, методик и расчетов. При этом создается возможность

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прогнозирования заданных действий, причин и следствий. Возникает банк профессиональных умений, исходя из анализа накопленных данных из судебной практики. Профессиональная деятельность судебного эксперта имеет характеристики учебной деятельности, состоящей из действий ориентировочного, исполнительного и контрольного содержания, которые через логической операции определяют мысленный переход от частного к общему заданной модели абстрактного содержания. В итоге система действий, объединенная единым доказательным мотивом обеспечивает достижение цели деятельности судебной экспертизы [3, с.115].

Для всякой деятельности и судебная экспертиза не исключение, посредством логических операций с определенной мотивацией, происходит изменение самого субъекта, в части его умственной и пространственной организации. Из чего следует, что деятельность судебной экспертизы проходит путь интериоризации, то есть, взаимодействия и превращения из внешнего мира реальной деятельности во внутренний мир умственной деятельности. То есть, из определённых операционных действий, объединенных одной мотивацией и целью, происходит преобразование из множества объективных предметов и причин, в единое развитие мировоззрения отдельного субъекта [4, с. 48].

Таким образом, установлена единая профессиональная составляющая всеобщей структуры деятельности судебной экспертизы, поскольку, включает действия по принятию решения, его реализации и контролю.

Прикладной характер деятельности судебной экспертизы, определяет основные виды судебно-экспертной деятельности – познавательную, конструктивную, коммуникативную, воспитательную и организаторскую.

Познавательная деятельность, как гносеологическая составляющая деятельности, направлена на получение достоверных знаний, адекватно отражающих познавательный объект, и основана на применении специальных знаний, используемых при отборе и выявлении информационных сигналов, фактов, содержащихся в объектах исследования [9, с.25].

Основываясь на приобретенном профессиональном опыте эксперт, выступая субъектом деятельности, становится автором ориентировочной основы действия, на которую в процессе деятельности накладываются знания, факты, входящие в круг уже определённой основы.

Для достижения цели и получения необходимых выводов в процессе доказывания, то есть, успеха деятельности, важно формирование степени обобщения набранных ориентиров,

профессиональных знаний, методик классических расчетов.

В судебной экспертизе важная роль отводится процессуальным действиям, как правовой основы структуры всеобщей деятельности судебной экспертизы. Только при соблюдении процесса судопроизводства, представленного в статьях процессуальных кодексов, возможно принятие или не принятие сформированных доказательств, то есть, оценка судом или следствием достигнутых результатов судебного эксперта. Формулируя факторы и составляющие основных аспектов деятельности судебной экспертизы, важное место в экспертном исследовании отведено фактам, относящимся к делу, в том или ином судопроизводстве. Факт это особое предложение, несущее определенное эмпирическое знание, но в зависимости от выбранной позиции теоретических знаний может изменяться. Следовательно, факт в деятельности судебной экспертизы расценивается в качестве исходного, обуславливающего выбор дальнейших исследований. Следовательно, как метод визуализации в деятельности судебной экспертизы может быть принят, как перцептивное действие, как считывание информации объектов, моделей без их изменений, но являющихся основой дальнейших действий,

Процесс подбора методов исследования, для достижения конечного результата – это формирование выводов произведенного исследования. Исследуемое перцептивное действие, которое является единицей деятельности с определённой структурой, состоит из определенных частей - ориентировочной части, исполнительной, корректировочной и контрольной.

Важной составляющей экспертных исследований является сформированная технологическая деятельность, позволяющая эффективно, качественно и с должной компетентностью выполнять поставленные задачи.

Руководствуясь конкретной экспертной практикой, разработка экспертных технологических приемов, позволяет создать условия для наиболее целесообразной деятельности при производстве экспертиз на основе базовых норм, методик ее эффективного осуществления.

Для достижения эффективного результата судебной экспертизы, необходим системный анализ экспертного заключения, который обуславливает возможность выявления ряда закономерностей исследуемого объекта или действий, происходящих с ним [3, с.72].

Данные приемы, являясь технологическими особенностями деятельности судебной экспертизы, создают почву для возникновения



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методик, также составляющих научную основу экспертологии, как юридической науки.

Образованные в результате системного анализа связи действий, свойств, признаков, обретают непосредственно отнесенные к объекту исследования, факты, преобразованные в сведения, обстоятельства.

Данные технологические подходы, применяемые в производстве судебных заключений, могут быть отнесены к интеллектуальному проектированию.

Таким образом, система экспертологического потенциала знаний, образует технологический эталон судебно-экспертной деятельности, в основу которого положена научно-практическая методология.

Система и структуризация деятельности судебной экспертизы в интерпретации выстроенной теории, предлагает оптимальное решение судебных экспертных задач, в том числе, на основе привлечения в практику компьютерных технологий.

Используемые в экспертной работе методики, разработанные на научной основе, применяются судебными экспертами, при изучении и оценке информации, требующей объективизации при формализованном описании объектов судебного исследования.

В дальнейшем, системность в деятельности приводит к осмыслению понятия «объект экспертизы» во всем его многообразии, что позволяет значительно расширить знания об объекте экспертного исследования, применив теоретическое обоснование и как следствие, систематизацию объектов исследования с их особенностями свойств и признаков.

По итогам обобщенности и систематизации на основе эмпирического материала с обнаружением новых закономерных связей применяемых частных теорий обеспечиваются технологические возможности использования специальных знаний в судопроизводстве. В итоге законы интеграции и дифференциации научного знания в технологическом понимании, обуславливают связь науки и практики [10, с.37].

Следуя процессу технологической деятельности судебной экспертизы с системой применяемых специальных знаний, немаловажная роль отводится процессуальной форме, с объяснением причин динамики или статики отдельных систем исследования. Являясь разновидностью практической деятельности судебная экспертиза, наряду с организацией, структурой требует информационного и профессионального обеспечения.

Предмет деятельности судебной экспертизы, образован в единой связи с процессуальными аспектами судопроизводства, формирующийся с начала возникновения судебного определения,

направленного на производство исследований строительно-технического характера, архитектурно-конструктивного, градостроительного проектирования и территориального зонирования.

Формирование предмета деятельности судебной экспертизы, как научной отрасли знания, определяют закономерности свойств исследуемого объекта капитального строительства, земельного или линейного объектов, функционального назначения (жилой дом, школа, производственный склад, цех, инженерные сети и другие социальные объекты). В ключе поставленных судом задач перед экспертом, в процессе исследования, происходит преобразование или изменение свойств исследуемого объекта, в зависимости от оспариваемой в суде их функциональности, конструктивности или свойств застройки, согласно действующих градостроительных регламентов или требований генерального плана застройки территории.

В процессе решения практических задач, как составляющей в формировании судебной экспертной деятельности, происходит экспертный осмотр объекта исследования и сбор фактических данных, преобразование которых, в увязке с действующим законодательством (Гражданского Кодекса РФ, Градостроительного Кодекса РФ, Земельного Кодекса РФ), а также техническими регламентами и государственными стандартами, регулируемые Федеральным законодательством (№184-ФЗ от 22.12.2002 «О техническом регулировании», определяет необходимую достоверность, являющуюся в последствии выстроенной системой доказательств.

В процессе изучения собранных данных, в том числе и предоставленных судом материалов дела гражданского или уголовного производства перед экспертом возникают промежуточные задачи этапа деятельности судебной экспертизы, заключающиеся в разработке определенной концепции на пути к целевым задачам. Анализируются расчеты, графические схемы, чертежи, проектные решения и предложения по установленным задачам.

В современных условиях развития судебной экспертизы, влияния на это развитие научно-технического прогресса экспертная деятельность основывается на прочном юридическом фундаменте, но при значительном усилении естественнонаучного и технического начал.

Таким образом, совокупность гносеологического и процессуального аспектов в формировании деятельности судебной экспертизы определило необходимость в применении методов исследований для решения экспертных задач.

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Методы судебно-экспертной практической деятельности, представляющие собой системы действий и операций по решению практических экспертных задач, базируются на соответствующих научных методах, зависят от характера и свойств объекта исследования и основываются на опыте решения конкретных экспертных задач, в том числе, на алгоритмических правилах и разработанных самим экспертом эвристиках.

В результате, в практической судебно-экспертной деятельности применяются те же методы, что и в научном исследовании, если их использование не противоречит требованиям законности и этическим нормам, т.е. отвечает принципу допустимости в его общей форме.

В остальном судебный эксперт практически не ограничен в выборе средств и методов исследования при условии соблюдения общих правил работы с доказательствами.

Однако, установлены общие принципы допустимости исследования методов и средств, встречающихся в составе формирующих аспектов судебной экспертной деятельности. Это законность и этичность, если упомянуть, что объекты недвижимости это не люди (живое), но субъекты наделены правами на эти объекты. Обязательность применения методов, имеющих научную обоснованность, обуславливает достоверность получаемых результатов. Механическая составляющая исследований, это точность результатов, достигаемая оснащением приборами, программами. Все эти способы специальных методов частных наук объединены единым началом всеобщего целостно-системного метода.

Важной составляющей в формировании экспертной деятельности являются интеллектуальные способности эксперта, определяющие логические подходы в решении поставленных задач, таких как абстрагирование, гипотеза, дедукция. Перечисленные категории относятся к мыслительным процессам экспертной деятельности и относятся к наиболее высокому порядку, чем методы исследования. Формированию исследовательской работы по производству судебных экспертиз, способствует множество факторов, связанных с функцией познания анализа, логики формальной, целостно-системной, профессионализма.

Судебная экспертная деятельность, является составляющей судебного процесса и конечной целью является установление истины. Следовательно, законность и обоснованность, выступают как необходимость и достаточность, сформированного справедливого решения. В результате, контроль качества деятельности судебной экспертизы, устанавливает качество работы судопроизводства в целом.

Экспертное заключение должно отвечать нормативно-правовым требованиям, соблюдаться законность, не вызывать сомнений, исключающих не достоверность исследований, быть категоричным, отсекающим предположения, объективным, отражающим только реальные факты или скрытые, но доказанные. Беспристрастность, являющаяся гарантией объективности экспертного заключения, в отличие от других факторов представляет личную характеристику эксперта [8, с.42].

Принимая во внимание среду и условия производства экспертиз, необходима адаптивность характера контроля, единой целью которого является непристрастность эксперта, без которой невозможно соблюдение закона, профессиональной этики и приверженности здравому смыслу.

Беспристрастность, как решающее свойство объективности судебного процесса и судебной экспертной деятельности включает наличие профессионального уровня, компетентности эксперта в области знаний, опыта и образования. Осуществление контроля судебной экспертной деятельности сводит к минимуму риски отмены решений вышестоящим судом. Обращаясь к производственной логистике, присущей также к производству судебных экспертиз, определяется контроль качества, предусмотренный действующим законодательством Российской Федерации, в части [2, с.45].

Следуя требованиям статьи 13 № 73-Федерального Закона от 31.05.2001 года для государственных экспертов, определение уровня квалификации экспертов и аттестация их на право самостоятельного производства судебной экспертизы осуществляются экспертно-квалификационными комиссиями в порядке, установленном нормативными правовыми актами соответствующего уполномоченного федерального государственного органа.

Статьей 41 № 73-Федерального Закона от 31.05.2001 года предусмотрены требования, предъявляемые к не государственным экспертам, в составе статей предусмотрены права и обязанности эксперта, образование, процессуальные знания. Квалификационные требования, выступающие гарантом качества выдаваемых заключений для негосударственного эксперта является стаж профессиональный, послужной список занимаемых должностей по профессии, стаж экспертной работы. Негосударственный эксперт должен соответствовать, назначаемой судьей в определении суда должности.

Только профессиональный специалист с базовым образованием или ученой степенью, имеет возможность апеллировать научными, практическими и теоретическими знаниями,

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складывая их в звенья цепи логических размышлений, определяющих основу выявляемых доказательств, применяемых в судопроизводстве [10. с.64].

Получая аванс доверия суда, с выверенными процессуальными действиями, в части предупреждения по соответствующим статьям УК и УПК осуществляется контроль деятельности негосударственного судебного эксперта.

Ведущий принцип в деятельности судебной экспертизы, как объективность, обуславливает независимость судебного эксперта, определяет непосредственные действия эксперта. Для государственного эксперта эти действия устанавливаются руководителем экспертного учреждения, что противоречит требованиям статей № 73-Федерального Закона от 31.05.2001 года, поскольку эксперт несет персональную ответственность в рамках судебного процесса.

Судебно-экспертная деятельность, образованная в том числе, и свойством верифицируемости, обуславливает контроль ее конечного результата, которым является экспертное заключение. В обязанность эксперта входит подробное изложение динамики исследований их результатов и обоснованных выводов в заключении. Изложение в письменном заключении эксперта хода исследований, как и расчетов, на основании которых сделаны выводы, должно быть воспринято и проверено заинтересованными органами и лицами. Данная характерная черта судебно-экспертной деятельности, позволяет осуществлять контроль достоверности полученных результатов исследований.

Исходя из теории деятельности относительно концепции разделения деятельности на действия и операции, судебное заключение рассматривается в качестве особого вида профессиональной деятельности, охватывающей множество действий и операций, из которых складывается результат судебной экспертизы. При этом формируется последовательность действий системного анализа относительно проведения судебной экспертизы.

Выделяем объект изучения экспертной деятельности как систему; устанавливаем порождающую среду относительно экспертной деятельности; определяем целостные характеристики объекта экспертной деятельности по восьми свойствам: пространственным, временным, гравитационным, силовым, энергетическим, ориентационным, исполнительным, контрольным; анализируем

уровни строения объекта экспертной деятельности: гипер, мего, реальный и микроуровни; выделяем структуру каждого уровня экспертной деятельности; устанавливаем структурные элементы экспертной деятельности; определяем системообразующие связи каждого уровня экспертной деятельности; анализируем межуровневые связи экспертной деятельности; выделяем форму организации экспертной деятельности как системы; устанавливаем системные свойства объекта экспертной деятельности по параметрам сложности, упорядоченности и разнообразия; определяем поведение системы экспертной деятельности; анализируем перспективы развития системы экспертной деятельности [7, с.78].

Содержанием статьи 11 № 73-Федерального Закона Российской Федерации «О государственной судебно-экспертной деятельности в Российской Федерации», установлена необходимость осуществления деятельности по организации и производству судебной экспертизы на основе единого научно-методического подхода к экспертной практике, профессиональной подготовке и специализации экспертов.

### Conclusion

Рассматривая условия построения и развитие целостно-системного цикла судебной экспертизы относительно предметных и деятельностных составляющих процесса построения абсолютной обобщенной формы судебной экспертной деятельности можно определить существование и взаимосвязь предметных и деятельностных элементов построения целостно-системного цикла судебной экспертизы.

Общее развитие целостно-системного цикла судебной экспертизы определяется целостно-системным значением субъекта судебной экспертизы, формированием обобщенной структуры базисной деятельности судебной экспертизы; целостно-системными технологическими средствами судебной экспертизы; профессиональной технологической деятельностью судебного эксперта, направленной на выделенный предмет экспертной деятельности, который превращается в целостно-системный результат экспертной деятельности через организацию целостно-системного контроля деятельности судебного эксперта. Это определяет совершенствование и развитие целостно-системного цикла судебной экспертизы.

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SOI: [1.1/TAS](http://s-o-i.org/1.1/TAS) DOI: [10.15863/TAS](https://doi.org/10.15863/TAS)

### International Scientific Journal Theoretical & Applied Science

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

Year: 2020 Issue: 01 Volume: 81

Published: 30.01.2020 <http://T-Science.org>

QR – Issue



QR – Article



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## WAYS TO IMPROVE REAL ESTATE MANAGEMENT BASED ON SURVEYING SERVICES

**Abstract:** Real estate has always played an important role in society, in the system of socio-economic relations. The result of the activities of persons engaged in any business depends on the efficiency of the operation of real estate. Real estate makes up a relatively high cost and socially significant part of the property. It follows that the issue of improving the management of real estate remains relevant. This article highlights the role of surveying services in improving the efficiency of real estate management and the issues of their implementation in the national real estate market.

