The Role of Digital Solutions in Implementation of Safe City Project

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Abstract

The article, which discusses the implementation of the "Safe City" project in Uzbekistan, mainly focuses on surprising role of digitization in public safety. According to the research, the success on project execution relies heavily on using latest management methods and extensive human resource policies. The methodology is based on an analysis of national strategies, legal regulations, and international experiences in creating smart city projects. The results indicate the necessity of effective inter-departmental collaboration in government, the increasing significance of young ICT professionals, and the organizational issues due to centralized management systems. The article points to the fact that solid human resource management, innovative governance methods, and suitable elements of the legal framework go a long way in enhancing project performance and ensuring sustainability of the initiative over time. Generally, article covers three following key ideas, as Safe City Project (as a national strategic and technological initiative), Digital project management (as the methodological and managerial framework), and Human resources and institutional capacity (as key success factors).

Keywords: Safe City, digitalization, management, human resources, ICT, strategy, legislation, public safety, characteristics, mobile terminals, implementation, emergency, calls, components, information communication technologies, effectiveness, investment, economics

1.Introduction

There is no question that the Safe City initiative has great importance for Uzbekistan since it means in a very direct way raising the level of public safety and social stability together with the continuation of modernization of the urban infrastructure. If one analyses its significance in terms of social, economic, technological, and governance factors, then primarily it is proper to analyze this issue from the perspective of a community safety and security improvement. In fact, the main goal of the Safe City project is to lower crime rates, speed up emergency services, and make citizens feel safer in cities. Applying smart video surveillance equipment, automated traffic monitoring, and facial recognition technologies, allow police to prevent crimes in advance, identify criminals systematically obtaining evidences, as well as to have faster and better responses to emergencies. Digital systems are, thus, a very important tool not only to keep things neat and tidy in a fast-growing city like Tashkent, but also to help people feel safe and secured in their daily lives. As far as economy is concerned, security is undoubtedly one of the key factors to sustainable development, since a safer and stable environment quite naturally attracts foreign investors, and additionally, by security measures, the area is protected against losses due to theft, vandalism or damage of the property; thus, the business confidence is raised and it is encouraged the local entrepreneurship.

Moreover, the implementation of advanced technology security infrastructure enhances innovation, accelerates the development of the ICT sector, and generates new job opportunities in the digital economy of Uzbekistan. For example, the Safe City initiative helps the digital transformation of urban areas in Uzbekistan in terms of city planning and management. Thus, it is included in the e-government and

Smart City frameworks of the country, offering integrated platforms that connect law enforcement, traffic control and public transport systems, emergency medical and rescue services. With the support of automated traffic cameras, license plate recognition networks, and real-time data evaluation, law enforcers can identify traffic offenders at once, decrease the number of accidents and enhance the flow of traffic and the urban mobility in general. This point is already crucial for the biggest cities of Uzbekistan where traffic jams and accident statistics still remain a big issue. Besides cities, Safe City systems contribute to national security by continuously observing the public spaces, transport terminals and borders, thus preventing the acts of terrorism, drug trafficking, and organized crimes, facilitating the work of the rescue team and the restoration of public order. The state is then able to use these data to anticipate security threats and to strengthen the country's resistance to any potential risks.

Safe City technologies when implemented responsibly and with due regard for people's privacy, can substantially increase the feeling of security among citizens and thus become a factor that enables the public to trust their government institutions even more. Besides that, they make the activities of the police more transparent. By providing a noticeable change in public safety and the quality of services, the project impacts the quality of life in the cities of Uzbekistan positively.

Regarding the alignment with the National development plans, the Safe City project is consistent with the long-term objectives of Uzbekistan that also entail the Digital Uzbekistan 2030 strategy (Decree of the President of the Republic of Uzbekistan, 2023). Also, the 17 UN Sustainable Development Goals (SDGs), in particular, SDG 11 (Sustainable Cities and Communities) and SDG 16 (Peace, Justice, and Strong Institutions), emphasize the tech-oriented approach that the country is taking for safety, sustainability, and efficiency (Bobokhonov & Bekturganov, 2025). The Safe City program is indeed a wise step forward for Uzbekistan. Apart from making the society safer and more secure, it is also facilitating quicker digital transformation, stimulating economic growth, and enhancing the effectiveness of governance. By ensuring safety and intelligence in cities, Uzbekistan is strengthening its position on the world map as a contemporary, technologically advanced, and citizen-focused nation (Dentons, 2019).

