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## INNOVATIVE CONSORTIUMS AS KNOWLEDGE QUALITY MANAGEMENT FOR STUDENTS IN KAZAKHSTAN

### Annotation

The authors analyzed the development of innovative consortiums as a management of the quality of knowledge of students in Kazakhstan at the present stage of development. Since it is the formation and development of innovative consortiums that is aimed at the precedent of an open educational organization, which is due to the fact that it is necessary to modernize the system of higher education in the country. The authors also analyzed foreign experience in the development of innovative consortiums in the education system, such as: the Cluster consortium, the Five College Consortium, the Committee on Institutional Cooperation consortium, the 21st Century Maritime Silk Road consortium. An assessment was made of innovative consortiums in Kazakhstan and it was revealed that innovative consortiums in the academic environment increase competition, help to become partners of large corporations, a number of universities to move from a narrow profile to an interdisciplinary level, improve the quality of educational programs in regional branches and divisions of republican and national research universities.

*Keywords:* innovation consortia, management system, knowledge quality, students, R&D, collaboration, scientific organizations, research, competitiveness.

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## ИННОВАЦИЯЛЫҚ КОНСОРЦИУМДАР ҚАЗАҚСТАНДА БІЛІМ АЛУШЫЛАРДЫҢ БІЛІМ САПАСЫН БАСҚАРУ РЕТІНДЕ

### Аңдатпа

Авторлар дамудың қазіргі кезеңінде Қазақстанда білім алушылардың білім сапасын басқару ретінде инновациялық консорциумдардың дамуына талдау жасады. Инновациялық консорциумдардың қалыптасуы мен дамуы ашық білім беру ұйымының прецедентіне бағытталғандықтан, бұл елдегі жоғары білім беру жүйесін жаңғырту қажет екендігіне байланысты. Сондай-ақ, авторлар «Cluster» консорциумы, «Five College Consortium» консорциумы, «Committee on Institutional Cooperation» консорциумы, «XXI ғасырдағы теңіз Жібек жолы» консорциумы сияқты білім беру жүйесіндегі инновациялық консорциумдарды дамытудың шетелдік тәжірибесін талдады. Қазақстандағы инновациялық консорциумдарға баға беріліп, академиялық ортадағы инновациялық консорциумдардың бәсекелестік күшейіп, ірі корпорациялардың серіктесі болуға, бірқатар университеттердің тар бейінді деңгейден пәнаралық деңгейге шығуына, республикалық және ұлттық зерттеу университеттерінің өңірлік филиалдары мен бөлімшелеріндегі білім беру бағдарламаларының сапасын арттыруға көмектесетіні анықталды.

*Түйін сөздер:* Инновациялық консорциумдар, басқару жүйесі, білім сапасы, білім алушылар, ФЗТКЖ, ынтымақтастық, ғылыми ұйымдар, зерттеулер, бәсекеге қабілеттілік.

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## ИННОВАЦИОННЫЕ КОНСОРЦИУМЫ КАК УПРАВЛЕНИЕ КАЧЕСТВОМ ЗНАНИЙ ОБУЧАЮЩИХСЯ В КАЗАХСТАНЕ

### Аннотация

Авторами было проанализировано развитие инновационных консорциумов как управление качеством знаний обучающихся в Казахстане на современном этапе развития. Так как именно формирование и развитие инновационных консорциумов направлено на прецедент открытой образовательной организации, которое обусловлено тем, что необходима модернизация системы высшего образования в стране. Также авторами был проанализирован зарубежный опыт развития инновационных консорциумов в системе образования такие как: консорциум «Cluster», консорциум «Five College Consortium», консорциум «Committee on Institutional Cooperation», консорциум «Морской шелковый путь XXI в.». Была дана оценки инновационных консорциумов в Казахстане и выявлено, что инновационные консорциумы в академической среде усиливается конкуренция, помогают стать партнерами крупных корпораций, ряд университетов выйти с узкопрофильного на междисциплинарный уровень, повышение качества образовательных программ в региональных филиалах и подразделениях республиканских и национальных исследовательских университетов.

