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КАЗАХСТАНА НА ОСНОВЕ ПОТЕНЦИАЛЬНЫХ ВОЗМОЖНОСТЕЙ»**

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ON POTENTIAL OPPORTUNITIES»**

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Ә53 **Әлеуетті мүмкіндіктер негізінде Қазақстанның ұлттық экономикасының бәсекеге қабілеттілігін арттыру және әртараптандыруын жеделдету: Жас ғалымдардың халық. ғыл. конф. еңбектер жинағы.** – Астана: Л.Н. Гумилев атындағы Еуразия ұлттық университеті, 2017.
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Халықаралық ғылыми конференциясының еңбек жинағында әлеуетті мүмкіндіктер негізінде Қазақстанның ұлттық экономикасының бәсекеге қабілеттілігін жоғарылату және әртараптандыру жеделдетудің және ел экономикасының бәсекеге қабілеттілігін жоғарылату мәселелері қарастырылған.

В сборнике материалов международной научной конференции рассмотрены актуальные вопросы диверсификации национальной экономики Казахстана на основе потенциальных возможностей.

The collection of materials in the international scientific conference considers important issues of Kazakhstan's national economy diversification based on potential opportunities and development of recommendations for improving the competitiveness of the country's economy.

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Деятельность нового министра ознаменовала сдвиг в приоритетах государственной политики. В настоящее время политика государства направлена на оживление деятельности малых предприятий в сельских районах путем предоставления займов и грантов кооперативам из числа частных фермерских хозяйств, а также для покрытия максимального числа субсидий для фермеров за счет снижения пороговых требований для получения субсидий и других задачах, что отражено в концепции новой государственной программы АИС 2017-2021 годов. Задача осложняется тем, что финансирование новой программы будет осуществляться в утвержденном бюджете, чего в прошлом недостаточно для решения всех проблем. В резерве повышаются критерии для получателей грантов и повышается их эффективность, повышается возможность их изготовления и усиливается контроль за их предполагаемым использованием, в частности путем автоматизации и настройки мониторинга со стороны посевов.

В целом, для сельскохозяйственного сектора в 2016 году было трудно. Погодные условия не позволяют собирать высококачественные культуры из-за того, что большое количество осадков привело к большому количеству сорняков на полях.

Но, например, для компаний, вовлеченных в год производства молока, это было довольно хорошо, из-за того, что кормление животных нам не нужно, такой высококачественный урожай.

Конечно, хотелось бы более комфортных климатических условий для сельскохозяйственного производства. Но что более важно, это, какие будут изменения в законодательстве. В частности, в отношении субсидирования отрасли. Это правильные поправки, и где-то сохранение существующих норм, позволит сельскому хозяйству Казахстана расти [2].

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ICT INVESTMENTS KAZAKHSTAN: ASTANA SMART CITY

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Infocommunication technologies developing at full speed become important factors of society modernization. The effect on economic indicators of people lifestyle characterizes the importance of ICT development for the economy and life of modern Kazakhstan citizens. During the last years in Kazakhstan made a significant progress in ICT sector. Within the State program "Information Kazakhstan – 2030" has been implemented the project of Astana Smart City [1].

Astana a new capital of Kazakhstan - one of the fast developing financial and cultural centers and transportation hub in Central Asia transforms into the concept of a smart city. As a new capital Astana increased more than three times for the last 10 years, expanding its population from 150 000 people to almost 1 million people in 2017, giving to the city administration a powerful stimulus to find a fast solutions for better service. Today, there are 70 large legal entities, 72.4 thousand subjects of small and medium business registered in different spheres of economy in Astana city. Smart Astana project has won awards from the United Nations for its success in implementing an e-government portal enabling citizens to communicate with the authorities and carry out tasks

such as applying for driving licenses and passports, as well as paying taxes, utility bills and fines. In a relatively short time, the portal has progressed from being a somewhat simplistic information resource to becoming a highly sophisticated electronic transactional platform on which over 500 services are offered. On July, 2016 been launched series of smart city programs including Smart Clinics, Smart Schools, Smart Street Lighting and Smart Payments [2].

Smart Clinics

The concept Smart Clinics implies the automation of internal and external processes in healthcare industry by providing timely, relevant and reliable medical information. One of the main issues solved by "Smart clinic" is providing a doctor with medical instrument that contains all necessary elements for making right diagnostics decisions.

Expected results:

- Reduction of queues;
- Reduction of medical errors during prescribing and appointing to a doctor;
- Improvement of accuracy, efficiency and informational content of diagnostic research leading to reduction of cases of acute exacerbation of chronic diseases for a certain period of time as well as general reduction of morbidity;
- Increase of conformity of treatment to established standards.