Some countries, including Uzbekistan, consider the introduction of the "Safe City" scheme to be a key strategic priority. The main goal of the "Safe City" concept is to realize the digitalization of public safety utilizing the opportunities of the following ICT instruments: monitoring, prevention, and reaction. The "Safe City" concept is an integral component of the smart city concept, which incorporates the following technologies: video analytics, artificial intelligence (AI), and big data. National development agenda of Uzbekistan, particularly the Uzbekistan–2030 Strategy includes key issues, such as public order, protection measures, and improving preventive systems, emergency response promotion, including ethnic integration and international security. However, the project does not merely serve as a technological innovation but also a management challenge. The partnership among different stakeholders, including law enforcement agencies, emergency services, and local municipal administrations, require efficient digital project management tools and methodologies.

International best practices prove that successful digital project management consists of adaptable planning, a strong inter-departmental cooperation, and data-driven decision-making. Accordingly, initiating robust methodological strategies to administering digital projects under the Safe City notion can eliminate efficiency, decrease duplication of work, and make public institutions more responsible. This article aims to explore the methodical, managerial, and staff aspects of the Safe City project in Uzbekistan and recommend how to improve this concept by applying contemporary digital project management practices.

In simpler terms, dominance of young people in the ICT sector, the increasing role of human resource management, and the need for cross-department collaboration made the Safe City project relevant to study interactions regarding Uzbekistan's development strategies, such as Uzbekistan-2030 Strategy. Besides, considering ICT innovations and human resource policies upgrades as the main preconditions of effective public administration via up-to date management methods. The Safe City project does not only involve applying of cutting-edge technology but is also a challenge to the governance and institutional

structures. The study aims to explore the methodological, managerial, and HR aspects of the Safe City project in Uzbekistan and define how it can develop the execution of the program through contemporary management practices.

2.Methods

Methodologically, this research relies on qualitative and analytical methods combined with a review of documents, a comparative study of international Safe City models, and an evaluation of the implementation framework of Uzbekistan. Apart from that, it uses project management theory, stakeholder analysis, and human resource assessment to highlight the contributing factors for the success and sustainability of the Safe City project. The study is compliant with the following methodological approaches:

Document and policy analysis – review of the legislative framework of Uzbekistan, including the" Uzbekistan – 2030" Strategy, the Law" On Normative Legal Acts," and government resolutions regulating ICT and public safety (Law of the Republic of Uzbekistan, 2000).

Comparativeanalysis – the research of international top performing strategies in the Safe City and Smart City project implementations globally, particularly focusing on the aspect of ICT and HR policy integration. Managementanalysis - a research paper focused on a comparison of classical and modern management styles, discussing how they can be applied to public safety projects and what implications this might have for HR management. Case Study - a comprehensive organizational study of the Uzbek Safe City Center, it granting the Ministry of Internal Affairs authority, and the operation of its cybersecurity. The complete use of these methodologies unveils. The entire scale of the technological and managerial dimensions of the project are exposed by the complete use of these systems of methods.

3.Results

The findings of the research can be summarized as:

Technological side: The Safe City initiative is a comprehensive ICT platform, which aims to increase public safety via real-time monitoring, data analysis, and preemptive measures.

Situation Center is one of the main elements, which controls getting and handling of emergency calls, CCTV data, communication with other ministries, etc.,

Human resources: The contribution of youth ICT professionals cannot be underestimated in the implementation of the project, thus at the same time emphasizing the important role of young people in the digital transformation journey. In this case, human resource policy is gradually shifting from a traditional personnel administration towards strategic human resource management that primarily focuses on professional development, training and employee motivation.

Institutional challenges: The project initially was carried out by the Safe City Center under the Ministry of Digital Technologies but then the responsibility was transferred to the Ministry of Internal Affairs for the purpose of merging public safety and cybersecurity functions. However, while a centralized management system enables better coordination at an overall level, it also leads to bottlenecks in decision-making and limits the possibilities of interdepartmental collaboration.

Management practices: Old-fashioned management (administrative, bureaucratic) still have their place but are not sufficient for modern ICT projects.

Modern management approaches, which focus on flexibility, decentralization, and interdepartmental cooperation, are very important for the success of the projects.

4.Discussion

When we talk about what is done to a high-standard in the area of Safe city projects, one can hardly overlook the number and the quality of cameras (CCTV). For instance, the world's biggest CCTV

network was constructed in China by about 200 million cameras, which system is a combination of AI-powered video analytics, facial recognition, and real-time data processing (TASS, 2023).