**Key words:** Real Estate, Management, Management Infrastructure, Services Market, Professional Clients, Consulting Services, Surveying Organization, Real Estate Management Standards.

**Language:** English

**Citation:** Mirdjalilova, D. S., & Ziyayev, M. K. (2020). Ways to improve real estate management based on surveying services. *ISJ Theoretical & Applied Science*, 01 (81), 156-162.

**Soi:** <http://s-o-i.org/1.1/TAS-01-81-30> **Doi:**  <https://dx.doi.org/10.15863/TAS.2020.01.81.30>

**Scopus ASCC:** 2201.

### Introduction

The real estate management infrastructure is a set of organizations that are not directly involved in the management of the real estate system but provide the necessary services for effective real estate management. [1] The real estate management infrastructure is shown in Figure 1.

All elements of the professional real estate management infrastructure perform special functions to ensure interaction between the key players in the professional real estate management: surveying organizations, owners, tenants, contractors, developers.

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**Fig. 1. Infrastructure for the professional management of real estate**  
Source: author development

One of the elements of infrastructure for professional real estate management is consulting firms. This is because the presence of specialized research and consulting firms, the active use of the services of professional consultants increases the expediency of management decisions and reduces the cost of the property management system. At the same time, key players in the process of real estate management transfer their functions such as monitoring and analyzing the real estate market, technical expertise of real estate, development and evaluation of real estate management programs to specialized organizations. Consulting firms with qualified personnel are the centers of expertise and dissemination of professional real estate management.

Within the system of professional management of real estate, they can provide the following services: monitoring and analysis of real estate market; legal and technical expertise of the object; Determining the best and most efficient use of real estate; development and evaluation of real estate asset management programs; Recommendations for the formation of a rental policy; personnel audit and staff selection; development of marketing strategies and action plans;

preparation of contract text for real estate management and applications for it; development of real estate development projects; direct management of real estate development.

Consulting services can be rendered in separate groups both in complex and in detail:

Firstly, it may be a precise analysis of the submitted object management software, whereby the client approves the program or, on the contrary, identifies its problem location, and second, it may be a subscription service with ongoing advice on emerging issues.

The result of consulting services is a single standardized report with detailed guidelines. For example, the report on the organizational structure optimization of the surveying organization and the rules for its core services; technical expertise - current and capital repair recommendations; management agreement - the monthly reporting forms of the surveying organization. [2]

It is advisable to review the content of the market demand for management services through customer typology.

Professional clients, including:

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- large foreign corporations (IKEA, Auchan, Microsoft), western investment funds - focused on international consulting structures and western brands;

- local network trading companies (Korzinka, Macro, Artel) - company management is compensated by companies responsible for their activities; In addition to professionalism, brand and image components are also in demand;

- local and non-industry investors - focusing on the specialization and distribution of professional management and competencies.

Non-professional clients, including:

Participants in commercial real estate who want to improve the quality of ongoing projects - expect professional advice and adjustments to the project, not always clear tasks. The most promising, fast-growing and fast-changing segment from the perspective of professional consultants and real estate managers;

Random customers - without understanding the need for consulting and surveying services - are focused on the widespread practice of using these services.

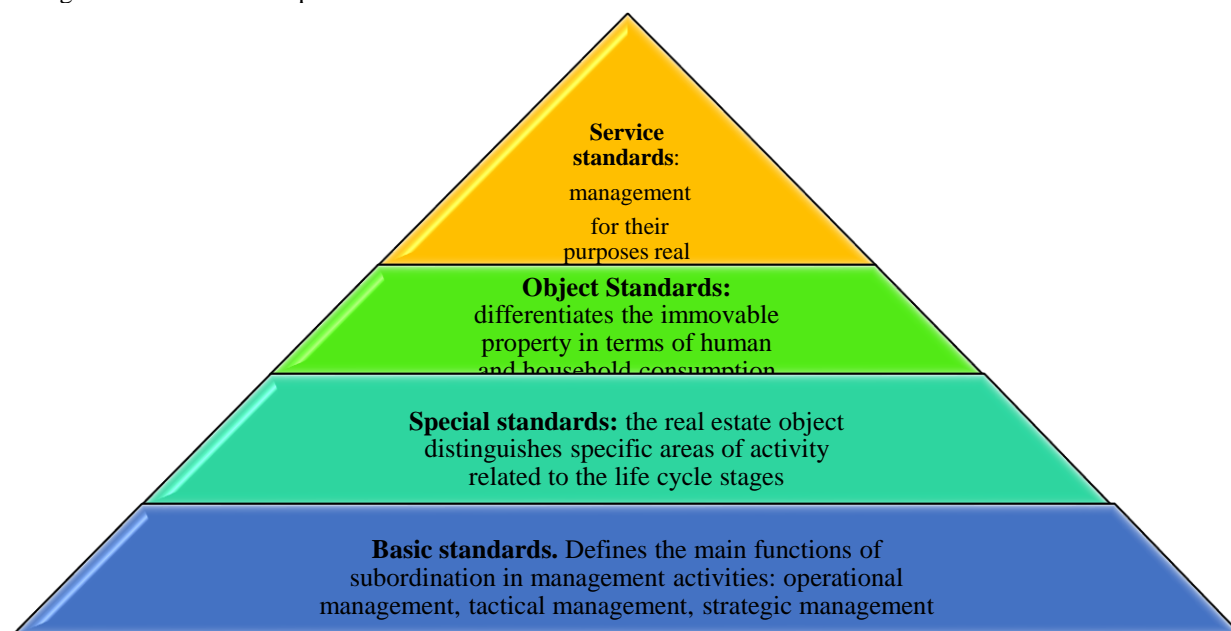
The introduction of standards will significantly improve the real estate management. Real estate management should be implemented in accordance

with approved methods and standards that will minimize the risk of subjectivity in management decisions and minimize the risk of property owners, customers, service providers, society and the government.

The system of regulatory documents in real estate management is a set of interconnected documents adopted by authorized state bodies and self-governing bodies for real estate management at all stages of the real estate management system to protect the rights and interests of its participants. [2]

The real estate manager should use a variety of standardized methods to perform direct management activities. For this reason, real estate management standards play an important role in the system of regulatory and methodological documents on real estate management. The standards summarize the international experience in real estate management, adapt it to the current economic situation, and formulate the requirements for professional training of real estate managers, linking them with the educational system of the country. [2]

Using the international experience in real estate management, a system of standards for real estate management is proposed, which is illustrated in Figure 2 below.



**Fig. 2. Real Estate Management Standards**

The need to improve the quality of real estate management services requires independent regulation of their core business within the surveying organization. [3]

The main activities regulation allows:

- description of the main business processes of the surveying organization in order to find a clear definition and find ways to optimize their implementation;

- strict regulation of the timing of economic operations in the organization's accounting registers and other accounting systems;

- standardization of forms of accounting documentation, their description, regulation of terms of preparation and processing;

- determination of the list of divisions and officials responsible for carrying out separate economic operations;

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- the procedure for making changes in the business processes of the company, rules of accounting of business operations and accounting documents.

Existence of standards, regulations and methodology for carrying out certain business operations allows evaluating the professionalism of the surveying organization, increasing its confidence in its operations, and increasing the productivity of its employees. [2]

Professional real estate management involves the training of managers and employees of organizations directly involved in the process.

This requires the following:

- developing qualification requirements for managers and specialists involved in the professional real estate management system;
- conducting a cadre survey among managers and specialists of the real estate management process;
- establishing a system for training specialists in real estate management, including short- and long-term training.

Today, the combination of higher education, vocational training and short-term training programs creates a complete system of training and advanced training in real estate management. [2; 4]

Surveying organizations have a number of competitive advantages that arise in the course of their interaction with key players in the real estate market. These advantages make surveying services attractive to real estate owners who choose a professional management subject. [5]

First, the transfer of the real estate to management does not imply the transfer of rights to the real estate agency. This is important, because one of the major obstacles to the development of the real estate market is the reluctance of homeowners to transfer it to any organization for fear of losing property rights. Implementing Surveying Services will ensure that the proprietor retains all ownership rights. At the same time, strategic management is still carried out by the owner of the facility and the hosting

organization assumes the operational management functions.

Second, the surveying organization is responsible for the management results. The contract with the owner must describe the reporting forms of the surveying organization.

Third, in accordance with the owner's objectives, the surveying organization develops and presents the first concept of management.

Fourth, the property management program is approved by the owner. At the same time, the program is developed by the surveying organization, taking into account the results of the analysis of the current state of the object and its forecast for the change during the management period.

Fifth, the surveying organization will be interested in making the real estate attractive to tenants.

Sixth, the surveying organization addresses the current real estate problems associated with operation and maintenance.

Seventh, the creation of surveying organizations will facilitate the development of small and medium-sized businesses.

The above competitive advantages allow us to conclude that over time, the surveying organizations play an important role in the real estate management market and then in all its segments.

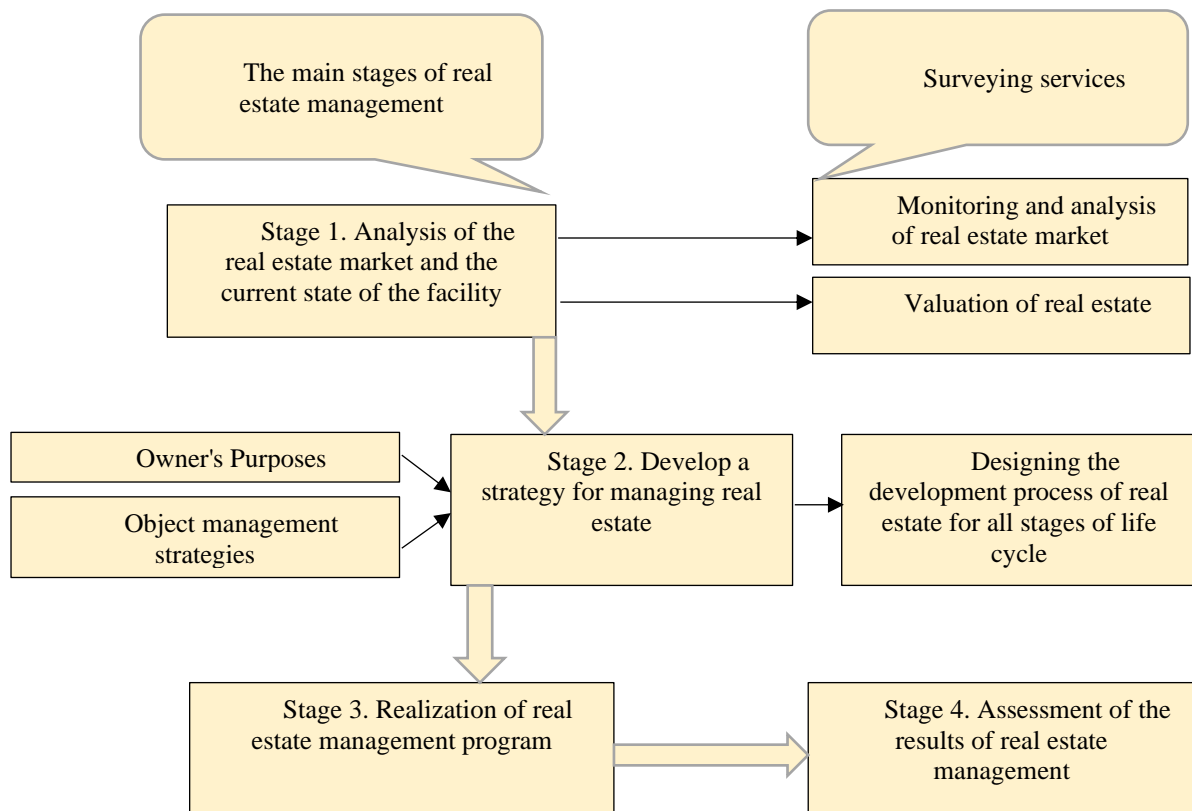
In order to improve the management of real estate, it is proposed to provide the surveying services in a particular sequence (see Figure 3).

As the market for residential and non-residential property management services is relatively young in Uzbekistan, the essence of the surveying services remains a system that should be explored in this market. [6] At the same time, the willingness of homeowners to transfer the rights of operative management to the professional, on the one hand, increases the role of the surveying services in increasing the efficiency of the use of real estate, given that most of the state assets are privatized. Obviously, the presentation forms are different.



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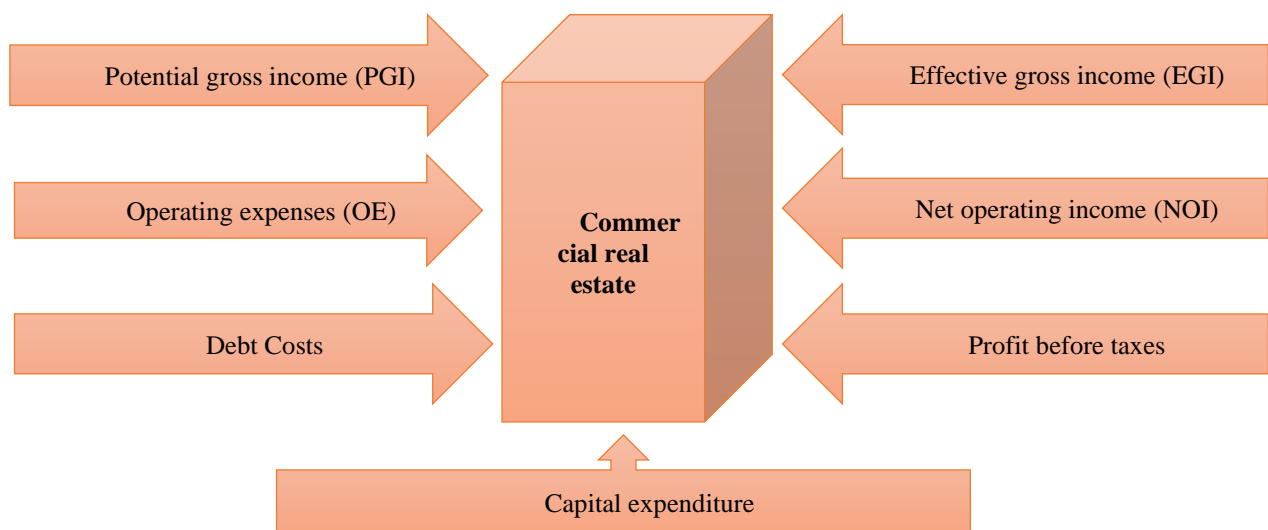


**Fig.3. Process of managing real estate objects**

Source: author development

With regard to commercial real estate, it is important to know the specifics of certain properties

in order to ensure their effective management. (See Figure 4)



**Fig. 4. Indicators describing commercial real estate budget for management purposes**

Source: auth or development

The role of the budget as a basis for choosing management strategies in the management of commercial real estate sets high requirements for the

content of the primary data and the accuracy of budgeting. Therefore, it is important to identify all the points before budgeting. As a result, the owner can

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calculate the ultimate efficiency of real estate management, which is determined by the return on equity: pre-tax profits with respect to income tax and other similar payments. [4; 7]

As a result of summarizing the specifics of the management companies' activities and the state of the

real estate management services market, proposals were developed to improve the real estate management system based on the use of surveying services, and are presented in Table 1.

**Table 1. Suggestions for improving real estate management based on the use of surveying services**

Directions	Necessary measures
Development of real estate market services infrastructure	1. Introduction of Surveying Services to the Real Estate Management Services Market. 2. Creating and developing a legislative framework for regulating the activities of the surveying organizations.
Formation of methodological basis of professional real estate management	1. Creation of monitoring system for activity of the surveying organizations. 2. Creation of structures to manage the development of surveying services.
Creating a single information market for the real estate services market	1. Ensure transparency of information on the market for real estate services. 2. Develop professional performance criteria related to surveying services. 3. Creating a data bank for real estate management services

One of the ways to improve the management of real estate is to develop the real estate market services infrastructure. In this regard, it is important to develop a legal framework for regulating the activities of the surveying organizations. This, in turn, helps management organizations to better understand their responsibilities and responsibilities to consumers.