*Ключевые слова:* инновационные консорциумы, система управления, качества знаний, обучающиеся, НИОКР, коллаборация, научные организации, исследования, конкурентоспособность.

**Introduction.** At the current stage of development, an important place has been given to the task of integrating science, education and innovation. Today, there is much talk of innovative associations in the quality management system of student knowledge. Because it is the innovative association that contributes to the creation of an innovative education, which, in turn, is interpreted as emphasizing the preparation of the individual for the rapid changes in society, on the development of creative skills. uncertain future, divergent thinking, as well as the ability to cooperate with other people [1]. This ultimately determines the significance of this study.

It is in modern conditions that the main stage of improving the quality of education is the integration of schools, universities, research organizations, production processes into a single educational process. There is a great need for projects and programs aimed at “opening the borders” of the educational system itself and of its basic institutional forms [2]. The purpose of the formation and development of innovative

consortia is the precedent of an open educational organization, which determines the scientific significance of this study.

The aim of this study is to analyze the impact of the association of innovation in the knowledge quality management system of students in Kazakhstan.

**Main part.** The accelerating pace of economic development places high demands on the professionalism of people who carry out the process of transition to a new economy. The most important competitiveness factors are technological progress and the knowledge embodied in human capital. Changes in socio-economic life and state policy in Kazakhstan necessitated the modernization of the higher education system. The higher education system becomes the most important factor in creating an innovative economy in the Republic of Kazakhstan.

The main goal of the innovative development of higher education is the high quality of the training of the specialists needed in the national and international labor markets. The

higher professional education system in the country is faced with the task of integrating into innovative associations which constitute the most effective system for managing the quality of students' knowledge. Since the development of the society, the issues of education quality management are considered from the perspective of quality management and the basic terms and definitions in this field are indicated [3]. Thus, the results of the activities of universities are educational services, scientific and technical products, integrated products based on scientific and technical products and educational services, educational and methodical products.

**Literature review.** The analysis of the development of the innovative association in the system of quality management of student knowledge in the conditions of international integration is devoted to the works of V.A.Belikova, GA Bordowski, JLA. Verbitskoy, MD.Knyazeva and others. The main provisions and analyzes of the processes of transformation of the college system are defined in the development of specialists in the field of economics and organization of administration in the higher education system: Balykhina, A.D. Viktorova, V.V. Glukova, N.V. Kazakova, Y.I. Kuzminova, V.M. Filippova and others. The theoretical and practical problems of developing innovative systems were considered in their work by foreign scientists: B.A. Lundvall, E. Mansfield, R. Nelson, K. Freemann, J. Howells, I. Schumpeter et al.

V. G. Sheludko, A. V. Tsvetnykh emphasize the importance of the unifying role of the association, making the link between science, higher education and businesses for the coordination, monitoring and promotion of projects [4]. M.V. Sigova, S.A. Bannikov considers the principles of interaction of virtual networks within consortia [5]. At the same time, the analysis of innovative associations in the student knowledge quality management system is insufficiently covered and requires additional research.

**Methods.** The theoretical and methodological basis of the study consisted of legislative, legal and regulatory documents in the field of higher education management,

monographs, scientific articles, articles of domestic and foreign scientists, documents of international, Kazakh and regional conferences and seminars devoted to the subjects. Students knowledge quality management, innovation management, higher education development, innovative teaching technologies, higher education system innovative development issues.

As a general methodology of conducting research, a systematic approach is taken to the problems posed by the purpose of the work. During the research, the authors used general scientific methods, including: monographic, abstract-logical, comparative, analysis, generalization, reasoning, as well as the method of graphical visualization [6].

**The result** is, at the current stage, the transformation of socio-economic processes due to the innovative vector of development of the national economy, digitalization and strong market dynamics, accompanied by the search for effective forms and mechanisms of interaction between economic entities. A global trend towards integration. The drivers of the new economy - sectors with a high proportion of intangible assets, in which science and education occupy a prominent place, are called upon by the innovative association to integrate new knowledge, to review the management system of the quality of student knowledge [7]. In historical terms, innovation consortia have evolved in three phases, which are shown in Figure 1.

