



O'ZMU XABARLARI

ВЕСТНИК НУУЗ

АСТА NUUZ

MIRZO ULUG'BEK NOMIDAGI O'ZBEKISTON MILLIY
UNIVERSITETI ILMIY JURNALI

JURNAL
1997-YILDAN
CHIQA
BOSHLAGAN

2023

MAXSUS
SON

Bosh muharrir:

MADJIDOV I.U. – t.f.d., professor.

Bosh muharrir o'rinbosari:

ERGASHOV Y.S. – f-m.f.d., professor.

Tahrir hay'ati:

Sagdullayev A.S. – t.f.d., akademik.

Ashirov A.A. – t.f.d., prof.

Baliyeva R. – t.f.d., prof.

Malikov A.M. – t.f.d., prof.

Yusupova D.Y. – t.f.d., prof.

Murtazayeva R.H. – t.f.d., prof.

Mo'minov A.G. – s.f.d., prof.

Nishonova O.J. – f.f.d., prof.

Abdulayeva N.B. – f.f.d., prof.

Madayeva Sh.O. – f.f.d., prof.

Tuychiyev B.T. – f.f.d., prof.

Utamuradov A. – f.f.n., prof.

Muxammedova D.G. – psix.f.d., prof.

Boltaboyev H. – fil.f.d., prof.

Rahmonov N.A. – fil.f.d., prof.

Shirinova R.X. – fil.f.d., prof.

Siddiqova I.A. – fil.f.d., prof.

Sa'dullayeva N.A. – fil.f.d., dots.

Arustamyan Y.Y. – fil.f.d., dots.

Pardayev Z.A. – fil.f.f.d., PhD.

Mengliqulov U.M. – fal.f.f.d., PhD.