This kind of gigantic infrastructure is indicative of China's digital governance approach, which shows just how far digitalization can go. The notion of a "Safe City" is closely related to the projects of "Smart City" and "Digital China," which shows just how far digital project management can go. The above example shows that decision-making through AI can greatly contribute to the capabilities of a system for preventive safety and forecasting of crimes.

Table 1. *Number of CCTV by countries*

Country	Approximate Number of Cameras / Road Cameras	Notes / Source
China	~200 million CCTV cameras nationwide	Includes both public and private cameras; considered the largest surveillance network globally
United States	~50 million CCTV cameras	Estimate includes road, private, and commercial surveillance systems
Russia	>23 million total surveillance cameras and about 28,000 traffic enforcement cameras	Data includes both general surveillance and specialized road monitoring systems.
Uzbekistan	Around 1,800 road enforcement camera locations + 3,356 "smart video cameras" + 763 stationary radars (as of 2021–2022)	Includes smart cameras and radar systems installed under the Safe City project. Official nationwide totals not fully published.

The United States, being a decentralized and market-driven system, adopts a decentralized surveillance system with 50 million cameras owned by the private sector. Unlike the previous system that emphasized a centralized system, the United States surveillance system mainly emphasizes the local governments and the private sector. This system of management begins at the local levels. The use of digital technology in the management of projects provides a way to ensure compatibility, data privacy, and security without the need to involve the state. The United States system proves that it is possible to balance the need for digital management with the need for data privacy and ethical standards, a balance that developing countries need to learn from (Expert Market Research, 2024).

Russia has a hybrid public sector management system that controls a camera network of more than 23 million devices; out of those, 28,000 are specialized cameras intended for law enforcement and road safety. The hybrid management system is a combination of federal and local programs. The projects undertaken by Russia under Safe City are mainly related to AI-enabled recognition systems and integrated control centers. These projects are mainly defined by the collaboration of different ministries like the Interior Ministry, Emergency Ministry, and Transportation Ministry. The countries planning to upgrade their surveillance system can use this system while ensuring proper government intervention.

Safe City project is actively conducted in Uzbekistan with about 1,800 locations for road enforcement cameras, 3,356 smart cameras, and 763 fixed radars. While its scale is modes compared to global leaders, the project is a good demonstration of the rapid progress observed in digital public safety infrastructure, underlying 'smart' technologies is indicative of the shift towards smart data processing and enforcement automation. However, integration and coordination are still remain difficult, revealing the need for strong digital project management structures and an increase in the capacity of public institutions.

Table 2. *Comparative Summary*

Aspect	China	USA	Russia	Uzbekistan
Scale	Very large	Large	Medium-large	Small but growing
Governance Model	Centralized	Decentralized	Hybrid	Developing
Technology Focus	AI, data integration	Privacy, interoperability	Facial recognition, analytics	Smart cameras, automation
Project Management Type	State-led digital program	Market-driven local initiatives	Mixed public programs	Government modernization project

From a project management point of view, the case of Uzbekistan shows that it is possible to advance from a pilot project to a whole country system where success is mainly dependent upon planning, interdepartmental cooperation, and human resource development (Meduza, 2023).

Some of the issues that still need to be addressed while at the same time realizing that from the analysis above, Uzbekistan has made tremendous progress in implementing the Safe City project are as follows:

The chain of command must be honest and transparent. A centralized unified strategy is extremely attractive; however, it is a two-edge sword that could result in a decrease in operational efficiency, lack of initiative, and decision-making delays. According to literature, a compromise must be found by using a hybrid approach that allows the central government to retain power over major decisions while at the same time empowering the lower government to make operational decisions. The table below shows a comparison of the major advantages and disadvantages of each approach (Tashkent Times, 2025).

Table 3. *Project management's centralization vs. decentralization methods*

Aspect	Centralized management	Decentralized / Horizontal management
Decision-making speed	slower	faster
Employee initiative	low	high
Flexibility	low	high
Interdepartmental coordination	may be complicated	easier with horizontal links
Control and supervision	strong centralized control	distributed control and responsibility

In other words, the importance of a management structure is that it plays a crucial role in the development of large-scale projects such as the Safe City. For instance, the introduction of a management structure for the Safe City project leads to a unique strategic direction, the application of a uniform policy, and the imposition of tight control over the entire process. The centralized management structure means that all the participating institutions are working under a single strategic vision and are guided by a set of rules. However, the introduction of a management structure is not without a number of disadvantages. For instance, the process may be delayed when decisions are being made on the operations of the system. The creativity of the specialists may be stifled, and the communication process may become bureaucratic. These disadvantages are particularly pronounced in IT projects.