Let us turn to the international experience in the creation of innovative consortia. A successful implementation of the organizational model is the project implemented in the format of the Seventh Framework Program of the European Union - "FP7".

The EU's Seventh Framework Program (FP7) from 2007 to 2013 was the EU's main financial instrument to support international research cooperation in almost all scientific fields. The total amount of funding for FP7 is €54.582 billion.

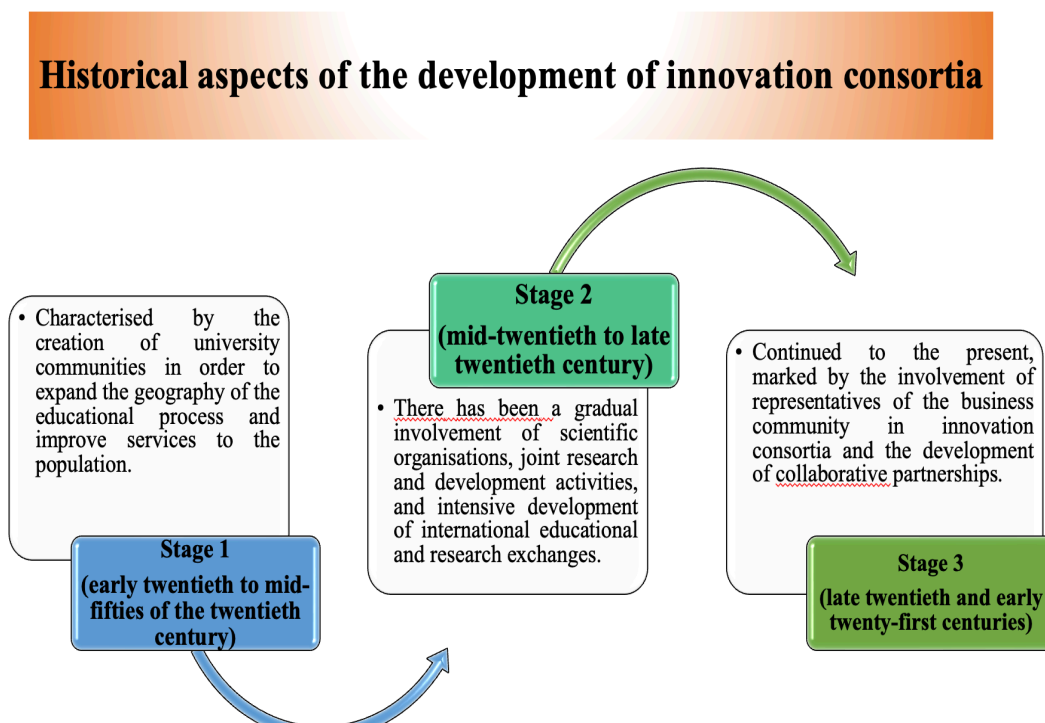


Figure 1. *Historical aspects of the development of educational innovation associations*

The international consortium created under FP7 also includes universities, scientific organizations, innovative companies and companies which are end-users of innovative products. Three groups of countries participated in FP7: EU Member States, countries associated with FP7 and non-associated countries (Kazakhstan, Russia, United States, China, Japan, etc.) [8].

Kazakhstan has also been active in EU framework programs since 1993, ie. One of the very first INTAS competitions. From 1993 to 2017, 254 projects were funded with the participation of Kazakh scientists, including 6 projects under H2020. Joint competitions of professions, incl. Membrane Technologies S.A., the project began in 1996 within the framework of INTAS-KZ, then INCO-Copernicus and continued with the FP7-MEMBRIDGE project [9].

In objective continuity, the European Union launched a new Horizon 2020 framework program (2014-2020), which is the EU's biggest initiative in global research and development funding in the form of framework programs and covers the period 2014-2014. 2020 with

a budget of 80 billion euros. The program is a financial instrument of the European Union for the implementation of the Innovation Union of EU Member States, its objective is to ensure overall European competitiveness [10]. Kazakhstan also participated in the Horizon 2020 event.