Mas'ul kotib: **PARDAYEV Z.A.**

TOШKENT – 2023

MUNDARIJA

Abdurakhmonova N., Ismailov A., Yulbarsov O., Jo‘raqulova M. The development of syntactic analyzer algorithm for the uzbek language	4
Abdullajanova D. Gendering ijtimoiy-psixologik xususiyatlarni innovatsion boshqaruv faoliyatiga ta'siri	9
Ablakulov I. The benefits of listening to music in learning english	12
Akramov X., Erkinov J. Sotsial kapital tushunchasining dastlabki konsepsiyalari	14
Aliyev B. O‘zbekistonda korrupsiyaga qarshi kurashish sohasida davlat siyosatini takomillashtirish masalalari	18
Allaberdiev R., Elmurodova M. Tuproqdagi og‘ir metallar, pestitsid qoldiqlari miqdoriga organik va biologik o‘g‘itlarni uyg‘unlashgan holda qo‘llashning ta’siri	21
Ametova U. Kubraviylik ta’limoti va Alisher Navoiy ijodi	24
Allanazarova K. Muhammad Avfiy adabiy merosi, tazkiranavislik rivojida “Lubobu-l-albob” tazkirasining ahamiyati	27
Arzibayev Q.O., Kholova A.N. Formation of the professional competence of the future coach in the educational space of a sport university	29
Aripov M., Bobokandov M. Self-similar solution for a double nonlinear parabolic equation in non-divergence form with source term	34
Atoboyeva A., Muminova M. The dilemma of inclusive education: inclusion for english learning students	39
Ahmedova S., Asrarov M., G‘ayibov U., Matchanov A., Mirzaqulov S. Антиоксидантная и антирадикальная активности полифенольных экстрактов растения <i>helichrysum maracandicum</i> изучение на модели токсического гепатита	42
Akhatov A., Tojiev M. A model for detecting areas with changed light intensity in a video image	46
Ahrarova F. Different aspects of pronunciation in foreign languages	50
Bababekov A. Family economy of the rural population of the zaamin and bakhmal districts in the 20th century	53
Babaeva S. Literary relations: ways and means of development	56
Bafojev F. Two-component folk proverbs (in the example of uzbek and german paremiology)	59
Boboyev S., Sattorova Z., G‘afurova M. Rangli tolali oilalar ishtirokida yangi duragaylar olish va duragay o‘simliklarda tola rangi va uzunligi belgilarini irsiylanishi	63
Bozorov A.X. Using effective cryptographic keys to protect information	67
Bolibekova M. The use of foreign experience in teaching english to students in higher education institutions	71
Boltaboev H., Umarova M. O‘zbekiston Milliy universiteti ilmiy maktablarida Alisher Navoiy ijodining o‘rganilishi	74
Yadgarov U. Assessment of reliability of the results of socio-economic research by statistical methods	77
Yozilova F., Maksudova Kh. Writing as an asset in human development	79
Zuev A., Kobzeva O. Об актуальных направлениях и перспективах сотрудничества исторического факультета НУУз имени Мирзо Улугбека с НГУ и ТГУ	84
Jurayeva G. Lingua-coaching as a new approach to teaching ESP	87
Zaitov E. XIX-XX asrlarda O‘zbekiston mahallalarining rivojlanish tarixi	90
Илхамова Д. Динамика качества жизни детей, больных хроническими соматическими заболеваниями	94
Irsaliyeva M. Critical approaches to the study of the image of women in english literature	98
Ishankhodjaeva Z. Digital technologies and artificial intelligens in history education: experiens and perspectives	101
Кадирова З., Ташмухамедова Ш. Изучение оптимальных условий выделения флавоноидов из растения <i>PHYSALIS ALKEKENGI</i>	104
Kazakbayeva D., G‘ulomova H. Mumtoz poetik janrlar Abdurauf Fitrat talqinida	108
Карамян М. Взаимосвязь самоэффективности и ценностного отношения личности к здоровью	110
Karimjonov J. O‘zbekiston respublikasining faxriy unvonlari	113
Lakaev Sh. Upper threshold analysis of the " -dimensional discrete schrödinger operators with Kronecker delta potentials	116
Lei Fu. The effect of feedback on writing from automated evaluation system iwrite 2.0	124
Mazlitdinova D. Ernest xemingueyning “alvido, qurol!” romani tarjimasida xarakter in’ikosi	129
Mamadaliyeva F. Biogumusning o‘simliklar o‘sishi va rivojlanishi hamda hosildorligiga ta’siri	132
Mengliqulov U. Etnomadaniyatini o‘rganishning nazariy-metodologik asoslari	136
Mirkomilova N. Priorities for ensuring the quality of higher education	141
Mirkhodjaeva F. Politeness strategies in cross-cultural communication	144
Nazarov M., Viktor F., Qurbonov Sh. O‘zbekiston Milliy universitetida iqtisodiy va ijtimoiy geografiyaning shakllanishi va rivojlanishi	148
Narziyev Sh., Oxunov R. O‘zbekistonda sport ta’limi va madaniyatini rivojlantirish istiqbollari	151
Ne‘matilloeva M.A. Ijtimoiy ish sohasida kadrlar tayyorlashning dolzarbligi hamda uning milliy va jahon tajribasidagi zamonaviy usullari	155
Ne‘matov Sh. O‘zbekiston respublikasi oliy ta’lim tizimida amalga oshirilgan islohotlar (harakatlar strategiyasi misolida)	157
Nigmatova Sh. Проблема мотивации учебной деятельности в теории методики преподавания английский языка и литературы	160