On the other hand, decentralized/horizontal management is that kind of management which distributes power to various levels and departments of an organization. If it is a project of decentralization like the Safe City project, various operational departments like Situation Centers, law enforcement bodies, or ICT departments can be empowered to take independent decisions during emergency situations. This kind of management is more adaptive, encourages more innovative activities, and is a sign of trust and thus a motivational factor for employees as more independence is granted to the employees. However, it is important to note that while implementing decentralization, it is important to refrain from expanding workload by incorporating coordination mechanisms to ensure that decisions are aligned at the national strategic level.

In order to thoroughly comprehend the benefits of each kind of management approach, it is important to reach a conclusion from a comparative viewpoint. This kind of centralized management offers a lot of benefits like strategic management, standardization, as well as efficient utilization of government resources; however, it takes a long time to implement projects due to a rapidly changing environment (Khalilov, 2023).

Decentralized management, on one hand, gives more freedom to local agencies to make decisions, allows them to adapt to the local conditions and thus respond to emergencies more effectively. However, it definitely needs a proper legal framework and good interdepartmental cooperation to avoid fitness of fragmented authorities.

First and foremost, the major objectives of the project are:

• To enhance the preparedness of various government agencies, forces and resources in the prevention and mitigation of emergencies and incidents;

• To increase the efficiency of the monitoring of situations at potentially hazardous and critically important facilities, life-supporting infrastructure, educational and healthcare institutions, transportation infrastructure facilities, markets, large shopping centers, sports, cultural, and recreational establishments, and other places of mass gatherings;

• To digitize the collection, analysis, and accumulation of the reliable information in the sphere of population protection and the safeguarding of facilities of the highest social value;

• To perform monitoring, forecasting, risk-reduction, incident response, investigations, and other stages of a cycle of activities based on information support;

• To Facilitate interagency cooperation in the field of life safety via;

•To maximize the effectiveness of interaction between citizens and the state on issues related to life safety;

• To improve traffic flow along the urban road network and at the same time reduce number and severity of road traffic accidents.

Tasks “Safe City” complex as system are:

• To form a unified information space for the purpose of improving the exchange of information in the areas of monitoring, forecasting, prevention, and elimination of threats to life safety;

• To design and provide control, management, and decision-making support tools along with the development of coordination and resource management systems, as well as systems for situational analysis and forecasting;

• To provide a framework for manual or automatic systems

• To establish a national pool of information systems for security and civil protection, and a framework for a network of sensors to provide data for security systems at public places and in transport;

• To equip the population with the ability to get information and raise awareness on the issues of public safety, law and order, and environmental security;

• To put in place measures for information protection in the “Safe City” system;

• To implement a unified information and communication platform for interaction between the population and agencies responsible for life safety.

One might therefore draw the line that in reality, the majority of successful Safe City or Smart City components are a hybrid model. However, the burden of overall planning, law-making, and financial allocations will still be taken care of by the center, while the decentralization of the operational decisions,

day-to-day monitoring, and technical troubleshooting is the concern of decentralization. For instance, if Uzbekistan is planning to adopt such a hybrid system, it may allow the Safe City project to function properly in the initial phase while being consistent with the national security strategies. the Safe City project in the first instance capable and at the same time be consistent with the national security strategies (Altamimi et al., 2023). Interdepartmental cooperation: The success of this project is largely dependent on the productive cooperation of the ministries and agencies. However, the legal status of the Safe City Center limits it from cooperating with other structures horizontally, and changing it to that of an agency or an independent body might be the best solution.

Human resources: The demand for highly skilled ICT professionals is still increasing. It is crucial to strengthen human resources policy, continue professional development, and apply modern motivational means for a successful project.

Legal reforms: Implementation of the Law on Civil Service, bringing in a Code of Ethics, and upgrading dispute resolution mechanisms will institutionalize good governance practices in Safe City implementation.

Investment and governance: The joint ventures with foreign direct investors bring along a whole range of benefits including the possibilities for financing and technology transfer. A decentralized management system may help speed up project execution and increase financial efficiency (Kun.uz, 2024).