Activities related to the second direction include continuous improvement of the methodological framework for real estate management. In this regard, it is proposed to establish a monitoring system for the activities of the surveying organizations.

The third direction is the creation of a single information space for the real estate market. The need for action to be taken in this direction is based on current market conditions. This is explained by the

fact that the real estate market management services are 'closed' and restrain its development.

### Conclusion

Consequently, improvements in real estate management based on the development of surveying services will only be possible when the appropriate infrastructure is available. It includes the organizations providing services to the surveying, the system of regulatory and methodological documentation, and the system for training specialists in real estate management.

Using the suggestions presented in this article will enable to organize and streamline the process of surveying services and achieve the best possible results in real estate management.

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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: 2020 Issue: 01 Volume: 81

Published: 30.01.2020 <http://T-Science.org>

QR – Issue



QR – Article



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## NATIONAL IDENTITY OF UZBEKISTAN: FORMS AND COMPONENTS

**Abstract:** The article reveals the essence of such notions as “identity”, “national identity”. In defining the essence of these notions the author relied on the results of research works carried out in the country and in foreign countries. Special attention was given to identifying the main forms and constitutive basics of national identity principles. As well as the article refers to the historical and philosophical analysis of the Uzbek national identities and its axiology until the formation of the Islam and culture. As well as The article also presents the historical and philosophical analysis of Uzbek nationalities and its axiology as well as the formation of the Islamic religion and culture, along with the axiological processes in the national identification, which is based on the first national cultural monuments of the Uzbek people, Avesto, personality and axiological features.

**Key words:** nationality, identity, national identity, realizing one’s national identity, constitutive basics of national identity, avesto, axiology, Islamic religion, nationality, national values, national self-consciousness.

**Language:** English

**Citation:** Odinaeva, Z. I. (2020). National identity of Uzbekistan: forms and components. *ISJ Theoretical & Applied Science*, 01 (81), 163-169.

**Soi:** <http://s-o-i.org/1.1/TAS-01-81-31> **Doi:**  <https://dx.doi.org/10.15863/TAS.2020.01.81.31>  
**Scopus ASCC:** 1201.

### Introduction

With the development of historical theories and concepts, the concept and theory of “national identity” acquired their new forms and structural foundations, although historically it was accepted by world scholars in the late 19th and early 20th centuries. This can be illustrated by the processes of globalization that are taking place in countries around the world.

In the context of globalization, the formation of a marginal (intermediate) culture in different societies is obvious. The marginal culture is based on ethnic identity, lifestyle and aspirations of different nations and nationalities. The interaction of different ethnic cultures leads to two very different results. Firstly, the rapprochement of nationalities and nations leads to mutual understanding and solidarity; secondly, there is a change in the ethnicity of nations and ethnic groups, as a result, national diversity is gradually eroding.

That is why in recent decades, issues of preserving the ethnic identity of nations and nations and achieving national identity have become relevant. From this point of view, the concept of “national identity” is becoming increasingly popular in the use of languages. At the same time, the essence of the

concept, the state of its expression, as well as the structural foundations of national identity.

One of the Russian electronic sources describes the concept of “identity” as follows: identity (identity) is a term used in everyday activities and academia, which represents the continuity of the individual and himself. represents the concept of heterogeneity, inheritance [1].

A number of researchers have attempted to identify forms of identity in their studies. One electronic source focuses on the following forms of identity:

1. Psychophysiological identity.
2. Social identity.
3. Personal identity [1].

Psychophysiological identity. It reflects the unity and masculinity of physiological and psychological processes and characteristics of the body. Accordingly, the body differentiates its cells from cells of a foreign organism. The same applies to immunology.

Social identity reflects a person’s ability to understand, as well as understand which social group or community he belongs to. It is social identity that allows a person to transform from a biological into a

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social being. In social terms, self-awareness contributes to the assimilation of a collective identity, such as self-esteem of team membership, staying in the community, reliance on his support and vice versa, the desire to help and support his teammates.

Personal identity (identity or identity) is the unity and continuity of a person's aspirations for vitality, purpose, motivation and the meaning of life. This form of identification can also be called "biological identity." Consequently, in personal identity there is a "biological identity", which is directly manifested in the activity of a social entity. At the same time, it is worth noting that when it comes to personal identity, the individual does not have a specific quality or personality. Probably the "biological history" of man is not biologically different. For this reason, biological identity is more clearly reflected in human behavior (as well as other living things).

Evidence, evidence at the crime scene analyzed on the basis of the identity of the suspects and "to determine the identity of the object and personality on the basis of the totality of general and personal identities" [6, 173]. Due to biological characteristics, one person does not duplicate another.

Biological identity is characteristic not only of individuals, but also of other living beings. Scientific studies have shown that if the cells on the fingertips represent the biological identity of each person, the black and white stripes in the body of zebras never duplicate animals of the same type.

Identity illuminates individual and general characteristics. According to an individual approach, identity refers to a person and, in accordance with a common interpretation, to a community. The uniqueness of a particular society is often called "national identity." Indeed, national identity means that a particular nation, nation or nation has a positive attitude to the values that have formed in the region in which they live. "National identity is expressed as a single whole, on the basis of which a stable, developed state is achieved" [2]. It would be a mistake to understand this type of identity as belonging only to a particular nation, nation or people. After all, in a modern state, any country that represents a territorial border is populated by people of different nationalities and ethnic groups, and they work to develop and develop their society.

In the research of Kuznetsov K.A. and Schekhlina discovered the structural foundations of national identity. According to the authors, national identity is based on the following components:

1. The presence of a general experience of statehood in society, which reflects a significant event in its history, the adoption of the event as a set of values.

2. The formation of a set of common values that are recognized by most people, and not the basic and stable environment.

3. The fate of a country that does not change even under the influence of a stable external environment and the development of shared responsibility for the development of society.

4. Nationality, nation or people to form a national identity

can and will be lost (for example, many events and events in the history of mankind, such as the fall of powerful Rome, German fascism, the death of Japanese militarism, the collapse of the former Soviet Union, etc.).

It can also be interpreted as a national identity. In essence, national self-awareness means awareness of the history of its formation and development by people of a certain nationality, ethnicity or nation, pride in their achievements, concern for their problems and effective work to promote a society with a high level of civil responsibility.

As with any trait or quality, national identity also manifests itself to some extent. Russian scientist N.G. Skvortsov divides the degree of manifestation of national identity into three groups. I.e:

1. The basic (initial) level.
2. High level.
3. A very high level [4].

According to N.G. Skvortsov, mentioned signs justifying these levels, as well as the national characteristics that they represent.

A basic level of. This level reflects ethnic characteristics - language, religious beliefs, behavior, lifestyle and so on. The rich national cultural heritage of different nations and nationalities lies at the base of the basic level. Often, at this level of national identity, there are many differences in interethnic relations, such as language, religious beliefs, cultural development, lifestyle and lifestyle, and the concept of "we" is opposed to other nations or nationalities; the emphasis on national identity ("we have what they are") is also emphasized during the dialogue.

2. High level. At this level, interethnic relations between nations and peoples have been eliminated. The goals of different nations and nations living in one state are to build a society, make a better country and solve social problems in a harmonious and joint manner. No nation or nationality is indifferent to the fate of the country or the future of society. The most important characteristic of the highest national identity is patriotism.

Patriotism is a high human virtue that expresses pride in the history of one's homeland, one's hometown, its present and its future prospects [3, 144-145].

As a patriot, the following qualities appear:

1. Love for the country, devotion to it.
2. Adherence to the past, customs, traditions and values of the nation to which it belongs.
3. Proud of the history of the motherland and people.

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4. The material of the country, as well as the spirituality created by the nation preserving their wealth, taking care of their reproduction.

5. Work for the good of the homeland and the progress of the nation.

6. The fight against any threat to the freedom of the motherland and freedom of the nation.

7. Protection of the honor, honor and dignity of the motherland and people.

8. Confidence in the prosperity of the motherland and the progress of the nation [3, 144-145].

Patriotism, which is "a virtue for all who live in accordance with the fate of the Motherland and the fate of the nation", also serves to alienate "the opportunities, glory and prestige of the development of the nation" [5, 148].

3. The highest level. This level of national identity reflects not only the individual's perception of his or her ethnic or ethnic identity, but also concern about the fate and future of this nation or nation, his or her language or religious beliefs; to make a direct contribution to the social, economic and cultural development of the society in which he lives, and in defense of his homeland; Feeling like the owner of the homeland and caring for any problem that is associated with it, is responsible for overcoming it and its responsibility as citizens to achieve greater efficiency, especially in professional activities.

If you look at this as an example of Uzbek national identity: the concept of "national identity", its essence and manifestation in the Uzbek national literature is one of the least studied issues. However, the need for its study is growing rapidly. There are a number of reasons for this, most of which are related to the increased national identity of nations and the fact that the national factor is becoming a leading force in the world.

As for the nation and ethnicity, "this understanding requires national unity. The existence of a national object is a national unity, and its individuality cannot be harmonized in a certain area," Anderson said. What forms and determines the fact that a nation exists as a whole? Kamorov replies: "Language, territory, historical requirements, general mentality."

Accordingly, national identity is the identification of one nation with its own values, origin, language and culture with other nations, in which a nation competes with other nations through its own identity. It also plays an important role in all aspects of the great personalities of the nation and their achievements and discoveries. This in turn creates a national identity.

Political scientist Rupert Emerson defined national identity as "the totality of people who consider themselves to be their people." This definition of national identity was confirmed by the social psychologist Henry Tyfel, who, together with

John Turner, developed the theory of social identity. The theory of social identity accepts this definition of national identity and argues that the conceptualization of national identity can be self-categorized and influenced. Self categorization means getting to know the nation and perceiving oneself as a member of the nation. The affective part is a feeling of attachment to feelings associated with human feelings, such as feelings for a nation. Awareness of belonging to a particular group creates a positive feeling about the group, and other members of the group are sometimes inclined to act on behalf of the group, even if they are not personally known.

Sukhachev V. Yu. In "Identification Boundaries": "For some analytical explanation of this concept, the logical difference we are interested in refers to the nature of the relationship between subject and subject. So, in the analytic sentence, the predicate refers to the topic. The other is self-sufficient, self-determined and obsessed. Self-control as a special connection is realized through self-awareness." [10]

National identity is the identity or feeling of a state or person belonging to one nation. It is presented as a whole, united by various national customs, culture, language and politics. National identity combines subjective feelings with a group of the same people, regardless of their citizenship. National identity is psychologically regarded as "emotion and recognition," which we call "perception of differences," "us," and "them."

Burke (1950) proposed three sources of identification. The identification of materials, goods, property, the result of things - I look like you because we have the same car model or the same taste in clothes, music, books, etc. The identification of idealists is based on common thoughts, relationships, feelings and values. , We go to the same church or to the same political party and so on. The result of the formal identification of an event, form or organization in which we participate. Identification is the opposite of separation.

L.A. Sofronova On problems of identity "A person conveys the characteristics of an object in different ways, but not completely. In addition, the identification process does not always lead to true identity. It could also be a lie.

A person knows and recognizes not only the world, but also himself and his environment. He is engaged in the search for social, national, religious, psychological, sexual identity. One can be under pressure, and the other can dominate and dominate the complex. These options exist together because they identify one person from different perspectives. For example, "gender identity and social identity constructs are inextricably linked. Gender identities were established simultaneously in early childhood, combining the presence and social necessity of social conditions "here and now" and "biological necessity". [7]

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It is obvious that introspection and an attempt to find out who it is does not help a person to look at another. It defines others (others) its status, gender, name, role in the movement, membership in one or more layers of society. Consequently, self-identification is inevitably connected with the ego of another. A person "then perceives the fact that each person may have met with himself not only as a stranger, but for his own sake, perhaps not so much." This requires the identification of other, alien personalities. In addition, the whole culture is defined "in the eyes of a completely different culture" (M. M. Bakhtin). [8]

Identification requires a person from external life circumstances. This varies depending on the context in which it is available. N. N. According to the observations of Kozlov, in Soviet times, a person had to have information in a new kind of culture, to study his own language. social identity is not always a complete identity with a new culture, but it's hard for people to name, for example, personal records from the perspective of the seeker, so that it is easier to portray a new personality from a biographical trust. [7]

In a new sense of life, a person is experiencing crises imposed on him. It is not forever, given once and for all. Once upon a time, a person may be content with what he or she achieves. Then he begins to look for another. A person is trying to make a new decision, to join a new identity group. Therefore, the identifier "can be expressed as a process similar to the process of acquiring a foreign language (as opposed to the native language)." [7]

Identification changes not only when a person adapts to new life situations, but also during his life. In part, this will change with age - human psychology will change over time. As mentioned earlier, a personality search should not lead to an end result - it is difficult to formulate requirements for identification. In addition, a person can resist his community. To identify himself, he needs to absorb many cultural codes. Without this, they cannot reproduce the identification canon (N. N. Kozlova). [7]

By identifying himself and others, the individual relies on already established knowledge. But knowledge is always helpful. Even if someone knows this, he does not know for sure. The concept of knowledge and decline has been repeatedly described in world culture. "Oedipus knew everything, but did not know this. In fact: he knew that at some point in his life he had to kill his father. He knew how to marry his mother." [9]

Identity issues form an important layer in cultural texts. Identification processes evolve in different ways. For the earliest times, it was necessary to identify the outer grains that distinguish them from others. "[10]

Given the above reasons, the emergence of national identity among different nationalities is equally important, and their importance in maintaining the continuity of national values of each nation is manifested. That is why each nation in its manifestation enriches and enriches the processes of national identity.

The study of national identity and the manifestation of the national identity of the Uzbek people, which has survived colonialism for more than half a century, remains one of the tasks of national philosophy.

Just as there is a history of everything and events - the origin, development and decay of the phenomenon, national identity and accent processes have their own historical background. This historicity is directly related to the origin and formation of the nation. Of course, historical memory is important. In turn, the role of historical memory in national identity is invaluable. In the end, history is an integral part of the nation's ability to create consciousness and represents the level of knowledge, appreciation and study of the past of the nation. Historicity is created in the process of conscious activity of the nation and is inherited from generation to generation in the process of development of its consciousness.

A nation that could not preserve its historical identity and could not pass it on to future generations will have no future. This is because memory is the most important resource for the future of a nation, learning about the past and life experience.

Axeological processes in national identification develop and improve at every historical stage. However, "... this process is never spontaneous, but develops in accordance with the influence of the stages of the historical development of the nation, their spirituality and spirituality. Only when he realizes that his honor, dignity, dignity or a sense of the need to solve problems arising in the course of his development will accelerate the development of national self-consciousness and, if necessary, explode. Otherwise, its development will continue to slow down. From this point of view, the period of the struggle for liberation from drug addiction was not a calm period for the development of national identity. At the same time, after gaining independence, it became a major factor in the revival of national traditions, customs and values, which undermined the opportunities lost in the new conditions." [eleven]

Realizing this factor, we are turning to our national spiritual heritage. Indeed, the national spiritual heritage is a combination of intelligence, customs, traditions, values, spirituality, behavior, positive experience, skills and potential of ancestors in the use of natural resources at different historical stages of the nation's formation. For this reason, the national spiritual heritage will serve as a source of experience for the development of the nation. According to President Islam Karimov, "although we

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are financially behind some countries (and often have historically objective reasons), we can say with great pride about our spirituality: the values, customs and traditions of our great ancestors. We have a tremendous vitality that is absorbed by our blood. Our excellence is recognized throughout the world of education. Our sacred duty is to live in accordance with this blessed heritage, to enrich this unique wealth even further, to build our national identity and our future construction on the basis of universal values. ” [12]

In accordance with these words, an attempt is made in the article to reveal a historical and philosophical analysis of the stages of development of aeological processes in the Uzbek national identity.