Nishonova O. Etnomadaniyatning ijtimoiy xususiyatlari	163
Olimjonov X., G'ulomova X. Turkiston xalq universitetini tashkil etish tarixidan (XX asr boshlarida jadid ma'rifatparvarlarining hissasi).....	166
Oxunov R., Qodirov M. Oliy ta'lim muassasalarida mehnat sharoitlarini yaxshilash orqali ta'lim sifatini oshirish	168
Pardayev N. Regional characteristics of the employment of the population of Surkhandaro region	172
Полатов А.М., Икрамов А.М., Одилов Ж.К. Компьютерное моделирование нестационарного процесса теплопереноса при контактном взаимодействии с окружающей средой	175
Пулатов Л. Основные направления организации силовой подготовки в гребле на Байдарках и Каное.....	179
Rakhimov V. The analysis of physical development and physical fitness of female students, predisposed to various diseases	182
Рахимова И. Факторы, влияющие на социальную активность молодежи	185
Raximova N. Ingliz va o'zbek tillaridagi biologik terminologiyasining qiyosiy tadqiqi	188
Rula Sh. A study of zhang chengzhi's the black horse from the perspective of ecofeminism	190
Самандарова З., Эшбеков А., Рахманбердыева Р., Маликова М. Полисахариды надземной части <i>PISUM SATIVUM</i>	194
Siddikova S.Q., Eshbekov A.E., Maulyanov S.A. Content of polysaccharides <i>CUCUMIS KASSABA</i>	197
Рихсибоев Н., Таджибаева Н. Гидрогеологические условия территории левобережья р. амударьи в связи с орошением на сельскохозяйственных землях	201
Tajiyeva Z. Issues of demographic education and demographic development in Uzbekistan	205
Tojjeva Z., Qoraboyev A. Issues of geodemographic development of Fergana region.....	208
Тойчиев Х., Стельмах А., Таджибаева Н. О новой стратиграфической схеме четвертичных отложений Узбекистана	213
Туракулова А. Психология сиротства и патронатных семей: опыт зарубежных исследований	218
Ulugbekov O. The prospective future of visual anthropology in tertiary education.....	221
Xusanova D. Ilm-fan taraqqiyotida oliy ta'lim tizimidagi islohotlarning o'rni	224
Khikmatov F., Ziyayev R., Erlapasov N. Hydrological regime and water resources of mountain rivers under climate change conditions (by the example of the rivers of Zerafshan basin).....	227
Egamberdieva M. Lulc change assessment using gis and rs application: a case study of Tashkent city, Tashkent region (1990-2020).....	233
Elov B., Hamroyeva Sh., Xusainova Z., Xudayberganov N., Yodgorov U., Yuldashev A. Pos tagging of uzбек texts using hidden markov models (HMM) and viterbi algorithm	239
Ergasheva A. Principles and methods of teaching english as a foreign language	251
Eshonqulov O., Allaberdiyev R. Orol dengizi qurigan tubi qoldiq dengiz bo'yi yarim gedramorf tuproqlarning sho'rlanish va ishqorlanish xossalaringining o'zgarishi	255

Umidjon YADGAROV,
*Tashkent State University of Uzbek Language and Literature
named after Alisher Navoi*
E-mail: yodgorov@navoiy-uni.uz

*Based on the review by K.S. Sagidullaev, Head of Department of Tashkent International
University of Chemistry, Ph.D., Associate Professor*

ASSESSMENT OF RELIABILITY OF THE RESULTS OF SOCIO-ECONOMIC RESEARCH BY STATISTICAL METHODS

Annotation

The article explores the possibilities of modern software for building a model of the distribution of statistics suitable for a particular experiment. This program makes it possible to find approximate solutions with high accuracy in situations that cannot be implemented by analytical methods, using computational methods and statistical modeling, to draw not only asymptotic conclusions based on modeling, but also to observe the change in the law as the sample size increases.

Key words: Statistical distribution, model, numerical methods, software.

Introduction. Methods of statistical analysis of data, methods of applied mathematical statistics are widely used in the analysis of the results of stochastic experiments, mainly, in natural sciences, engineering, biology, medicine, economics, insurance, demography and social fields. The statistical systems used are not considered as tools for investigating the validity of the study. Therefore, in cases where it is not possible to determine research regularity using analytical methods, better results can be achieved using numerical methods.

