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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

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### 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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