A remarkable example of the development of an innovative student knowledge quality management association can be identified in the following foreign models, which are shown in Figure 2.

The cluster consortium currently brings together 13 European universities with a technical and technological profile, whose interaction has made it possible to significantly expand the narrow specialization of engineering in the paradigm: "Education - Science - Innovation". In general, the innovative consortium "cluster" is a network structure designed to finance and coordinate new knowledge and innovative activities based on the integration of participants' resources, to train advanced specialists with leadership and entrepreneurship skills [11].



Figure 2. *Innovative Consortium for Knowledge Quality Management of Students Abroad*

The practice of unionization has a long history in the United States. Thus, the Five Colleges Consortium, established in 1965, unites four liberal arts universities, a top-notch research university, and two colleges. The Consortium is a member of the “Association for Collaborative Leadership”, the activities of the organization are aimed at maintaining long-term forms of collaboration in the direction of maintaining and improving the academic and cultural potential of the participants [12].

Another example of the “Committee on Institutional Cooperation” consortium is an academic association of 15 American universities formed in 1958. This consortium is involved in federal research programs with total funding of US\$6 billion, or 18% of total funding National Scientific Research Institute.

Fund Universities’ interactions include joint procurement, development of courses and professional development programs, overseas training, and digitalization of educational

processes [13]. In 2018, in China, at the initiative of Xiamen University of Transport, the “21st Century Maritime Silk Road An association was launched, bringing together 60 universities from 17 countries, including: France, Great Britain, Australia, Singapore, New Zealand, etc.

The joint declaration of the participants reflects the intention to strengthen cooperation in the educational and scientific fields, to use the educational potential and to encourage cultural exchanges, promoting the economic development of the countries located along the historic Silk Road route [14]

For Kazakhstan, today, important work is being done in the country to develop innovation and create an innovative ecosystem, creating a knowledge-intensive economy: as part of the implementation of the National Plan for the Development of the Republic of Kazakhstan, the Kazakh State Digital Program., Industrial and Innovative Development of the Republic of Kazakhstan. Therefore, as

always, in Kazakhstan, the student knowledge quality management system requires the formation and further development of an innovative association [15]. An example of the development of an innovative association in the student knowledge quality management system is the International Association of Developers of Digital Educational Resources for National Online Learning Systems, which was established in Kazakhstan in 2012. It is a union of 5 foreign companies and 7 specialized companies, educational organizations from Kazakhstan [16].

The innovative consortium included both domestic and foreign companies: Sivco Romania, Young Digital Planet (Poland), Whiz Education Ltd (Great Britain), Public Foundation “e-learning Development of” (Sweden), the representative office of Intel Corporation UK Ltd in the Republic of Kazakhstan (USA), JDrimTeam LLC under the Viera brand (Russia), Gumilyov National Eurasian University named after L.A., Al-Farabi Kazakh National University of Research Institute of Mathematics and Mechanics, Kazakh University of International Relations and World Languages named after Abilai Khan, East Kazakhstan State University named after S. Amanzholov, I-Qazaq LLP (Kazakhstan), JSC “Orleu” Center for Advanced Studies, JSC “National Information Center” [17].

In 2013, an agricultural research and production association was created [18]. The mission of the Innovation Consortium is to comprehensively involve scientists and practitioners in scientific research that meets the industrial and innovative development needs of the agro-industrial complex, which serves the interests of producers, suppliers and consumers of agricultural products and means of production unit [19]. The main objective is to unleash the potential for industrial and innovative development in the agro-industrial complex through the development and implementation of innovative technologies that ensure increased productivity and competitiveness of the agricultural sector [20].

Also in November 2022, preparations began for the formation of a leading educational

association among ten universities in Kazakhstan, in which the following universities participate: Zhubanov Aktobe Regional University, Abai Kazakh National Pedagogical University, Kazakh Women’s National Pedagogical University, Pavlodar Pedagogical University, South Kazakhstan Pedagogical University [21], Arkalik Pedagogical Institute named after Y. Altynsarin, National Eurasian University named after L.N. Gumilyov, University of South Kazakhstan, Kyzylorda University, Korkit Ata and Kazakh-Turkish International University Yasui [22]. The aim of the innovative association is to provide quality training for teachers at all levels of education in the Republic of Kazakhstan. It plans to work in the following areas, including updating the content of educational programs; improving the method of teacher training; implementation of joint research within the framework of scientific projects; Construction of laboratories for common use, etc [23].