Features of pre-Islamic identity in the history of the Uzbek people. The peoples of the region in which we live have a very ancient and immortal cultural heritage. This heritage is embodied in rich folklore, Turkic, Zoroastrian, Buddhist inscriptions, legends such as Shirak, Tumaris, Kuntugmu, in stories from the series Alpomish, Goruulu, Tohir and Zuhra, Beautiful Garib and Shohsanam. There is also a legacy that goes from language to language, with countless stories, parables and mysterious songs. Part of this rich and rich heritage is written stone - ancient texts, the second is the ancient and historical book of our people "Avesto", and the third, undoubtedly, are the sources left by our scientists, which serve as an invaluable scientific and philosophical basis for promoting the Uzbek national identity.

Ancient inscriptions, although dating back to the eighth century BC, contain an understanding of thinking, lifestyle, hopes and aspirations, values and traditions of socio-political philosophical, moral and religious. His artistic views are generally reflected in his historical and spiritual memory.

The philosophical and historical analysis of the problem of values is based on ancient legends, myths, legends, stories and epics, that is, on examples of folklore. In folklore, more attention is paid to universal and universal values, their essence and content are interpreted differently. The stories of Spetamen, Alpomish, Tumaris and Shire illustrate the spirit of self-sacrifice for the freedom of the people and country. "These verses can be compared with the ancient Greek poems "Iliad" and "Odyssey". [13]

When ancient people thought about existence, told myths, stories or stories, they commented on the values of the universe, its infinity, the universe and humanity, the meaning, meaning and purpose of human life, as well as values such as courage, wisdom, humility, kindness, loyalty, patriotism. some of them are divine.

Avesto is the first major work in which the historical and philosophical thinking of our people was demonstrated. It is no coincidence that he is called the "Guide to Life." Avesto is often understood as the main book of Zoroastrianism.

It is well known that in the pre-Islamic period, i.e. Before the Arab invasion, Zoroastrianism, Buddhist, Christian and Buddhist religions existed in Central Asia, and Zoroastrianism was the most common among them. According to academic science fiction, "... Zoroastrianism is the most rational religion among religions of the past, in which much attention is paid to the well-being of people." The founder of this religion was Zoroastrianism and ancient cities and agricultural areas (Sogdiana, Margiana, Bactria, Parthia, Khorezm), where most of the population of Central Asia lived on pastures, agriculture and crafts during the time of the Avesto Book. The process of formation These social changes in the life of the peoples of our country required the renewal of ideology, which impeded its development, and the implementation of religious reforms that would meet the requirements of the new society. This is what Avesto has to say. In addition, it gave rise to a period identity in the minds of people.

Avesto specializes in family and marriage relationships. The term "imana" is often used in the work. "Imana" means a family unit. The head of the family was called "imanantati." The family included the head of the Imananati family and his wife, Imananatin, children, grandchildren, and great-grandchildren.

The family emphasizes the need for marriage and childcare, as well as teaching moral principles to men. The man was only 16 years old and he had the right to marry more than one wife. All the time, the first woman was the head of others. According to Avesto, a man must first be financially and physically strong enough to marry, and he needs to eat on time, otherwise the man will not be able to fulfill his duties. "A person who does not eat has the power to pray, is not able to fulfill the duties of a couple, does not give birth to children" (Yasna, 33, 3). It was believed that: "With improved nutrition, people's morale will be strengthened. When there is an abundance of food, the words of God are better" (Yasna 33: 3). As Avesto points out, the source of family happiness and happiness is "the abundance of what is needed for a good day" (Jasna, chapter 30).

It is well known that our people have long loved children who think that "ten is different." Even in Avesto, this quality of our people is praised by God. That is why family religion and parenting play a special role in the moral education of Zoroastrianism. Here is researcher Avesto H.H. Khamidov: "When a person had the opportunity to leave offspring, but did not marry, he was forced to stamp him or bind him with a chain. Sometimes this man was beaten in a bag. An unmarried girl who resisted the proliferation of human offspring on earth was beaten in a bag and beaten 25 times. Avesto is strictly forbidden to marry relatives. This was done in order to keep the blood of the people and the tribe clean and to preserve the integrity of the offspring. Families with many children



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need to receive state benefits, and at the same time it is said that women who have 2-3 births deserve a reward. ”

Looking at the Avesto, we see that during this time special attention was paid to raising children. The rules for teaching and raising children in Avesto are as follows:

- religious and moral education;
- physical education;
- reading and writing instruction.

Religious education of children began at 7 years old, and age - 15 years.

In addition, Avesto advises people to love their homeland, to be human, to be friendly, to be kind, to be kind, and to take care of all people. We are ready to help people to be active in the fight against evil for happiness, to be in peace and brotherhood. A person should not be jealous of his thinking or imagination. A well-intentioned person never gets angry or knows, because in a state of ignorance he loses his good intentions and forgets about duty and justice. ”

Since Avesto is the holy book of Zoroastrianism, it reflects the value system of this religion. At the same time, the book pays great attention to human values, their significance for the spiritual and practical activities of man. The qualities of goodness, perfection, thoughtfulness, humanism are reflected in the image of Ahuramazd. According to one of the authors of the book of Zarathushtra (Zoroastrian), a person should follow the forces of good and light, to distinguish good from evil, and right from evil. The dignity of a person in this process is reflected in the fact that he is indifferent to the struggle for the victory of good, his lifestyle, his spiritual appearance, his social activities.

As scientist Ibrahim Karimov rightly notes in his research: “The Universe is based on the struggle of contradictions: light and darkness in physical things, life and death in the natural world, good and evil in the spiritual world, and the law between justice and injustice in public life.” Religion is based on an uncompromising struggle with evil in the pursuit of good.

Indeed, in the Zoroastrian doctrine, a believer is a perfect person who is free from robberies and robberies, takes property from others, betrays his conscience and estranges himself from faith. In Zoroastrianism, Ahuramaz on behalf of the people said: “Take care of your body, your spirituality and your moral health; then your material life will be perfect. ”

A remarkable feature of Avesto is that the creation of the universe is a primitive seed, tribe, nation, and then nation, the ideals of fighting evil for freedom, liberty, freedom, creativity and creativity in simple terms. The noble ideas, noble words and noble deeds of Avesto in the Zoroastrian doctrine still appeal to humanity, purify and enrich people spiritually. In

Zoroastrianism there are many noble ideas about good and evil, good and evil and faith. [fourteen]

There are countless sources of information about the history of the development of the natural, scientific and especially moral values of the pre-Islamic peoples of Avesto.

The subject of values is also clearly reflected in the philosophical and theological teachings of the "Money Period" (the warlike century of the 1st-1st centuries, the founder of money lived in 216-276). According to Moni, two worlds exist in the world of "darkness and light", the first of them is the world of injustice, oppression and violence, and the second is the world of eternal, indestructible, enduring values. The teachings of Monia summarize the basic values of ancient times, their common system is connected with mythology, philosophy, cosmogony, astronomy and other areas of social and natural knowledge.

Traces of value can also be seen in the teachings of Mazdak of the sixth century (completed in 51st). “Unfortunately, after Islam became the official religion, these tracks faded and became difficult to find.” [fifteen]

Axesological aspects of medieval eastern philosophy: the expression of medieval philosophy reflects a wide range of philosophical phenomena, the formation, development, and spiritual and spiritual influence of directions, both in essence and in context. Firstly, this is the philosophy that arose under feudalism in Western Europe for 5-15 centuries. Its content is directly related to the socio-cultural characteristics of society and the active influence of the Catholic Church.

Secondly, the Shark. The peoples of the Middle Ages also have their own medieval centuries. By this time, Islam had penetrated the life of many peoples of the region, except for the Arabs, and had a strong position. Gradually, economic, cultural and scientific ties grew, interest in the natural, scientific and philosophical heritage of the ancient world increased, Aristotelianism became widespread. Philosophical thinking developed on the basis of local, ancient world traditions and a new ideology.

Abu Nasr Farabi (873-959), who played an important role in the history of Eastern culture, also emphasized these values. Farabi's ideas on value can be clearly seen in the doctrine of Medina al-Fazil. As an encyclopedic scientist, the Farabi doctrine emphasizes the universal system of moral and ethical values that arose during the period of high ideals and fair social relations. In such a society, for example, religious values are of particular importance, but they are dominated by philosophical authorities who are responsible for the spiritual and moral development of people's words (theology) and doctrines. rock evolution. Retirement at a time when the religious views of thinkers were ideological, and what was most important! Allah is one of the first philosophers of the East who considers the idea, but also the values of

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man, society and science as one of the main topics of philosophical knowledge.

### Conclusion

Consequently, basic identities of national identity and axiology in the new national democratic doctrine. The secular views of the 18th-century French enlighteners were largely based on the achievements of European science and philosophy of the 17th-18th centuries. They sought to explain the landscape of the world not in biblical or holy quotes about the causes of natural phenomena, but about the successes of their science.

At the end of the 19th century, the secular ideology of Ismail Raspirali (Gasprinsky) was widespread in Turkestan. This is in line with ideology; The idea that secular education can be achieved by teaching Muslim Turkic peoples the new Russian style of European rule. Russian colonial policy was interested in maintaining social relations of the middle class in the country. They knew that the colonial policy of the people, that is, Russian colonists, could not be continued during the enlightenment of the people.

Such views will soon spread in our country. Turkic intellectuals who sought to educate people, uniting all Turkic people on the principles of Jeditism, further reinforced this idea. Our great-enlightened scientists M. Behbudi, A. Avloni, A. Fitrat A. Chulpon and many others left an indelible mark on the memory of our people. It is no exaggeration to say that their efforts to create peace, prosperity and prosperity in the country have demonstrated their national identity to our people. Because, at the same time, when they try to destroy our national values and national ideology, their high-profile efforts to educate and enlighten people are of direct acological significance.

Thus, the concept of identity, individuality and self-awareness means a specific relationship to the values formed in the region where one or one nation, nation or race lives. National identity is the knowledge of a specific nation, its nation and race, enriching the achievements of national achievements, the desire to overcome their own problems and finding their place in the international community. In the era of globalization, in which marginalized civilizations are formed, the ethnicity of a nation (race, people) is stable in the face of acute historical changes.

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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: 2020 Issue: 01 Volume: 81

Published: 30.01.2020 <http://T-Science.org>

QR – Issue



QR – Article



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## HISTORICAL GENESIS OF TRANSFORMATION IN THE SOCIO-CULTURAL IMAGE OF WOMEN IN UZBEKISTAN

**Abstract:** The article has been analyzed the periodicity and national-mental features of the historical aspects of the transformation of changes in the sociocultural image of Uzbek women.

**Key words:** sociocultural image, social memory, national-mental, periodicity, historical genesis, transformation.

**Language:** English

**Citation:** Gafforova, M. (2020). Historical genesis of transformation in the socio-cultural image of women in Uzbekistan. *ISJ Theoretical & Applied Science*, 01 (81), 170-175.

**Soi:** <http://s-o-i.org/1.1/TAS-01-81-32> **Doi:**  <https://dx.doi.org/10.15863/TAS.2020.01.81.32>

**Scopus ASCC:** 3316.

### Introduction

In accordance with the Decree of the President of the Republic of Uzbekistan No. PP-4235 of March 7, 2019 "On measures to further strengthen the guarantees of women's labor rights and support entrepreneurship," under the chairmanship of the Senate of the Republic of Uzbekistan, the commission has been set up and its reforms are underway in the country to promote gender equality and improve the social status of women.

After the country gained independence in all areas of social life, consistent with the processes of democratization have been made as a result of the work involved in the management of women leaders, political leaders, including the new demands of the period can be obtained. That is, on December 22 in 2019 it was held the elections at the country's Parliament, local representative bodies within prepared increasingly active social and political conditions of women. In this context, the book of women in the electoral culture, women's committees responsible for workers' participation in the electoral law special attention to this survey has been indicated.

**The purpose of the study.** It consists of promoting in Uzbekistan women's active, social, legal, economic, fundamental changes taking place in the cultural life of the lighting and paying attention to the women's activity in the historical genesis, with

emphasis on its transformation sociocultural approach to the process.

**Facts that reveal the essence of the study.** In the context of modern development in which democratic principles are deepening, the transformation of women into equal rights and participants in society has been closely linked to the peculiarities of the evolutionary history of human society. Human history testifies to the fact that for thousands of years, the cultural level and spiritual maturity of any society has been determined by the attitude towards women, especially the Oriental respect for women.

The issues of women in society sociocultural the form of changing the history of the countries of the East and the West appear to be aspects of the option periods and social commemorative national mental attributes.

The period of maternity (matriarchy), which occupies a large part of human history, has been described in the socio-historical literature as the "era of women." M. Kholmatova, a researcher in this field, notes that women are the founders of agriculture, pottery, and cattle breeding, which set up the division of labor, create their first tools, and start their own household [1, 109-110.]. However, with the transition to the patriarchal period, social equilibrium has shifted

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towards men, with the man becoming the main production force, the team manager.

Patriarchal - Greek, pater - paternal, arche - power, i.e. fatherhood, division of labor as a social institution, commodity-money relations, monogamous family and private property. French researcher Simona de Bovuar wrote, 'Patriarch of the interests of his men from the time of the first match[2, 32.]. As a result, women's leadership roles in social production have shifted their focus to daily household chores. According to K.Millet, who studies the characteristics of the ancestral period, male domination is "stable as a patriarchal institution, rooted in all forms of political, social and economic stratification (caste or class, feudalism, or bureaucracy), and with its historical and geographical diversity stand out". The dominant ideology of patriarchal relations has created a strong system of views and traditions regarding the subjection of women in every period of historical development. If we say as F.A. Brokgauz and I.A.Ephron have mentioned the following words: women's discrimination, social position just in front of the boiler-plate, tradition present in all periods of world civilization[3, 800-888.].

With the emergence of traditional societies, the social norms and procedures that were formed on the basis of patriarchal relations were reflected in the official legislative acts of the first states. In accordance with the laws of the ancient Babylonian ruler Hammurabi, the girls would have married her father until we need to buy them in the future, the range of [4, 9.]. When a married woman disobeyed, her husband had the right to punish her severely. Women are often virtually unlawful, especially in the economic sphere, and are viewed as someone's property. Although the study found that women were excluded from society's standard of social norms, historical social sources indicate that women were active not only at the family level, but also at the state level. Herodotus in his "History" notes the defeat of the Aramaic ruler Cyrus II under the leadership of Tumaris, the leader of the Massaget tribe, who lived downstream of the Amu Darya[5, 84.]. These data show that women in Central Asia have attained excellence not only in household and child rearing, but also in public administration and military arts. The first written source on social relations, way of life and beliefs of the ancient period of Central Asia described in Avesto the issues of family freedom, the role of women in society, changes in the social appearance of the family. As it states: "In the case of boys, girls should start learning. Because, when they are of age, they should be able to arrange and decorate their father's house, and then, when they are married, they should be engaged in upbringing and education of future generations"[5, 84.].

Therefore, since the generation of women and mothers is responsible for raising children, it is

understood that this responsible task is not only the duration of the family, but also the determining factor of the state's future. This is based on the doctrine given special attention to the upbringing of children, both boys and girls and women to humiliation evil, ignorance mark[6, 224.].these issues affect women M. Hamidova argues that "Girls are required to have a "life school" in addition to housework, which provides physical and military skills such as wrestling with boys, riding, fencing, swimming, archery, and subsequently providing relevant status within the community[7, 137. ].

Then the girls and boys underwent a special examination under the leadership of an elder. The girls who have successfully passed the exam are kadbonu - a housewife, and boys - "kadhudo" - a status head of the family. Functions within these bodies are strictly organized.

According to historical sources, before the Arab invasion, Bukhara, one of the major provinces of Movarounnahr, officially ruled its two-year-old son, Tuhshodo, and practically ruled. At the time, she was in charge of the Samarkand-Bukhara-Amur trade route. After the invasion of the Arabs, he fought the Arabian army for the defense of Bukhara province[8, 318.].