One of the significant focuses of this research work is to increase the contribution of digital solutions to Digital radio communication service. This communication service is used to give radio communication facilities to the staff who are always on the move.

High-quality voice transmission through advanced digital signal processing, thus operation in a highly noisy acoustic environment is no problem; Rapid call setup (up to 300 ms);Capability for individual calls (radio-to-radio);Multi-level priorities, duplex and semi-duplex call modes; Telephone calls (radio-to-external telephone networks);Group connections (radio-to-group of radios), including group calls (subscriber-to-group of subscribers), broadcast calls (subscriber-to-all subscribers), group scanning, dynamic regrouping (combining subscribers into groups without reprogramming subscriber terminals), call zone management (initiating group calls only within authorized zones), late entry (allowing a subscriber to join an ongoing group call);Emergency calls (highest-priority calls);Direct Mode Operation (DMO).

The service is made up of:

Base stations and switches located throughout the city of Tashkent; Mobile (handheld) radios for 5,000 staff in emergency and operational services Vehicle-mounted terminals for 1,000 vehicles Centralized server and computing systems

Deployment these technical tools are essential to the success of the Safe City project. Reliable digital communications, extensive monitoring systems, and confidential information-sharing networks are the key components of an advanced urban safety infrastructure, which facilitate a quicker emergency response, better coordination between local authorities and emergency services, and ultimately an enhanced level of security for the public in diverse urban settings. By leveraging the power of state-of-the-art digital radio communications together with integrated data management platforms, the Safe City initiative is not merely boosting the operational readiness and situational awareness but also playing a role in creating a safer, more resilient, and well-organized urban environment for the citizens.

Besides that, the Safe City initiative is a public safety-oriented and ICT-based strategic program of Uzbekistan. Nevertheless, the project's achievement is largely dependent on the usage of contemporary management and efficient HR policies. Thus, decentralized decision-making and horizontal management models are necessary to eliminate barriers, and increase operational efficiency and interdepartmental coordination. Human capital, particularly young ICT specialists, is the most crucial resource for the project's continuation, which is why HR policy reforms are especially stressed. Besides, legal reforms, e.g., the

enactment of the Civil Service Law, will help to provide efficient governance and improve the institutional framework.

The comparison, which is based on the number of CCTVs, suggests that the level of digital project management maturity matches quite closely the size and effectiveness of the Safe City initiatives. A centralized digital governance system in China brings a great example of its benefits whereas the U.S. represents ethical, decentralized innovation. Russia embodies a well-balanced coordination model, while Uzbekistan is just embarking on the journey of public safety digital transformation.

In the case of Uzbekistan, the adaptation of project management styles, upskilling of human resources, and adapting the development of information and communication technologies with institutional reforms are the main areas of focus for the Safe City project in order to ensure sustainability (Government of Uzbekistan, 2025).

Here is the sentence rewritten in a neat and polished form:

To spur the launch of the project quickly and make a lasting contribution towards its sustainability, both foreign direct investments and joint ventures need to be encouraged. From the research of the management styles of the Safe City project, it is evident that a completely centralized or a completely decentralized system would not be able to ensure the sustainability of the project by itself. Centralized systems ensure strategic coherence, a common legal framework, and a most efficient allocation of national resources, while decentralization ensures the flexibility, efficiency, and rapid response of the people in adapting to the changing circumstances, which include emergency and innovation.

The result shows that for Uzbekistan, a mix of management model is recommended to be used. This management model recommends that activities such as strategic planning, setting standards, and distribution of resources are under the control of central authorities. On the other hand, operational units are empowered in their respective areas to be able to react quickly and creatively. The management model is useful in reducing the probability of being stuck in bureaucratic red tape while keeping national coordination and accountability intact. Additionally, the Safe City plan needs structural changes to be implemented along with running activities in human resources, digital infrastructure, and interdepartmental cooperation frameworks. Ultimately, organizations that are able to keep transparency, control, and flexibility while keeping public trust will be able to achieve this goal.

To sum up, the use of a hybrid model is a step in the right direction in the achievement of the Safe City project's objectives, such as improved security, smart city initiatives, and taking the digital transformation strategy in Uzbekistan to a broader level. It is recommended that further research be carried out on the practical application of the hybrid model, comparisons with global best practices, and the creation of a system for measuring the socio-economic impact of Safe City projects in the region.

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