**Discussion.** Thus, the main idea of the formation and development of the innovative association as a quality management of student knowledge in Kazakhstan is first of all joint projects that can significantly strengthen each of the participants to achieve a common result, because it doesn’t seem possible for a single organization to maintain the bar high in the full range of areas specified due to limited resources as well as established deadlines. Innovative consortia to improve the quality of educational programs in regional branches and departments of republican and national research universities help large companies, some universities to move from a narrow profile to an interdisciplinary level. Second, as competition among innovation consortia intensifies in academia, the task of exercising leadership becomes much more difficult. This is because it is more difficult for most industrial universities to meet innovation consortium performance targets, especially in the short term.

**Conclusion.** The study made it possible to formulate the following conclusions:

1. Kazakhstan, along with the advanced countries of the world, develops concepts and mechanisms for integrating science, education

and production for the purpose of scientific and technological development through innovative consortiums that manage the quality of students' knowledge and achieve global competitiveness.

2. The most important prerequisites for the formation of innovative consortiums are the strategic priorities of the country's innovative development and the public demand for staffing.

3. Innovative consortiums contribute to overcoming the disunity of scientific and educational spheres that has developed in

Kazakhstani conditions, act as a synergistic link in the implementation of breakthrough projects, and develop effective tools to attract corporate partners and foreign investors.

4. Collaborative interaction of the participants of innovative consortiums should be mutually beneficial and aimed primarily at improving the efficiency in the field of their core organizational activities with a further projection on global priorities.

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FTAMP: 14.35.09

DOI 10.51889/2077-6861.2023.30.2.030

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## ДЕҢГЕЙЛІК ОҚЫТУДЫҢ ЖАҢА ПАРАДИГМАЛАРЫ, ҰСТАНЫМДАРЫ МЕН ӘДІСТЕРІ

*Аңдатпа*

Мақалада сөйлесім әрекетінің түрлері: оқылым мен жазылымды өзара сабақтастықта меңгертудің жолдары мен мүмкіндіктері қарастырылады. Қазақстан Республикасында қазақ тілін деңгейлік оқытудың тәжірибесіне сүйене отырып, оқу үдерісінде білім алушылардың функционалдық сауаттылығын дамытудың бір жолы ретінде оқылым мен жазылым тапсырмаларын орындатудың ғылыми-әдістемелік мәселелері дәйектеледі. Сабақта оқушылардың қарым-қатынас әдебі мен қатысым мәдениетін қалыптастырудағы сөйлесім әрекеті түрлерінің маңызы ашылады. Оқылым мен жазылым тапсырмаларын үйлестіре отырып, тіл үйренушінің пәнге деген қызығушылықтарын тудыру амалдары анықталады. Оқылым мен жазылым әрекеттерін дамытудың ұстанымдары белгіленеді.

Зерттеуде отандық және шетелдік әдіскер-ғалымдардың, педагогика, психология саласындағы зерттеушілердің тілдік қатынасқа, сөзге, мәтінге, оқылым мен жазылым әрекеттеріне қатысты пікірлері талданады. Қазақ тілін деңгейлік оқытудың базалық-нормативтік құжаттарындағы тілдік білімді бағалау өлшемдерінің ерекшеліктері көрсетіледі. Деңгейлік оқулықтардың құрылымдық-мазмұндық жүйесі сипатталады. Тіл үйретудің басым бағыты ретінде коммуникативтік құзіреттіліктерді қалыптастыру әдістері түсіндіріледі.

*Кілт сөздер:* сөйлесім әрекеті, оқылым, жазылым, базалық-нормативтік құжаттар, стандарт талаптары, деңгейлік оқыту, қатысым мәдениеті, трендтер, отандық тәжірибе.