Based on the sources, we can say that in pre-Islamic times, the changes in the social image of women in the region and the state were not equal to those of men, but the attitude towards women was not negative. With the advent of Islam in Movarounnahr (VII-VIII centuries), religious sciences were developing inextricably linked to secular science. Although Islam has limited the opportunities for women in social life in Movarounnahr, to some extent the freedoms of women who have been formed and adapted for centuries have been preserved until the end of the Timurids period.

During the Islamic era, especially during the Islamic Renaissance, women, along with literature, the exact sciences, jurisprudence (Islamic jurisprudence) and other areas, played a leading role in matters of public administration. Although in some scientific circles the prevalence of Muslim women in Islam during the period of Islam, their exclusion from public administration, socio-political and cultural processes, and the situation is very different. As it is said in the Quran the women's (indicated rights) are equal within measure of men (rights)[9 ]. The Prophet Muhammad (peace be upon him) also respected the woman and said, "The best of you is the one who treats his wife. I am more well-mannered among my women than you"[10].

There are many opinions in the Qur'an and hadith concerning women's rights. The woman has been described as a breeder who fosters the maturity of a family and nurtures and nurtures a perfect child. Muslim women were given equal rights and

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opportunities in marriage, inheritance and other important socio-economic issues.

In a monograph by Turk Islam scholar Bakhri Uchakuzi entitled "Woman in the Muslim countries", the author states that science, literature, and art have perpetuated their names in politics, including:

"The Prophet's wife, Aisha, led the army as a male commander in the "Battle of Jamil". Many European researchers -" The plane misunderstood the position of women in Islamic society, and for centuries women have been interpreted as men's slaves or servants behind the walls.

However, they understood their legal status much earlier than European women. A Muslim woman was well aware of her share in trade and property, her place in society"[11, 128].

One of the factors that motivate women to do so is their self-sacrifice, deep-seated mind, and entrepreneurship. "The mind of a woman is attractive," writes the German philosopher I. Kant, "but a man's mind is deeper, but it is not in the sense of a woman's mind, but in the sense of a woman's superiority, self-sacrifice, and integrity. A woman cannot tolerate anything that is "necessary", no compulsion. What, if any, sympathy[12, 65]. It is related to the views expressed in the study of women's issues and the historical bases of their protection, that in the past women have been confronted with the realities of women's history in the past to understand the differences between their rights and their dignity. There is also the need for comparison and comparison.

During Amir Timur's rule and the Timurids' rule, opportunities for enhancing the social image of women in the society were created. The respect, attention and trust in women in the kingdom of Sahibkiran deserve attention. Amir Timur wrote: "I tried to treat women as warm as possible"[13, 27-28]. After the marriage of Amir Timur, Saroymul Khan became one of the most influential women in the country and gained a high status in the kingdom as "Bibikhanim". My grandmother was very intelligent, educated and educated, and she had a unique taste. He was well versed in economic, social, and cultural life, and was a wise counselor in the affairs of the kingdom. These high qualities, in turn, lead to the courage and bravery of the Uzbek nation, the intelligence, hard work and creative potential of the Timurese princesses, such as Gavharshodbegim, Khanzodabegim, Gulbadanbegim, Zebunisobegim affected.

The social, political, and spiritual recession in Turkestan in the seventeenth and eighteenth centuries also began to affect social relationships with women. Women poems such as Anbar Otin, Nodirabegim, and Dilshodi Barno also began to raise the issue of women. A. Vamberi's book "Travel to Central Asia" by V.P. Nalivkin "Memoirs of Turkestan Women" states that the socio-spiritual state of the nineteenth century was more problematic in terms of gender. The

main reason for this is that in the spiritual life of Turkestan in the eighteenth and nineteenth centuries, there was a strong fanaticism rather than a rational approach to religion.

At the end of the nineteenth century and at the beginning of the twentieth century Turkestan formed Jadid movement turning point in our approach to the women and girls issue. The Jadid advocated increasing the role of women in the processes of social, political and economic modernization of society. The views of such educators as Makhmudkhoja Behbudi, Abdurauf Fitrat, Munavvarqori Abdurashidkhanov, and Abdulla Avloni are worth noting. Maxmudxo'ja Behbudi in his period "Without accepting women as full-fledged members of society, without educating on the right way of the younger generation, and reform of the society, it may not be able to become development, eventually, ultimately the fate of the nation depends on the state of women's and family"[14], his statements have the role of the progressive spirit of modern societies.

Fitrat in his work " Family " : Women's social and political activity are necessary for national liberation, freedom, women's only home, so that it is not engaged in child rearing, it is appropriate to participate in European politics[15], promoted his ideas. In addition, he strongly criticized the feudal attitude of the husband to his wife, revealing the reasons for disregarding women's rights. He said, "It is necessary to have a sincere relationship with the couple." Thus, the issues of women's interests, which have not been openly discussed in various contexts up to now, have been addressed by educated jadids. They realized that women should not only engage in family stability and parenting, but also be active in social life. At the same time, it is time for women to become involved in religious superstition and Sharia, and to promote social activism.

In the first quarter of the twentieth century, the former Soviet government pursued the solution of the problem of women, based on the ideology of the Communist Party. In the "red corners" of the village, women's gatherings were held to promote the socialist way of life. As a result, in 1927 mass attacks on women began - the "Attack" movement. Nowadays, there are different views and approaches to this struggle in science. Researchers carried out the attack by the Soviet authorities forced and contrary to national traditions, mentality event that[16], others act in breach of the provisions of the national lifestyle; Uzbek played a positive role in the lives of women, the idea expressed. Researcher V. Mineev said the attack was a major social phenomenon involving women in political life. Women have the right to actively participate in social production, to receive up-to-date education, to participate in the life of public organizations, clubs and local councils, and, above all, to participate in the elections equally with men"[17,

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55.]. First of all, in our opinion, during this period the Uzbek people were not yet ready for the rapid change of millennial lifestyle, religious, cultural, moral and spiritual values and norms. Second, the act of nationalism was ignored and administrative repression, radical measures, and hurried actions led to the tragic events in the lives of thousands of Uzbek women.

In the 70-80s of the last century there was a change in the research of women in the post-Soviet period, and the discussion of the notion that gender differences in social and humanitarian sciences are not only biological but also social. However, the second wave of the feminist movement, which is gaining momentum in developed countries, has a very limited aspect because of its discontinuation of women's history courses at Western universities, "Women's studies" as a new direction in the social sciences and humanities, "the cold war" to prove the benefits of communist ideology.

Since the establishment of the UN, women's struggle for equality has become more organized and purposeful. For the first time, the UN Charter proclaims equality of all people, regardless of race, gender, language or religion. In 1946, the UN Commission on Women was established. In 1948, the UN General Assembly adopted the Universal Declaration of Human Rights. However, in this Declaration, women's rights are not conferred on human rights but given as "original rights." As a result, the violation of women's rights was again ignored. During the Cold War, the polarization of politics has plagued women. This was explained by the fact that the necessary social mechanisms to ensure the civil and political rights of women were not developed and economic conditions were inadequate.

However, despite widespread efforts from the second half of the twentieth century, progressive feminist women, disappointed by the inequality in economic and social life, have left the movement and joined other forms of struggle for democratic processes.

The Uzbek people have created a unique ethno culture in the course of a long socio-historical development. It integrates with the cultures of other nations and nations, embracing innovations that are relevant to the lifestyle, and developing on the basis of universal values. This universal characteristic is also reflected in the ethnography of Uzbek women. According to the researcher O. Nishanova, "In the Ethnic Culture of Uzbek Women, the specific lifestyle, life experiences, customs, traditions of intergenerational communication, ways of understanding, understanding of the world, family and spiritual values. , social norms, examples of cultural creativity"[18].

The 63rd Session of the UN Commission on the Status of Women which held in March 11-17, 2019, based on the above socio-retrospective evidence. The

session was also attended by the delegation headed by Tanzila Narbaeva, Deputy Prime Minister of the Republic of Uzbekistan and Chairwoman of the Women's Committee of Uzbekistan. Within the official visit of the Uzbek delegation, a number of issues were discussed to strengthen the role of women and their role in the modern society. The UN Secretary-General Antonio Guterrish noted that "Where women are actively involved in political and social life, the economy is growing, stability is improving, and the well-being of citizens is increasing." However, today's demand is to ensure gender equality in the country and improve the social status of women, to further increase women's participation in the reforms and modernization of the country, to expand the role and opportunities of women in government and society, parliament, in 2019 special attention should be paid to the selection of suitable candidates for the election and their preparation for the election. There is also a need for greater use of their potential in the ongoing reforms in the country. Specifically:

First, as a patriarchal social institution, formed by the division of labor, commodity-money relations, monogamous family and private property, a system of solid ideas and stereotypes traditionally formed in every era of women.

Second, although the social norms and procedures that have been shaped by patriarchal relations with the emergence of traditional societies have been reflected in official legislative acts and condemned the departure of women, research shows that women are not only active at the family level but at the state level.

Third, although Islam has limited women's opportunities in public life, it has provided women with certain guaranteed rights and opportunities in marriage, family, inheritance and other important socio-economic issues.

Fourthly, social opportunities to support the social change of women in social life in Movarounnahr in the VIII-XV centuries BC, the freedoms that had been formed in this region for centuries and ethno-mental skills were preserved to some extent until the end of the Timurid rule.

Fifth, Jadids propagandized and advocated the increasing women's role in social, political and economic revival of society while promoting education and abandoning centuries-old religious prejudice and heresy as the only way to ensure women's freedom.

Sixth, the radical measures used by the former totalitarian regime's administrative and commanding apparatus to exploit women's labor as inexpensive labor have led them to move away from the millennial lifestyle, religious and cultural environment, and to the extent that such radicalism has moral and ethical values. It was a social blow to the Uzbek people living within its borders.

## Impact Factor:

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Seventh, there has been some progress in promoting women's rights at the national and international levels by embracing feminist theory and bringing it to the wider public. Through this effort, we have achieved moral, legal and social solidarity with the international community to ensure that women are actively involved in all aspects of society.

The issue of changes in the social and political image of women is closely related to human society, social relations, nations and states, culture and civilization. In the socio-historical processes, such as the development of society, the transition from one system to another, the problem of women arises in many ways. Therefore, we sought to analyze women's issues as a research object in sociology, in terms of their involvement in social structures, systems, social stratification, differentiation, and socio-political processes and relationships.

To date, the legal, spiritual and economic aspects of women's issues have been studied and studied at various levels. However, some studies also suggest that the physiological properties of women impede their social activity. It is also worth noting that they are given a high priority in interpreting women as the most sensitive subjects. In particular, the famous with his works devoted to the freedom and the rights I. Kant also considered that women are not able to social affairs and the activities[19, 449.]

A socialist Utopist Sh.Foure first time proposed the idea that the degree to which women are free from social barriers is a measure of natural universalization, and Sen-Simon fully supported the social activism of women in his scientific work. According to the bio deterministic trend of social Darwinism, "motherhood" is considered to be the highest duty of a woman and an indispensable factor in demographic development. Therefore, classical representatives of positive sociology, which have been harmonized with this approach to social Darwinism, also opposed women's efforts to achieve equality in various aspects of human activity.

Since the second half of the nineteenth century, sociology has been firmly established in the social sciences, and discussions about the role of women in the social structure of society and their activity within various systems have intensified. O. Kont interprets society as the Supreme Being (sui generis), exploring the feminine factor that lies within its structure separately from social institutions - family, state, and religion. In keeping with the socio-political situation of the time, according to the positive theory of the O.Kont's family institute, changes in the social image of a woman were systematized in terms of their influence on men's activity. O.Kont views were pure patriarchal, and changes in the societal image of women were limited to softening the harsh male nature, encouraging them to social ideas based on solidarity, and nurturing a younger generation. Under the influence of such androcentric Men's ideology-

approaches, the social and political activity of women in society was severely criticized.

Parsons argues that the division of labor is based on a gender-specific division, that is, by addressing "instrumental" tasks in the life of a man, such as protection, material support, protection, and so on within the framework of performance.

In today's society, the role and place of women in the social life of society and the state are growing. After all, there is a growing demand for women's empowerment in the fields of sociology, history, economics, politics, pedagogy, social work, and law. Nevertheless, women continue to face stereotypes and men's centrism in their individual capacities, career ladder, prestigious status and public recognition. In this context, research on this topic is important in finding practical solutions to problems that impede the further growth of women's social and political image in the state and society.

### Conclusion of the research:

First, the study of women's social activism based on bio determinism is conservative; suggesting that the main function of women in society is limited to "housewives" and "motherhood."

Second, recent sociological studies have shown a progressive spirit and criticized the acute approaches to social stratification affecting women.

Third, the stereotyped laws of sexual differentiation, which are a form of social stratification, have established androcentric ideas in patriarchal societies, creating artificial barriers for women to rise above social steps.

Fourth, the social disintegration between the ideal and the real social belonging of a person is its "stamping", the socially recognized role of the individual as the level of integration of the individual in the social environment. The patterns of behavior that underlie women's social mobility are shaped by social factors.

Fifth, the transition from one system to another in the development of society is reflected in various forms of social portrayal of women in social and historical processes. It should be noted that today, 50.2% of respondents in the recent social surveys on the socio-political activity of women stated that the country has created the necessary conditions for increasing the socio-economic and political-legal activity of women. According to the 61,5% of the respondents, no one and no one can prevent them from doing business in public or political organizations.

Sixth, in the current globalization, protection of the rights, freedoms and legitimate interests of women becomes even more important. Increasing the socio-economic and political-legal activity of women is becoming increasingly demanding. Nowadays in Uzbekistan the policy relates to protecting the rights and interests of women, as well as achieving full participation of women in the socio-political life of the

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country, ensuring gender equality and reproductive health is highly appreciated by the international community and prestigious international institutions,

including such as the World Health Organization, the United Nations, the International Labor Organization and the UNICEF.

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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: 2020 Issue: 01 Volume: 81

Published: 30.01.2020 <http://T-Science.org>

QR – Issue



QR – Article



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## CROWDSOURCING AND «INTERNET OF THINGS» IN THE REPUBLIC OF UZBEKISTAN

**Abstract:** In article development problems of crowdsourcing and the Internet of things in Uzbekistan are considered. The technology of crowdsourcing gives many possibilities for the company, in particular to an innovation on business dealing, by means of a site or social networks, and also possibility for the company to raise the image.

**Key words:** crowdsourcing, business, crowd-project, risks, social networks, crowd-project, innovative tools.

**Language:** English

**Citation:** Gulamov, S. S., Svirin, M. N., & Shermukhamedov, A. T. (2020). Crowdsourcing and «Internet of things» in the republic of Uzbekistan. *ISJ Theoretical & Applied Science*, 01 (81), 176-180.

**Soi:** <http://s-o-i.org/1.1/TAS-01-81-33> **Doi:**  <https://dx.doi.org/10.15863/TAS.2020.01.81.33>

**Scopus ASCC:** 2000.

### Introduction

One of innovative tools of conducting and business development in the XXI-st century is the crowdsourcing. Under crowdsourcing understand process at which the interested and uncertain circle of persons has an opportunity the limited participation in manufacture of the goods or service by means of information technology and the Internet. Crowdsourcing is enough young technology and the technology of crowdsourcing gives many possibilities for the company: innovations on business dealing; possibility involvement of experts to development of the business; access to experts worldwide; introductions of business by means of a site or social networks; possibility for the company to raise the image. Now business in foreign countries uses crowdsourcing for attraction of consumers and development of own activity, but for carrying out

crowd - the project, it is necessary for company to develop the project, to provide stages of its end and to finish the project. After the realization model is defined, it is necessary to develop the plan of realization of the crowd-project, including all necessary elements. The criterion of success is a set of the conditions necessary for successful realization of the crowd-project. Such elements enter into it as presence of knowledge on realization of crowd - projects; definition of necessary quantity of resources for crowd-project realization; the analysis of risks which the company in the course of crowd -project realization can face; possession of skills of advertising and public relations for community attraction of crowdsourcing; the organization of a commission of experts for the analysis of ideas of the project-experts; crowd -project summarizing. These conditions for successful realization of the crowd -project reduce the

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risks connected with given process. Absence demands high rent expenses from the company of a crowd - platform. Company development can be carried out by means of technology crowdsourcing on the basis of observance of conditions of criterion the successful operation realizations of crowd -projects that will involve new consumers.