But, almost all software systems do not include research validation through these quantitative methods. Professionals, who are in this field, face problems in their work in analyzing statistical data or choosing a distribution law model that adequately describes the distribution of observations. In addition, it is a problem for the representatives of the social sphere, which statistical criteria should be used in order to minimize the error in the statistical analysis of the results of the experiment.

In recent years, so many statistical methods and criteria have been proposed that even a specialist in mathematical statistics come across some difficulties to choose the right direction. There are several criteria for testing exactly one hypothesis. Naturally, several questions appear automatically: which criterion is the best? Which criterion guarantees that type 2 error is minimal for a fixed type 1 error?

Can be distinguished competing hypotheses within a given set of observations? Is it possible to use the asymptotic results of the given criterion in the size of the given observations? These questions can be answered by conducting research using computer technologies. Only when computer simulations are used, the shortcomings of statistical criteria become apparent, as they are limited in their precise field of application.

Literature review. Within the scope of the topic, in recent years, Professor B.Y. Lemeshko and his students [1] carried out scientific research in this field and formed a scientific school on statistical analysis of data, modeling and research of probabilistic. The main research of this scientific school consists in applying the fundamental results of mathematical statistics to various issues of practice. There are many studies by professor A.I Orlov, in the field of applied statistics, specific aspects of methods, factors to be considered in their application, and correct statistical inferences.

Among them [2] literature plays main role. Special attention is paid to the tasks of choosing the most optimal statistical criterion, which is different from the proposed technologies, ensuring the minimization of type 1 and 2 errors when using this statistical criterion, drawing not only asymptotic conclusions based on simulation, but also observing changes in the regularity with the increase of the sample size. In addition, the regularities of the results of the stochastic experiment conducted in our republic are determined, that is, they differ from the regularities of the data of other countries.

Research methods. The main goal is to study the laws of mathematical statistics using calculation methods and statistical modeling, considering computer technology as an instrument. Technologies under development significantly complement analytical methods, help to find approximate solutions in cases that cannot be implemented by analytical methods. On the basis of simulation, it is possible not only to draw asymptotic conclusions, but also to observe changes in the law as the sample size increases, to build and model the distribution model of arbitrary statistics studied in a given situation. For this, the following tasks were performed:

1. To observe software for computer data analysis, statistical analysis of observations of one-dimensional and multi-dimensional continuous random variables, developing of methods, algorithms and softwares;
2. To Apply methods of computer analysis of statistical regularities arising in mathematical and applied statistics issues;
3. To evaluate of distribution parameters of grouped, partially grouped (both censored and ungrouped) and interval observations and testing of statistical (simple and complex) hypotheses;
4. To Improve of methods and approaches for drawing correct conclusions based on deep study of advanced international experience and extensive use of modern mathematical and software-technical equipment in macroeconomic calculations.
5. Wide application of modern information and communication technologies of statistical data collection, processing, transfer and distribution, deepening the level of automation of the processes of working with statistical data, forming a statistical data bank;
6. To ensure minimum type 1 and 2 errors;
7. To construct of a distribution model of statistics suitable for a specific experiment.