Major problems of polyclinics in Kazakhstan occurring today: successfully reach the polyclinic and the queue. The first problem was solved with the organization of work of the Call Center, which allows quickly resolve patients' problems, provide information, and also take various questions from the public. To solve second - queue problem was implemented Triage-system throughout Kazakhstan, or medical sorting (triage, sorting) - the distribution of patients in groups, based on the need for priority and homogeneous medical services. The core of the program: patients are divided into three groups, the so-called "corridors", depending on the type of treatment, on the severity of the condition. This allows a patient to reduce the order in front of the doctor's office, create comfortable conditions for patients, regulate the flow of adults and children, and excludes the possibility of their crossing in the registry and at the reception to specialists. These corridors do not overlap, which is of great importance for maintaining the sanitary and epidemiological status at the site and preventing the spread of pathogens of various diseases of infectious etiology. The Triage System is a regulating platform allowing hospitals to receive visitors depending on the type of their treatment and on the severity of their condition without patient interception at the offices. This will avoid overlapping functions of health institutions has an essential role for the maintenance of the sanitary-epidemiological status of the health facilities and help to prevent the spread of diseases. Implementing electronic medical records for patients will eliminate paperwork and increase convenience.

The first health organization implemented Triage System was the municipally polyclinic №10.

Effect of the project:

- reduction of services provision to a patient by a physician of the polyclinic up to 10 minutes;
- reduction of lines at the reception of the polyclinic by 30%;
- improvement of the efficiency and informative content of diagnostic tests by at least 85%, time saving for medical staff.

As a part of the project, more than 300 jobs have been automated, 631 people out of the personnel have passed training, more than 750 types of survey protocols have been downloaded into the project's information system, services have been provided through the information system of the project to more than 106 thousand patients, approximately 2 thousand patients have been registered for doctor's appointments online and self-service terminal.

Expansion of the project in all the polyclinics of the capital through investment attraction, and provision of services based on the service model have been scheduled.

Smart Schools

The objective is to ensure security, convenience and automation of processes in the schools of Astana. As part of the implementation of the pilot project, installation and commissioning works are being carried out to install access control and monitoring systems, video surveillance in schools integrated with providing comprehensive life support, modules for electronic library and e-canteen, and a personal cabinet has been developed that allows to interact with the project subsystem. Control over the quality of services provided by school food suppliers. Basic components are as follows: ACMS - access control and management system, video surveillance, e-library, e-canteen and personal account.

ACMS - Control of access to the school building, sending SMS notifications to phones of parents about student attendance.

Video surveillance system - Monitoring in real time, manual/automatic recording, playback and storage of video information, integration with complex life support system

E-canteen - Introduction of electronic payment in canteen provides an opportunity to control rations of students by means of personal account.

E-library - Use of electronic database of books, quick search of information in library collection, electronic reader cards, faster process of book issuance.

Personal account - Interaction with the subsystem of the project, which allows parents to see the statistics of visits to the school, number of delays, history of use of library resources and expenditure statistics in canteen and buffet

Expected results:

- Prevention of access of unauthorized persons to the school building;
- Prevention of emergency situations;
- Convenience of serving students in school canteens, use of money granted to students for lunch only for its intended purpose;
- Modern technologies will make use of library more attractive;
- Recording and storage of materials of video surveillance and access control system within the regulated term.

In 2015, the pilot project was implemented on the basis of the State Institution "School-Gymnasium No. 3" and the State Institution "School-Lyceum # 15". As part of the implementation of the pilot project, installation and commissioning of the access control system and video surveillance in schools integrated with the integrated life support system were completed, the e-library and e-dining module were installed, and a personal cabinet was developed to interact with the project subsystem.

Effect of the project:

- improvement of students safety in schools up to 85%;
- prevention of unauthorized persons presence in schools up to 90%;
- prevention of emergency situations in schools up to 75%;
- automation of the library collection record-keeping by more than 60%.

It is planned to expand the project in all schools of the capital by attracting investment and providing service model services.

Smart Street lighting

Smart street lightning system will be introduced in Astana along with the rest smart services. It aims is to ensure the energy efficiency of street lighting by equipping street lighting systems with power regulators: street lighting dimming and reduction operating costs for street lighting.

System of street lighting provides a flexible configuration of operating modes. Manager can set the schedule of turning on/off lighting as well as choose automatic mode, which determines the moment of turning on/off according to the amount of light. Data on the status of lamps and operating mode as well as system management tools are displayed on the monitor of the manager. Dimming function provides control over the consumption of the load of lighting equipment. The software provides the opportunity to dim each lamp individually as well as selected group of lamps.

Communication is provided by means of both wireless (radio, GSM) and wired technologies (PLC).

Expected results:

- Energy savings up to 48%;
- Additional energy savings of 13.6% due to dimming of 50% of lighting.
- Significant reduction of expenses on maintenance team and visual inspection since the system transfers information about state of lamps to the monitor of the manager.