The Internet of things (Internet of Things, IoT) is a uniform network of the physical objects, capable to change environment parameters including the parameters, to collect the information and to transfer it to other devices which have independent maintenance and cope the intellectual systems supplied высокоуровневой with an operating system, they can execute own or cloudy appendices and analyze the collected data. Besides, they possess ability to grasp, analyze and transfer or accept the data from other systems. In 2014 year number of Internet connections from various devices exceed total number of accesses to the network of people. Such projects, as «Clever house», « Pilotless car» are widely known. For example, today trains of a national railway carrier of Italy *Trenitalia* are equipped by gauges, and in the course of realization of transportations of passengers and device cargoes accumulate and transfer their indications, and experts estimate a railroad tracks and rolling stock condition. Experience of the Hamburg port when IoT allows collecting and analyzing the data about trucks coming to port by means of gauges is interesting. As a result, for two years throughput of port has increased by 178 %. In the world (by estimations of branch analysts, their quantity will reach 20-50 billion units by 2020) and together with it - quantity of examples of application of the Internet of things (Internet of Things, IoT) the quantity of the "connected" devices grows in economy: to power, the industry, housing and communal services, agriculture, transport, public health services etc. In the foreign practice successful examples of introduction IoT under the initiative as the states, and business are known. For example, with support of the state in the European Union countries, South Korea, China and India technologies of "a clever city» which allow to raise management efficiency power consumption and transport streams take root. Great Britain and the USA have the scale programs on introduction of "clever counters» for remote control of power consumption in households are realized. To business IoT competitive advantage at the expense of decrease in expenses and development of new sources of the income allows to get.

For example, the American company GE Aviation makes aircraft engines on which the sensor controls allowing far off to obtain the data about operation are established and on their basis to reveal optimum algorithms of service of planes that has allowed to reduce expenses for service seven times. Other example is mining company *Rio Tinto* in Australia which uses the pilotless career dump-body

trucks working continuously and operated from the operative center on distance of 1200 km. Industrial IoT-technologies underlie «Industry 4.0», by estimations of German academy of a science and technics, their introduction will raise productivity of the German industrial enterprises on 30 % on horizon till 2025 year. The consumer market is filled more and more with "clever" technologies: for example, by results of poll PwC in the USA, devices with technology of "the clever house» is used by every fourth consumer. The *Internet of things* becomes a reality. Constant and increasing data exchange demands development of new services which should connect us to the physical world around. These services also should be constructed on completely new business models and provide new financial streams. By means of the Internet of things interaction of objects, environment and people will be in many respects bound that promises to make the world "clever" - arranged better for the person. IoT essential impact on all spheres of ability to live of the person - formation will make in the near future - to appear new specialties on which will prepare experts in the field of IoT, will have new development of the statistician and forecasting, there will be new devices in the field of health protection and rendering of medical aid etc. Finally the global telecommunication infrastructure covering all spheres of human life and all devices, anyhow influencing ability to live will be generated. With 2015 for 2021 year annual growth IoT (the Internet of things and the Internet of connections) will make 23 %, and in 2021 year from 28 billion the euro to connected devices 16 billion euros will have on IoT- devices which are equipped by gauges and represent system of the Internet of things. For comparison: in total some years ago, in 2012 year, to the Internet it has been connected 8.7 billion devices. Under different forecasts, during the period of 2017 for 2025 year the quantity of gauges of all types will make from 1 to 10 trillion euro.

If to compare the markets of the Internet of things, big data and other segments by 2020 year the global market of the Internet of things will make 1900 billion euro and will take of predominating position BCG. There are certain workings out on IoT in Russia: the industry and trade Ministry has developed "road map" on development of "the Internet of things». In working group on working out IoT representatives of the Ministry of Emergency Measures, "Rostelecom", Samsung, GS Group have entered, etc. the IoT-consortium into which the largest developers of microelectronics have entered, platforms, standards, interfaces and appendices Is created, and key participants of this association became "Rostelecom", GS Group, Incorporated instrument-making corporation. The fund of development of Internet initiatives has prepared documents of "road map" of development of the IoT-market under the commission the industry and trade

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Ministry, working group has offered pilot projects in directions «clever city», industrial «the Internet of things», medicine, agriculture. In the «clever cities» pilotless transport will function, will have development transport modeling, building with use of BIM-technologies, remote data gathering from gauges of housing and communal services and the conclusion of transactions on real estate in the electronic form. Centre creation of competence on development of "clever" cities, libraries, fuel and energy, water and information resources and service economy, perfection of digital models of buildings and constructions, on management of economy of life cycle and territorial planning, possibility of the decision of a problem in sphere of ecology and waste management, safety, informing on city processes, on realization of transport modeling, a clever transport infrastructure will involve townspeople in acceptance of many questions on their realization. Therefore to consideration of a road map of Russia «Clever cities» are represented by a great interest. This program will end in 2024 year in five Russian cities pilotless transport will be introduced, in 10 cities transport modeling will be started, besides cities new models of management of redistribution of collected taxes and 25 cities of Russia will be introduced will correspond to recommendations of the "clever" city environment. It is possible to notice that 40 % of all under construction objects of real estate in Russia will be under construction with application of BIM-technologies (Building Information Modeling is information modeling of buildings), half of all transactions on rent and real estate purchase and sale will consist in the electronic form with use of "clever" contracts, and 70 % of households will use remote devices of the account of resources, and 80 % of inhabitants of "clever" cities will be satisfied by results of digital transformation. Level of reliability of supply by resources of a fuel and energy complex and housing and communal services in Russia will rise in one and a half time. The share of exit checks of control-supervising bodies will be reduced to 30 %, in two-three times the number of failures in housing-and-municipal systems from level of 2017 year will be reduced, and death rate from road accident in the Russian cities will decrease in 10 times from level of 2017 year. For the Russian cities it is planned to provide «a worthy place» in the international ratings in a direction «Clever city». The analysis of existing international ratings and indexes in the given direction will be with that end in view carried out. For subjects of federation and local government's recommendations about participation in corresponding ratings and indexes will be developed and finished. Strategy of advancement of achievements of the Russian cities in a direction «Clever city» on international scene will be developed. Till the end of 2021 year not less than three Russian cities will enter in Top-50 of priority

international ratings in a direction «Clever cities», and till the end of 2024 year the number of such cities will be not less than eight. The government of the Republic of Uzbekistan has included the program of the digital economy which purpose is formation of the high-grade digital environment and a digital field in republic in the plan of strategic development of the state. According to the government, "digitalization" the question of global competitiveness and national safety will allow the country to solve economy in the shortest terms. In the message of the President of the Republic of Uzbekistan of Sh. Mirziyoev to of Oliy Mazhlis (Parliament) from December, 28th, 2018 it is marked: «... we should begin working out in 2019 of the National concept of digital economy, who foresee updating of all spheres of economy on the basis of digital technologies, and on this basis to introduce the program «Digital Uzbekistan-2030». "Digital economy» is maintenance of digital space for all spheres of ability to live of the country. The primary goal of the program consists in creation of legal, technical, organizational and financial conditions for development of digital economy in the country and its subsequent integration with digital economy of foreign countries. The digital economy will allow providing growth of a total internal product at least for 30% and sharply to lower corruption. It is confirmed also with analytical researches of the authoritative international organizations». In the country the course on working out of the program of transition of the country on a digital format in economy is taken. Stages of the given program will last till 2030 year. Information-communication technologies it is in the long term connected with development of technological calculations, the decision of problems of the big data (Big Data), and working out of new analytical tools (Next-Generation BI). In 2017 year in an index of information-communication development among 176 countries Uzbekistan 95 place occupies and the share of information technology in country gross national product makes only 2.2 %. For comparison: in South Korea - 9 %, Japan – 5.5 %, China and India – 4.7 %. Information about high technologies became an integral part of an everyday life of almost all world population. ICT gets and influences even the most remote and not developed regions of a planet, becomes the key factor in development, innovations and prosperity of economy. Corporation Google actively works over the project of an operating system for the connected devices and systems - «Internet of things». Such systems can be both coffee makers, and clever cars.

In France sales of "clever bikinis» for 149 euros have begun. The gauge of an ultraviolet which through Bluetooth communicates with the smart phone is built in a bathing suit, and the special supplement warns the proprietress when it is necessary to put a new layer of a sun-protection cream. And it is possible to get a beach towel with a similar sensor control and it only

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the beginning of fundamental transformation of world information and economic space. "Internet things", clever houses, 3D printers, pilotless cars, "Tesla Model S" and digital trade radically change business processes, make essential impact on regulative policy and social foundations. «The Internet of things» already now turns to «Internet of All», "Internet of Everything". «The Internet of All», being based on an ecosystem with milliard interrelations, provides essential growth of well-being for each person, communities and business. However the leader of the corresponding scale having resources and will to changes is necessary for the industry.

Under the forecast of experts, the Internet of things (IoT) - the largest market which will grow only. In the Republic of Uzbekistan complex information systems on granting of interactive services in sphere of the state purchases - "Harid", taxation - "Solik", licensing and allowing procedures - "License", on customs registration of cargoes - of "Bozhhona", for maintenance of gathering, processing, ordering and storage of the information on planning, state budget course of execution - "Budget" are created. In a working out and introduction stage there are systems "Nafaka - provision of pensions, "Talim" - formations, "Kommunal" - municipal services, "Adlia-2" - on gathering, processing, ordering and storage of the

information on an activity of the courts, their decisions, execution of decisions of the courts, and also the information on notaries activity, «Davlat menagement» - on maintenance with the summary statistical information of state bodies. According to the Decision of the President from March, 13th, 2018 year, till September, 1st of current year the Uniform system of interdepartmental electronic interaction concerning collecting of borrow under executive documents »Bureau of compulsory execution at the State Office of Public Prosecutor of Republic of Uzbekistan which should provide operative information interchange and electronic correspondence between Bureau and state bodies, banking establishments, and also timely application with use ICT of restrictive measures concerning debtors will be started«. In republic three-year strategy of development of the electronic government will be accepted, a number of projects on introduction of "clever" and "safe" cities and regions on the basis of processing of the big data and introduction of the Internet of things, and also intellectual systems of supervision and monitoring in public places is realized. There is begun working out of a government program of the Republic of Uzbekistan on development of information technology and communications on long-term prospect.

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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: 2020 Issue: 01 Volume: 81

Published: 30.01.2020 <http://T-Science.org>

QR – Issue



QR – Article



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## GENDER FEATURES IN THE ASSESSMENT OF INSULIN RESISTANCE IN PATIENTS WITH TYPE 2 DIABETES AND ITS COMBINATION WITH METABOLIC SYNDROME

**Abstract:** This article presents the results of a comparative analysis of insulin resistance indicators (HOMA<sub>IR</sub>, HOMA<sub>B</sub>, and QUICKI) in men and women suffering from type 2 diabetes (DM-2) and a combination of DM-2 with metabolic syndrome (MS). It has been shown that in patients with diabetes-2, an aggravated combination with MS, pathological changes in the indices reflecting tissue insulin resistance are revealed to a greater degree, which seems to confirm the role of estrogen protection in women.

Thus, a certain significance of gender differences in the formation of insulin resistance disorders in patients with DM-2, regardless of the presence of MS, was demonstrated.

**Key words:** diabetes mellitus type 2, metabolic syndrome, insulin resistance, insulin sensitivity, gender differences.

**Language:** English

**Citation:** Rzeyeva, R. A. (2020). Gender features in the assessment of insulin resistance in patients with type 2 diabetes and its combination with metabolic syndrome. *ISJ Theoretical & Applied Science*, 01 (81), 181-184.

**Soi:** <http://s-o-i.org/1.1/TAS-01-81-34> **Doi:**  <https://dx.doi.org/10.15863/TAS.2020.01.81.34>

**Scopus ASCC:** 2700.

### Introduction

According to the WHO assessment, DM-2 is a disease characterized by impaired carbohydrate metabolism and caused by predominant insulin resistance (IR) and relative insulin deficiency, or a predominant defect of insulin secretion with or without IR [1;16]. Thus, the formation of DM-2 occurs due to 2 major defects: IR and dysfunction of the  $\beta$ -cells of the pancreas that produce insulin [3].

The majority of patients with DM-2 have a primary (inherited) defect, manifested in a decrease in tissue sensitivity to insulin. As a result, insulin producing  $\beta$ -cells have to produce more insulin, and when this ability decreases, hyperglycemia also develops, which is especially characteristic of MS [11].

At the present stage, a number of structural mathematical models have been developed, the so-called IR indices [6], of which the HOMA<sub>IR</sub> (Homeostasis Model Assessment), reflecting the resistance to insulin, HOMA<sub>B</sub>, reflecting secretor activity of  $\beta$ -cell, and QUICKI index (quantitative insulin sensitivity check index), a quantitative index

of insulin sensitivity, is quite informative and widely used [10; 13].

In recent years, a certain importance has been given to gender differences in the defeat of atherosclerosis, coronary heart disease and other pathological conditions in the hormonal and biochemical profile [4; 5; 14], which is mainly associated with the protective effect of estrogen in women [7; 9].

In the light of the above, in the present article we attempted to clarify possible sex differences in the development of IR and the level of insulin secretion by conducting a comparative analysis of data obtained from male and female patients diagnosed with DM-2 and a combination of DM-2 with MS.

### MATERIALS AND METHODS

147 patients (87 men and 60 women) who were on an outpatient examination. The average age of patients was  $58,97 \pm 0,93$  years. During the clinical examination, height, heart rate, blood pressure, Quetelet's index (body mass index, BMI) were measured. The diagnosis of DM-2 and MS was

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established on the basis of the recommendations of the ADA and WHO [1; 11; 16].

Inclusion criteria were: the presence of DM-2 of different variants of the clinical course and compensation, combined with MS or without it.

Exclusion criteria were: symptomatic arterial hypertension, oncological diseases (found at the time of treatment or in history), tuberculosis, HIV infection, viral hepatitis, mental illness, decompensated cardiovascular diseases, hormonal drugs, pregnancy, lactation.

From 73 patients with DM-2 without MS in 33 (22,45%) was mild, in 40 (27,21%) – moderate clinics of DM-2. In 47 (31,97%) DM-2 was in compensated (HbA1c<7%), in 26 (17,69%) – insub-compensatedstage (HbA1c<7,5%).

From 74 patients with DM-2 combined with MS in 28 (19,05%) was mild, in 46 (31,29%) – moderate clinicof DM-2. In31 (21,09%) DM-2 wasincompensated (HbA1c<7%), in 43 (29,25%) – insub-compensatedstage (HbA1c<7,5%).

Of the 73 patients we examined in the DM-2 subgroup without MS, mild DM-2 was observed in 33 (22.45%), and DM-2 of moderate severity was observed in 40 (27.21%) patients; in 47 (31.97%) DM-2 was in the compensation phase (HbA1c <7%), in 26 (17.69%) - in the subcompensation phase (HbA1c <7.5%).

Of the 74 patients examined in the DM-2+MS subgroup, 28 (19.05%) had a mild course of DM-2, and 46 (31.29%) patients had moderate-type DM-2; in 31 (21.09%) patients DM-2 was in the compensation phase (HbA1c <7%), in 43 (29.25%) - in the subcompensation phase (HbA1c <7.5%).

Laboratory examination included:

1. Determination of fasting blood glucose and insulin levels on a fully automated robotic analyzer BS 200 E by MINDRAY (USA-China) for laboratory determination of glycemia using the appropriate Human Diagnostic reagents (Germany);

2. Glycated hemoglobin (HbA1c) using portable disposable cartridges on the analyzer A1cCare (USA) byWHO recommendations [17];

3. HOMA1-IR, HOMA-b and QUICKI indices were calculated using suggested formulas [10;13].

Statistical analysis were performed using Microsoft Excel 7.0 and ANOVA.