The main goal of creating a set of practical programs is the statistical analysis of the results of stochastic experiments, in particular, multidimensional numerical data obtained from experiments in natural sciences, engineering, biology, medicine, economics, insurance, demography and social fields, and the effective application of mathematical statistics methods to them. It is known that there are statistical analysis programs created by various developed countries such as STATISTICA, SPSS, STATA, and they have their advantages and disadvantages. The advantage of the developed software is that the interface of this program is convenient for socio-economic researchers and it is available in Uzbek, Russian and English languages, and it is designed to select the best one from several statistical criteria. This provides certain convenience to the user. In addition, the set of proposed programs provides for the verification of hypotheses about the statistical validity and statistical reliability of the performed analysis, which is not available in the above-mentioned set of statistical programs, as well as providing appropriate conclusions. The main goal of analyzing the results of experimental observation is to determine the distribution law that best describes the distribution of the observed random variable. How well the observed pattern corresponds to the theoretical law is checked using various criteria. The purpose of testing the hypothesis about the correspondence of the empirical (experimental) distribution to the theoretical distribution is to make sure that this model of the theoretical law does not contradict the observations, and its use does not lead to serious errors. Improper use of statistical criteria leads to incorrect decision-making or unjustified rejection of the tested hypothesis. The lack of local practical software products for statistical analysis and data analysis in the market of scientific and technical products causes many problems in the analysis of the results of experiments in the socio-economic spheres. Firstly, using almost all of the available application software requires sufficient knowledge of mathematics and mathematical statistics. Secondly, these software products do not have the ability to make the necessary changes and edits for the researcher, and it is not possible to use the full capabilities of these programs. Currently, there are a number of statistical analysis programs used in world practice. Some of these programs are comprehensive, mainly, intended for a wide spectrum of statistical analysis, while some are intended to solve only certain issues. These systems provide a tool for solving various problems of statistical analysis. But the correct use of these systems depends on the skill of the user. The best used systems include arsenal classical methods of mathematical statistics. But the exact field of application of this arsenal differs in different applications. But the exact field of application of this arsenal differs in different applications. The conditions for applying statistical methods to problems that arise in practice are not fulfilled in many cases. For

example, non-fulfillment of the assumption that the measurement error obeys the normal law; the fact that the number of observations is limited limits the possibility of applying asymptotic results; the form of observations (grouped, censored, interval) does not allow the use of classical statistical evaluation and hypothesis testing methods; inability to propose criteria for testing complex hypotheses using analytical methods of mathematics, etc. Overall, in practice, many problems that cannot be solved by the mathematic mechanics of applied statistics.

Numerical methods and statistical modeling techniques promote the development of mathematical statistics as a "statistical software package - a tool of the researcher". But the statistical systems used are not considered tools for researching the validity of research. Therefore, in cases where it is not possible to determine research regularity using analytical methods, better results can be achieved using numerical methods. However, almost all software systems do not include research validation through these quantitative methods. It also requires sufficient training in mathematics and mathematical statistics to use most software systems. Therefore, it is important to create a system that is convenient for researchers conducting scientific research in socio-economic fields, that creates an opportunity to choose the most optimal of several statistical methods, and offers a high-accuracy approximate solution in cases where there is no exact solution. R, which is considered the most powerful statistical programming tool today, is widely used in software development. The existing library of R is edited and extended within the framework of the above tasks. The greatest strength of R is that it can be extended as desired using various packages. That is, iterative methods can be easily included in it.

Conclusion and Recommendations. Choosing the most correct and optimal statistical criterion based on the proposed technology and modeling, ensuring the minimum of type 1 and 2 errors when using this statistical criterion, distinguishing between competing hypotheses by statistical criteria, using calculation methods and statistical modeling, looking at computer technology as an instrument, studying the laws of mathematical statistics the tasks of clarifying the conditions for applying the exact theoretical results of mathematical statistics to the study, drawing not only asymptotic conclusions based on simulation, but also observing the changes in the regularity with the increase of the sample size are solved. As a result, correct conclusions are reached based on the results of research in socio-economic fields. It should be emphasized that obtaining statistical information quickly, collecting, recording, storing, and processing in a convenient form is a very time-consuming task, and high technologies are necessary here.

REFERENCES

1. Лемешко Б.Ю., Лемешко С.Б., Постовалов С.Н., Чимитова Е.В. Статистический анализ данных, моделирование и исследование вероятностных закономерностей. Компьютерный подход: Монография. Новосибирск: Изд-во НГТУ, 2011. 888 с.
2. Орлов А.И. Прикладная статистика. Учебник. Изд-во «Экзамен», 2004. - 656 с.
3. Орлов А.И. Метод статистических испытаний в прикладной статистике. Заводская лаборатория. Диагностика материалов. 2019. Т.85, № 5. С.67-79.