The site for execution of "pilot" project was Enbekshiler street in Yessil district of Astana. The old sodium-vapor lamps have been replaced with new LED lamp, facilities of street lighting and park illumination of the city have been examined to determine their quantity, location and status. As a result, energy savings amounted to more than 50% or 244 thousand tenge compared to the same period of previous years.

Effect of the project:

- software that allows controlling lamps remotely, as well as receiving information on the status of each lamp individually;
- control the load of each lamp using dimming;
- achieved energy saving of over 51% compared to the same period of previous years;
- reduction of operating costs through remote monitoring and control, as well as reduction in the number of mobile teams;
- no special disposal for the lamps and light bulbs, as there are no harmful substances (mercury) contained in the lamps;
- remote online lighting control via smartphones and tablets.

Smart Payments

The objective of the project is the creation of the single account for all the payments of a consumer. The project represents a mechanism of utilities services payments through the single payment document. Smart Payments is the payment for utilities services in e-format, which offers the user to pay bills for water supply, water discharge, gas supply, removal of household waste, housing and maintenance expenses, electric power supply, heat supply, telecommunication services. The personal account will also keep the history of payments given the requirements of the Law of the Republic of Kazakhstan "On Personal Data and Its Protection". After the user's authorization, access to the personal account will be received and identification of the recipient will be completed. Electronic cash-box can be topped up via payment terminals and bank cards (Visa).

Expected results:

- Opportunity to quickly perform all payments at one place with no need to visit several organizations.
- Internet portal allows using one account to pay for administrative fines, taxes, electronic tickets in public transport, parking tickets, polyclinic services and make contributions for school lunches.

The investment potential in Kazakhstan's smart city journey is enormous as Astana, which in itself represents a considerable investment opportunity, is just the first of many cities that will become smart.

Expected Digital dividends for Kazakhstan are determined and marked in accordance with the strategic objectives of the government. First of all, it comes to such important and urgent issues for the country as improving the efficiency and transparency of public administration, employment, improving the quality of education and health care, improving the investment climate, increasing labor productivity and growth of the share of small and medium-sized businesses in the GDP structure. As a result of the SP "Digital Kazakhstan" the share of the ICT sector in Kazakhstan's GDP will reach 4.85% by 2020; labor productivity in the ICT sector will grow by 31%; Digital literacy will be 80%; the proportion of Internet users will increase to 78%; the share of electronic public services rendered in relation to the total number of services received in paper and electronic forms will increase up to 80% [3].

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ИННОВАЦИОННЫЕ ПОДХОДЫ УПРАВЛЕНИЯ В ВОПРОСЕ СОЗДАНИЯ ЕЭР ДЛЯ КАЗАХСТАНА И СТРАН ЕАЭС

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Еще в XX в. электроэнергетика стала ключевой отраслью экономики в подавляющем большинстве стран. Электроэнергия - важный фактор основных социально-экономических процессов в современном мире: жизнеобеспечения населения и потребления домохозяйств; производства товаров и услуг; национальной безопасности; охраны окружающей среды.

Роль электроэнергетики в XXI веке остается исключительно важной для социально-экономического развития любой страны и мирового сообщества в целом. Энергопотребление тесно коррелирует с уровнем деловой активности и с уровнем жизни населения. Научно-технический прогресс и развитие новых секторов и отраслей экономики, совершенствование технологий, повышение качества и улучшение условий жизни населения определяют расширение сфер использования электроэнергии и усиление требований к надежному и бесперебойному энергоснабжению.

В настоящее время глобализация экономических процессов в отраслях промышленности приводит к возникновению межстрановых интеграционных объединений. Данным фактом, а также наличием экономической потребности в объединении топливных ресурсов, было во многом обусловлено создание Евразийского экономического союза (ЕАЭС).

В мире помимо развития в рамках национальных энергосистем активно происходят процессы интеграции нескольких энергосистем в единую или создания правил по их взаимному функционированию. Интеграция национальных рынков электроэнергии предполагает создание общего рыночного пространства в электроэнергетике двух и более стран для реализации трансграничных сделок, как правило, в целях: повышения надежности энергосистем за счет совместного использования резервов и поддержки в экстренных ситуациях; повышения эффективности рынков электроэнергии в результате снижения рыночной концентрации, повышения конкуренции и оптимального использования имеющихся генерирующих ресурсов; оптимизации использования первичных энергетических ресурсов.

Предпосылками для интеграции национальных рынков электроэнергии и развития межгосударственной торговли электроэнергией и связанными с ней услугами, в общем случае, являются:

- энергодефицитность и/или энергоизбыточность национальных энергосистем;
- ощутимая разность цен на электроэнергию и услуги;
- сезонная разница между странами в выработке (например, в связи с большим удельным весом ГЭС в какой-либо энергосистеме) и потреблении электроэнергии;