### The results and discussion.

As can be seen from the data presented in the table 1, in the DM-2 subgroup without concomitant MS, there was a significant trend towards an increase in the level of glucose and glycated hemoglobin (HbA1c) in the blood of men, reaching  $9,6 \pm 0,25$  and

$7,69 \pm 0,15$  compared with women in the subgroup of  $8,68 \pm 0,24$  and  $7,2 \pm 0,15$  ( $p = 0,009819$ ;  $p = 0,023849$ , respectively). At the same time, the level of insulin in the blood in the same subgroup was higher for women:  $19,94 \pm 2,22$  versus  $10,83 \pm 0,89$  ( $p = 0,000297$ ). The above-described differences by gender resulted in significantly higher values IR of HOMA<sub>IR</sub>, HOMA<sub>β</sub> and QUICKI insulin resistance indexes in women who made up the subgroup.

It should be noted that in the DM-2+MS subgroup, in which DM-2 was combined with MS, there were no significant differences depending on the se[ of any of the parameters studied.

It is known that gender differencis definitely associated with mortality [15], and such diseases as atherosclerosis that occurs in men early enough (at about 30 years of age), and in women only after menopause. In this case, it is believed that female sex hormones, primarily estrogens, play a key role in anti-atherosclerotic protection [12]. In basic research, however, the mechanism of the atheroprotective action of estrogens, the morphological differences between the endothelium of the intima and the arteries of men and women have not been studied sufficiently[8;18].

Insulin resistance is associated with certain components of the pathophysiological mechanisms underlying the development of obesity and MS. It was shown that the ratio of the basal level of insulin and glucose, being a reflection of their interaction in the feedback loop, is largely correlated with the assessment of insulin resistance.

The insulin resistance indexes we studied come from various mathematical homeostatic models for assessing insulin resistance and are based on the ratio of fasting glucose and insulin concentrations in blood plasma. HOMA<sub>IR</sub> (Homeostasis Model Assessment of Insulin Resistance) values above 2,86 indicate insulin resistance.

The HOMA<sub>β</sub> index reflects the functional activity of the cells of the pancreas and its increase reflects an increase in the activity of the cells of the activity of the pancreas [2].

We discovered the determined differences in male and women in the sensitivity and finally in resistance to insulin, which partly can be associated with some components of pathophysiological mechanisms lying in the basis of MS developing in women. Possibly this paths can be involved in the absence of gender dependent differences in patients with combination of DM-2 with MS, which possibly can decrease the meaning of above mentioned defending role of hormones in women.

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**Table. The average values of some of the indicators used to assess insulin resistance in men and women suffering from DM-2 and DM-2 with concomitant MS**

Indicators	All	Male	Female	P
<b>DM-2 without MS</b>				
	<b>(n = 73)</b>	<b>(n = 49)</b>	<b>(n = 24)</b>	<b>P*</b>
Glucose, mmol/l	9,3 ± 0,19 (6,3 - 12,2)	9,6 ± 0,25* (6,3 - 12,2)	8,68 ± 0,24* (7,4 - 11,3)	0,009819*
Insulin, mcU/ml	13,83 ± 1,06 (7,6 - 39,8)	10,83 ± 0,89* (7,6 - 38,9)	19,94 ± 2,22* (8,6 - 39,8)	0,000297*
HbA1c, %	7,53 ± 0,11 (6,2 - 8,9)	7,69 ± 0,15* (6,2 - 8,9)	7,2 ± 0,15* (6,2 - 8,9)	0,023849*
HOMA <sub>IR</sub>	5,6 ± 0,42 (2,67 - 19,1)	4,63 ± 0,41* (2,67 - 19,1)	7,59 ± 0,83* (3,12 - 15,24)	0,002082*
HOMA <sub>b</sub>	52,62 ± 4,65 (18,54 - 185,12)	38,64 ± 3,52* (18,54 - 158,78)	81,16 ± 10,01* (27,37 - 185,12)	0,000151*
QUICKI	0,98 ± 0,008 (0,87 - 1,17)	0,98 ± 0,01* (0,87 - 1,17)	0,1 ± 0,01* (0,89 - 1,08)	0,00000001*
<b>DM-2 + MS</b>				
	<b>(n = 74)</b>	<b>(n = 38)</b>	<b>(n = 36)</b>	<b>P*</b>
Glucose, mmol/l	8,44 ± 0,31 (4,3 - 16,49)	8,6 ± 0,47 (4,3 - 16,49)	8,28 ± 0,4 (5,4 - 15,9)	>0,05
Insulin, mcU/ml	14,43 ± 0,39 (6,8 - 19,8)	15,02 ± 0,47 (6,9 - 18,3)	13,8 ± 0,63 (6,8 - 19,8)	>0,05
HbA1c, %	7,99 ± 0,11 (6,3 - 8,9)	7,92 ± 0,15 (6,7 - 8,9)	8,06 ± 0,16 (6,3 - 8,9)	>0,05
HOMA <sub>IR</sub>	5,39 ± 0,26 (1,67 - 13,12)	5,69 ± 0,35 (1,67 - 13,12)	5,07 ± 0,37 (1,99 - 12,51)	>0,05
HOMA <sub>b</sub>	81,47 ± 7,44 (17,22 - 407,5)	89,36 ± 12,95 (22,53 - 407,5)	73,14 ± 6,67 (17,22 - 159,0)	>0,05
QUICKI	1,05 ± 0,02 (0,78 - 1,43)	1,05 ± 0,03 (0,78 - 1,43)	1,05 ± 0,02 (0,79 - 1,26)	>0,05

#### FINDINGS:

1. In men, compared with women suffering from DM-2 (without concomitant MS), there is a significantly higher level of glucose and HbA1c and a significantly lower level of insulinemia, which is combined with significantly higher values of the HOMA<sub>IR</sub>, HOMA<sub>β</sub> and QUICKI indices, reflecting comparatively higher degree of insulin resistance.

2. Adherence to diabetes mellitus-2 MS significantly erases gender differences, reflecting about the same degree of insulin resistance regardless of gender and indirectly indicating the addition of the effect of additional pathogenic factors characteristic of MS and leveling certain protective mechanisms inherent in the female body.

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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: 2020 Issue: 01 Volume: 81

Published: 30.01.2020 <http://T-Science.org>

QR – Issue



QR – Article



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## TEXT SPECIFICATION IN MEDIA COMMUNICATION AND INDICATOR OF INFORMATIVENESS

**Abstract:** *The article discusses the text specifications and the indicator of informativeness in the Mass Media. The informativeness of the text is an indicator of the quality of the text. There is also a direct correlation between the timing of the information contained within the text and the timing of the information obtained. This connection ensures that the information provided is represented in time and aspect. In the age of generalization of society, the role of journalism is an important factor in the mass communication system. Journalism, on the one hand, is a concept created by popular culture, and on the other hand, it serves to shape mass culture as a social space.*

*As a mediator of the social and cultural manifestations of the new world, it "introduces" new concepts, new pragmatic norms into the language, and gives us a glimpse of a creative world. At the same time, all new concepts are interpreted. We consider the text as a high-level language unit. The linguistic knowledge of the language system is extracted from many texts. The textology involved in the study of the process of text creation, modeling and functioning is of interest to journalists today as linguistic dyslexia.*

**Key words:** *text, media, communication, linguistic phenomenon, informativeness, universality*

**Language:** English

**Citation:** Teshabayeva, D. M., & Usmonova, S. A. (2020). Text specification in media communication and indicator of informativeness. *ISJ Theoretical & Applied Science*, 01 (81), 185-189.

**Soi:** <http://s-o-i.org/1.1/TAS-01-81-35> **Doi:**  <https://dx.doi.org/10.15863/TAS.2020.01.81.35>

**Scopus ASCC:** 1208.

### Introduction

A separate concept of media can be regarded as a major theoretical component of media text [1, p. 45]. This is reflected in almost all research on media studies. The essence of this concept is that the text, which is the basis for traditional linguistics, is the "meaningful sequence of symbolic units. Its main feature is consistency and integrity" [2]. The definition extends beyond the mass media. The concept of the media text goes beyond the verbal level of the system and approaches the semiotic interpretation of the text, taking into account not only verbal but also the continuity of any characters. The text displayed in modern media culture helps to better understand the dynamic processes that take place in

modern journalism as a specific element of progress. The purpose of communication reflects not only technological goals, but also communication and cultural needs. It is in the media that they present themselves in the most striking way. The semiotic complication of media, or rather the text itself, is not the number one category, as new technologies and competition in the media have increased the number of media offers. Among these innovations, not only are new genres distinguished, but also when the media is applied to texts, the textual category itself changes.

### Discussion

In its current form, the media is a combination of linguistic and visual components that allow for a wide

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range of design, typography, graphics, color palettes, infoblocks, photos, pictures, logos and more [3,p.138-139]. These tools significantly enhance image perception, aesthetic orientation, and the overall beauty of the publication [4,p.3-6].

Another media characteristic of media is, in our opinion, the linguistic specificity of its orientation to the mass audience. The dynamic nature of media is manifested at the level of internal text, superficial and hypertext (multidimensionality, multiplicity, polyphonicity, heterogeneity, and integration). It is based on the development of new information technologies, the convergence of mass media, and their socially-regulated nature as "a unique tool for interpreting and reflecting on reality." Media organization can be defined taking into account the influence of the global opposition known as "conventionality - individuality". Its effect is based on the proportions of functional-stylistic features of a particular type / genre of text, on the one hand, of the author's idiosyncrasy of a clear media. Conventionality is defined by the institutionality of the relevant discourse, the peculiarities of the relevant functional style, and the genre-specific or text-grammatical specifications of the media. Idiosyncrasy represents both the general characteristics of the text and the individual descriptions that imply the expression of different degrees of linguistic means in the realization of a particular intuition.

2) Although the structure of the information provided by the particular subject is clearly visible, the structure of the collective identity of the collective subject is particularly important in the media text prescription.

3) Media is closely related to social practice, because media appears in this social practice and performs two important tasks, directly or indirectly, to disseminate specific information about a particular event and cultural specificity of the world.

### Results

The text of journalism is multidimensional and is presented in various options and in a logical way. Many texts contain some descriptions of specific events (individual texts) and related processes (socio-cultural factors). It is a four-dimensional field-time continuum of internal and interlayer relationships. Journalism text, like any other text, is available in real time and place in the form of an object - a book, a manuscript.

An ideal view of the spirit or of the text is manifested in another place-time form - in the conceptual space of time. The conceptual space and time are reflections of real-time characteristics at the level of concepts and visions. Journalistic text is a perceptual-conceptual area of individual social information. The author and reader - the journalist and his audience - are generalized over time, which is

characteristic of graphic texts but not generalized in a semiotic field.

Journalistic text is related to other texts, which can be both journalistic and non-journalistic texts. It is absolutely impossible to ignore this space when the listeners or audience is able to hear or see these texts at a specific time.

Naturally, journalism should not be based on one or more texts. Journalism is a system of texts whose work is a system of texts in the form of an evaluation system. It has systemic attributes that are not included in the totality of individual elements. The product of journalism should be considered as a system of texts as a system that does not relate to certain elements - some texts.

"Text is a moving language" [6, p.142]. Of course, some types of journalistic text are subject to analysis in terms of journalistic skills, genre criteria, and grammar of a particular language. But such analysis (be it some texts or other proportions) goes beyond the theory of journalism and is the subject of other sciences, disciplines - theory of journalistic skill, methodology, grammar, statistics and so on [7].

The linguistic tools used in the media contribute to the formation of socially and culturally significant phenomena, including gender identity. For this, every linguistic culture has different discursive and nominative strategies, and linguistic tools with different percussive capacities specialize in their implementation. The presence of certain knowledge in culture is the basis for the process of understanding between communicators.

Cognitive units, which are universal to the nation, have always been of interest to the media audience, and if used in a balanced way, they have a formative effect on the spiritual world of both the author and the consumer. The texts produced by the media are based on discursive practices and have a number of descriptions that reflect a community-specific world view: (1) polycode semiosis; (2) intertextuality; (3) addressing [8].

According to Zasursky, the media is a new communication product. It can be included in various media structures in verbal, visual, audio, multimedia form, as well as newspapers, magazines, radio, television, and other media. Media can be described as a highly complex unit of high order, through which communication is carried out in the field of mass communication. Media theory of the present time claims to be independent of or within the context of text theory.

The media specification, first of all, takes into account the following features determined by the external conditions specific to its existence:

- A particular type of information which broadcast by the media. The media, which acts as a mediator in the delivery of information, significantly changes it: influential social groups impact on the

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management by selecting information and how it is delivered.

– Collective production of any media: any text is created and processed by several people (journalist, editor, illustrator, director, installer, etc.), placed among other texts, hence the author's composition does not relate to the will and defines the content of each material.

– Direct communication and special feature of feedback - limited, minimized or non-existent, simulated in space and time (modern interactive forms in the media do not fundamentally change the overall picture).

– The Importance of Broadcasting Techniques - Technical capabilities are not just the packaging or packaging of content, they change and systematize the message itself. For example, a news story forms the denotative aspect of various print, radio, television, and internet texts.

– The economic parameter determines the ideology of the publication and influences its content and technical inclusion.

Media is strictly defined by the communication channel. Each media is characterized by its own set of media characters that have had a significant impact on the linguistic features of the text. In particular, print media provides graphic ornaments and illustrations that are accompanied by verbal text.

Radio text consists of an audio component - a voice description and a sound line, while the media text amplifies verbal and audio components with a video array. The Internet offers great potential for data transmission across multiple channels and text boundaries.

The term that has just emerged *publication format* is associated with the need to take into account the interaction of the significant, technical, and ideological factors that make up the media product. Media format is a combination of the elements that constitute and use the content and the characteristics of its content in accordance with the concept of the media (editorial policy of the publication) [10].

Popularity. The mass communication specification is a socially oriented communication in which the author (subject) and the addressee are subject to change. The address of the media is a retinal (*from latin rete - network*), indirect, socially oriented communication and relevant categoriological characters (retinal, anonymous, time-span, spatial distribution in print media), unable to critically evaluate the text on the specifics of mass communication and audience. I.M. Kobozheva describes it as "a potentially uncertain number of individuals" [11, p.130]. These are the "classic" definitions given to the media address.

For example, information and analytical media used in the context of economic media studies aim to provide information and rational argumentation in the context of the author's analysis and evaluation of

financial and economic processes. The mission of the media in this genre is to formulate strategies for a wider audience in the face of economic instability (in the context of market stability, business media audiences may shrink or expand, or the average person can increase or lose interest in their content). For example: "A new page has been created that will give a significant boost to the development of Uzbekistan's economy" or "Uzbekistan has a mechanism for resolving disputes in arbitration to ensure the protection of the rights and legitimate interests of business entities, improve the business environment and increase the investment attractiveness of our country. At the same time, there are a number of systemic problems that hinder the effective protection of the rights and interests of businesses, especially foreign investors, further improving the business environment and increasing the investment attractiveness of Uzbekistan" (from newspaper *Xalq so'zi*).

Information-analytical block assumes two approaches recording the author's point of view: 1) the author's view seems to be negligible from the outside, which in turn contributes to the effect of objective reporting of the problem. Analytical part of such blocks is presented in expert evaluations; 2) it defines the author's position clearly expressed in problem-analytical articles.

The media of this genre offers a wide range of methods that allow the reader to observe the logic of sorting factual material, that is, to determine the degree of objectivity of the author's approach to the interpretation of facts.

The text of the journalist still has one of the most important forms of group evaluation and social understanding, potentially reflecting the status of a particular social group. Models of knowledge that are presented in journalistic texts are more individual than observations, and are primarily based on the skills of the journalist (his own knowledge and skills). They may be disconnected from the context and may eventually become stereotyped knowledge scenarios that are socially relevant.

### Conclusion

Requirement and condition of informativeness of data are its novelty, actuality, adequacy and it can be implemented in words, sentences, complex syntactic units, and within the context. Of course, from the linguistic point of view, the text is an information unit. Therefore, the concept of the text should be widely accepted. In particular, the concept of "text" can be applied not only to a work of art, but also to its parts [12].

Van Dyke, a linguist who has done extensive research within the text, identifies macroscopic exchange rates as follows:

1) changes in perceptions (language index - modality semantic category);

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2) change of time or period (language index - semantic category of temporality);

3) spatial index (language index - locative semantic category);

4) introduction of new participants;

5) reuse of known participants (language index - semantic category of subjectivity);

6) change of attitude or purpose (language indicators - communicative purpose, semantic category of the person);

7) the composition of different types of predicates. If something does not match this macro, a new macro is created [13, p. 62-67].

Genre and style-forming factors in the texts of information messages are realized through the following linguistic structures: mold designs, cliché; stamps; article-specific vocabulary; actual vocabulary as an indication of information expressive means of language, directed to the addressing factor.

### For example:

*Vocational Training Center of the Ministry of Higher and Secondary Special Education will be closed.*

*The project of the Decree of the President of the Republic of Uzbekistan "On measures to radically improve the system of higher and secondary special education" is posted on the portal of discussion of drafts of regulatory documents. The document envisages the liquidation of the Vocational Training Center of the Ministry of Higher and Secondary Special Education of the Republic of Uzbekistan and the transfer of its vacant staff to the Ministry of Higher and Secondary Special Education of the Republic of Uzbekistan.*

The use of a large number of terminological lexicons that are not even known to contemporaries (for example, political terms: corpus, immunity, protests, etc.) give a particular measure of credibility to this information and convince the reader of the seriousness of government efforts to restore peaceful life. The use of separate grammatical forms of

command modality, such as: constitutive semantics and inevitability, for example:

*(Uzbek version) ишлаб чиқиши ..... вазифасини юклатди; Барча безак берувчи фабрикаларда матоларнинг сифати ва ташиқи кўринишини яхшиловчи ишлов бериш жараёнлари тикланиши лозим ва ҳ.к.*

*(English version) development...to be tasked ...; All finishing factories need to be reworked to improve the quality and appearance of fabrics, and so on.*

Thus, the selection of stylistic components for composing is another important factor that determines the nature of the stylistic tonality of informational texts - the nature of socio-political context of information message analyzed above. It can explain not only the vector of associations (... the decision to improve the quality of fabrics and the expansion of types) but also the choice of linguistic units for communicating with the student audience and communicating function. Looking at media as a means of mass communication, we conclude:

1. The text of the media is the product of a journalist's socially-focused work, its textual interaction with the audience, and the specific social and cultural manifestation of journalism in the language system.

2. The text of the media reflects the model of the universe, while the textual mass reflects the culture of a given period;

3. The journalistic text is a discursive and complex communicative notion that extends beyond the text necessary to understand the text (extrinsic) (knowledge of the world, the purpose of the address);

4. Journalist text is a unique concept as an essential element of a system that interacts with several components, including the journalist, the publisher and the reader, the audience.

5. The creation of media text is also related to the laws of literary language and the national peculiarities of it.

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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: 2020 Issue: 01 Volume: 81

Published: 30.01.2020 <http://T-Science.org>

QR – Issue



QR – Article



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## POLITICAL REPRESSIONS DONE IN UZBEKISTAN BY THE SOVIET GOVERNMENT (THE 20s AND 30s OF XX CENTURY)

**Abstract:** The article focuses on the history of Soviet repression of the Soviet authorities in Uzbekistan in the 20- 30s of the 20<sup>th</sup> century in relation to public administration, education system and the judiciary and prosecutors.

**Key words:** Communist Party, Opposition, October Revolution, “Group of 18”, “Inagomovism”, “Kosimovism”, “The Group of Badriddinovism”.

**Language:** English

**Citation:** Khoshimov, S. A. (2020). Political repressions done in Uzbekistan by the Soviet government (The 20s and 30s of XX Century). *ISJ Theoretical & Applied Science*, 01 (81), 190-192.

**Soi:** <http://s-o-i.org/1.1/TAS-01-81-36> **Doi:**  <https://dx.doi.org/10.15863/TAS.2020.01.81.36>

**Scopus ASCC:** 1202.

### Introduction

The roots of the political repression of the Soviet government in Uzbekistan are rooted in the ideological views of the Bolsheviks and the proletariat dictatorship that came to power after the October Overturning.

Political repression in Uzbekistan in the 20 - 30s of the XX century was directed at the individual or the whole social group. Along with rich farmers, clergy, and other property owners, prominent in the Uzbek villages, government officials, education officials, and the judiciary, it had been applied to the poor and middlemen who were openly opposed to the collective farm and other agrarian activities in the Soviet Union. Political repression by the Soviet regime in Uzbekistan in the second half of the 20th and beginning of the 30s was carried out in the government, education and the judiciary. One of these political repressions is the repression of members of “the group 18”. In the Soviet literature, “the group 18” was regarded as an anti-party group in the ranks of the Communist Party of Uzbekistan. Allegedly, Abdurahim Khodzhiboev - member of UzCP who had been serving at leadership positions (b), member of the Presidium of the Central Committee of the Uzbek SSR - Nuritdin Koriev, Bahodir Bahovuddinovich Maksumov - member of the Central Committee of the

Communist Party of Uzbekistan, Rahimjon Rahimboboev - UzSSR Deputy Commissioner of Internal Affairs, Inomjon Hidiraliev - member of UzCP (b), People's Commissar of Land and Water Affairs, Mirzakhodja Urinchojaev - nominee to the membership of the Central Committee, Mukhtorjon Yuldashevich Saidjonov - Member of the Central Committee of UzCP, Ismail Bozorbaev - Member of the Central Committee of UzCP, (b) Rahmat Rafikov - member of the Central Committee, Member of the Central Committee of the Communist Party of Uzbekistan, Zakir Hasanov - Member of the UzCP, Muhammadjon Karimjonov - Member of the Central Committee of the CPC (b), Hayitdin Eshonov - Secretary of the Konibodom District Party Committee. Abdurashid Mukomilov - nominee to the membership of the Central Committee of the Communist Party of Uzbekistan, Obid Maksumov - Member of the UzCP, Rakhmatulla Muzaffarov - Member of the Central Committee of the CPC (b), Abdumajid Zakirov - Member of the UzCP (b) Regional Committee, Nasim Shirinov - Member of the Central Committee of the CPC, responsible secretary of Margilan district-city party committee (b), Member of the Central Committee of the Communist Party Urimboy Ashuro were accused of being against to the

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land and water reform and promoting the idea of bourgeois nationalism [1, p.435-437].

### Research methods.

In fact, “the group 18” actually opposed the policies of the Soviet government and the Communist Party against the great nationalism and underestimation of indigenous professionals of Uzbekistan. This is clear from the content of the group’s letter to the Central Bureau of the Central Committee of the Central Asia (b) in November, 1925: “Due to the unbearable conditions for friendly and productive work, we ask you to dismiss us in Uzbekistan and send to the Central Committee of the RCC (b). If necessary, we can explain the reasons in more detail...”[2, p.1-10] signed by national leaders mentioned above. These national figures opposed the oppression of indigenous representatives in the business, colonialist policies, unjustified persecution and harassment of national personnel and defended national interests [2, p.11-20]. On November 21, eight members, including representatives from Zarafshan region, Kurbanov, the chairman of the Uratapa Region Executive Committee, Isamuhammedov, head of the Komsomol organization department and a member of the NSS, filled a complaint to the Central Committee on 21 November supporting “the group 18”. The statement states that the requirements of the “group 18” are justified and that they also asked for resignation from their posts [2.27-28].

Representatives from Samarkand, Ferghana, Andijan, Zarafshan, Tashkent and other districts, gathered on November 22-29, 1925, to discuss the "group 18" application, condemning “the group 18” and demanding strict action against the MK as a result of pressure from higher authorities [2,p.92-94].

### Results and discussions.

The special commission, consisting of RCP (b) Member of the Presidium of the Central Control Commission M.V. Kosarev, Member of the Central Control Commission of RCP M.V. Manjara and Head of Organizational and Distribution Division of Central Bureau of Central Asia A. Zdobnov, November 22 - 29, 1925, had a separate question with each of the applicants, and in fact had a specific questioning and the reasons for writing the application were investigated. In early December, this questioning was repeated again [1, p.437]. As a result, according to the conclusion of the special commission, Fayzulla Khodjaev was found guilty of organizing the group and warned, Mukhtorjon Saidjonov, Inomjon Hidiraliev and Nuritdin Kariev were dismissed from their positions. Rahmat Rafikov and Bakhodir Maksumov were removed from the party, Zokir Hasanov, Obid Maksumov, Rahmat Rahimboboev and Abdurahim Hojibaev were strictly disciplined, Rahmatulla Muzaffarov’s case was sent to the Central Supervisory Commission to review. A personal

account of those who admit their mistakes were recorded to have taken part in group conflicts [2, p.201-208].

The punishment of national figures as opposition forces was not limited to this. Soon after, the members of the group were repressed one by one. I. Khidiraliev was mysteriously murdered on December 31, 1928, at the hotel “National” in Moscow.

The remaining members of “the group 18” were convicted of participating in the 1930’s Mevlanbekovs group and were the victims of repression in 1937-1938 [3, p.21]. A member of the group, Urunboy Ashurov, was the first secretary of the Central Executive Committee of the Republic of Tajikistan, i.e. in 1937 was arrested and shot in 1938 [4, p.15-20].

In Uzbekistan in the middle of the twentieth century, the “disclosure” of the “Inogamovism” movement was another slander of the Bolshevik regime. The initiator of the “Inagamovism” was Rahim Ohunjonovich Inogamov (1902-1938), a candidate for the membership of Executive Bureau of the UzCP CC(b) the head of the Press Office of the Central Committee of the Communist Party of Uzbekistan and Public Commissare of Education. R. Inogamov published his book “Intellectuals of Uzbekistan” (“Ўзбекистон зиёлилари”) at the end of 1926. It said, “The October change came as a surprise to the Uzbek people and Uzbek workers were not ready for it”. Until October, “... The intellectuals played a historical role in the independence movement against Russian oppression. Similarly, R. Inogamov in a series of speeches, Inogamov blames the Communist Party of Uzbekistan for not fighting against Russian colonial policies, and for violating its “controlling” centers such as Sredazbyuro, SredazEKOSO [1, p.439]. The R.O. Inogamov was dismissed from the post of Commissioner of Public Education by the decree of the Presidium of the National Security Committee of the Uzbek SSR on January 27, 1926 [5.14].

Arrested in Moscow on August 25, 1937 Inogamov was being investigated from September 10 to October 3, 1938. In the meantime, he was delivered to Tashkent [6, p.385-390]. On October 4, 1938, in the traveling session of the military board of the Supreme Court of the USSR in Tashkent Inogamov was sentenced to be shot. The verdict was executed on October 5, 1938 [7, p.37-38].

From March 25, 1930 to June 21, in the mobile session of the Supreme Court of the USSR, another artificial case number 73 was considered. It was called “Kosimovism” (“Касымовщина”) in Soviet historiography. “Kosimovism” was a deliberate attempt by the Soviet regime in 1929-1930 to discredit the national cadres and intellectuals. In the second half of 1929, the chairman of the Supreme Court of the Uzbek Soviet Socialist Republic, Sadulla Kasimov, was imprisoned. The case was politically colored by



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the “fabricated” accusations of the Bolshevik government penalty departments [1, p.446]. On March 25, 1930, the traveling session of the Criminal Collegium of the Supreme Court of the USSR began in Samarkand. The court heard about 30 cases of law enforcement officers headed by the former chairman of the Supreme Court of the Uzbek SSR, Sadulla Kasimov, and many of them were sentenced to death. Sadulla Kasimov and his like-minded associates were accused of regular presence at the meetings of the “National Independence” organization, an underground group led by Munavvar Kori Abdurashidkhonov. During the investigation and trial, Sadulla Kasimov asserts to the Supreme Court of the USSR that the Supreme Court violated the national sovereignty of Uzbekistan. On July 22, 1930, the Court sentence S. Kasimov, B. Sharipov, N. Olimov and V. Spiridonovs to the capital punishment - the shooting, and the confiscation of their property. M. Mirzokirov and A. Samigjonov were sent to serve 10 years in a remote area of the Soviet Union. Ibrahimhojaev was sentenced to 10 years imprisonment with one-fifth of his property confiscated [8, p.120].

May 5 - June 15, 1932 in Tashkent under the chairmanship of Anatov-Saratovskiy of the Supreme Court of the USSR in the case No. 109 “The case of Badriddinovisms” had been reviewed and Badriddinov Shamsutdin Ali ogli, Rahmonov Abdurahmon, Sadikhonov Muhitdin, Musakhonov Ibrohimjon, Khujaev Muhammakhon, Ahmadjonov Mahmudkhons were tried as “guilty” [8, p.120]. Each of these “culprits” in the judiciary had been known to publicly and secretly oppose colonial policy since the early days of the Soviet regime.

Sh. Badriddinov worked as a police chief in Andizhan in 1921-1922 and at the end of 1925 joined the regional court. From 1927 to 1929 he was appointed as a deputy chairman of the regional court, in November 1929 he was appointed as a prosecutor of the Supreme Court of the UzSSR and arrested in 1932 in this post.

### Conclusion.

They were arrested and interrogated under Article 63 of the Criminal Code of the Uzbek Soviet Socialist Republic, as an economic counter-agent [8, p.24]. Members of the “Badriddinov” group, which were seen as an opposition force in the judicial system, were “exposed” and discredited by the Soviet authorities.

In court, state prosecutor R.P. Katanyan accused the “Badriddinovism group” of protecting people opposed to the Soviet regime. Sh.Badriddinov was found to have charged those convicts of “culpability” against the Soviet regime with imprisonment and trying to release them if possible instead of sentencing them to the capital punishment. On these charges, the jury found M. Sadikhanov for 2 years, I. Musakhanov for 3 years, M. Hudjaev, A. Rahmanov, M. Ahmadjonovs 10 years of imprisonment. Sh. Badriddinov was sentenced, first to be fired, and then the punishment was changed to 10 years’ imprisonment [8, p.25]

Thus, the political repressions of the Soviet authorities in Uzbekistan in the 20 - 30s of the 20<sup>th</sup> century had been used with cruelty to the public administration, the education system and the judiciary.

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## DECISION OF PRESIDIUUM OF INTERNATIONAL ACADEMY

According to the results of research work of the past 2019 and published scientific articles in the journal «Theoretical & Applied Science», Presidium of International Academy of Theoretical & Applied Sciences has decided to award the following scientists - rank Corresponding member and Academician of International Academy, as well as give diplomas and certificates of member of International Academy.



Presidium of International Academy  
congratulating applicants with award of a rank of  
**Corresponding member of International Academy TAS (USA)**

Scopus ASCC: 3308. Law.			
1	<b>Vishnevskaya Irina Leonidovna</b>	IP.Pravovaya information and services,	Subject image of forensic examination, Russia

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**Presidium of International Academy  
congratulating applicants with award of a rank of  
Academician of International Academy TAS (USA)**

<b>Scopus ASCC: 2604. Applied Mathematics.</b>		
1	<b>Zhanatauov Sapargali</b>	Noncommercial joint-stock company "Kazakh national agrarian university" Kazakhstan candidate of physics and mathematical sciences, Department «Information technologies and automation», Professor

<b>Impact Factor:</b>	<b>ISRA (India) = 4.971</b>	<b>SIS (USA) = 0.912</b>	<b>ICV (Poland) = 6.630</b>
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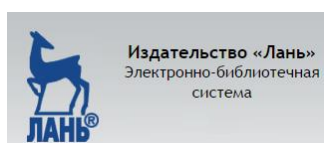
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«Theoretical & Applied Science» (USA, Sweden, KZ)

Scientific publication, p.sh. 50.75. Edition of 90 copies.

<http://T-Science.org> E-mail: [T-Science@mail.ru](mailto:T-Science@mail.ru)

Printed «Theoretical & Applied Science»