STRENGTHENING DATA SECURITY AND COMPLIANCE IN UZBEKISTAN'S IT PROJECTS THROUGH IMPROVED DOCUMENTATION PRACTICES

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ABSTRACT

Starting and managing IT projects in Uzbekistan isn't easy, especially when it comes to keeping data safe and following the rules. There are lots of problems, like trying to keep all the paperwork consistent and worrying about data breaches and breaking the rules. But there are solutions out there. By using better ways to keep track of documents that work well in Uzbekistan, we can tackle these problems. This article is all about pointing out these issues, offering simple fixes, and making sure IT projects in Uzbekistan are safer and follow the rules in today's digital world.

Introduction

In Uzbekistan, as in other countries, the IT sector has been developing rapidly in recent years. The government is constantly giving incentives for the development of this sector. Uzbekistan has opened its doors for foreign IT companies. It is expected that many companies from the USA, the UK and Europe, which are looking for outsource services to run their business, will come to Uzbekistan. Tax incentives and subsidies approved by the government all serve to develop the IT sector in the country and increase IT exports.

The existence of educational institutions specializing in information technologies, online and offline educational courses, has been fulfilling the role of a school for all those interested in IT.

All the work being done serves to increase the number of Uzbek software engineers in the local and foreign labor market. In the last 3 years, prominent IT companies of the world such as EPAM, EXADEL, ANDERSEN LAB and others have been hiring IT specialists from Uzbekistan to create their IT projects. The number of such projects is increasing day by day. As the number of projects increases, managing them, ensuring quality control, testing, and ensuring continuous communication with customers remains one of the most important tasks. The IT project manager and the IT product manager are responsible for the effective execution of the IT project and for the satisfaction of the client.

IT project management.

IT Project management is an important aspect of management. Project management is concerned with many types of projects, planning, execution, forecasting, and, most importantly, regulating any form of work (whether physical or immaterial). This means that project management is about using the following management concepts (POSDCORB):

- P Planning,
- O Organizing,
- S Staffing,
- D Directing,
- C Coordinating,
- R Reporting,
- B Budgeting.

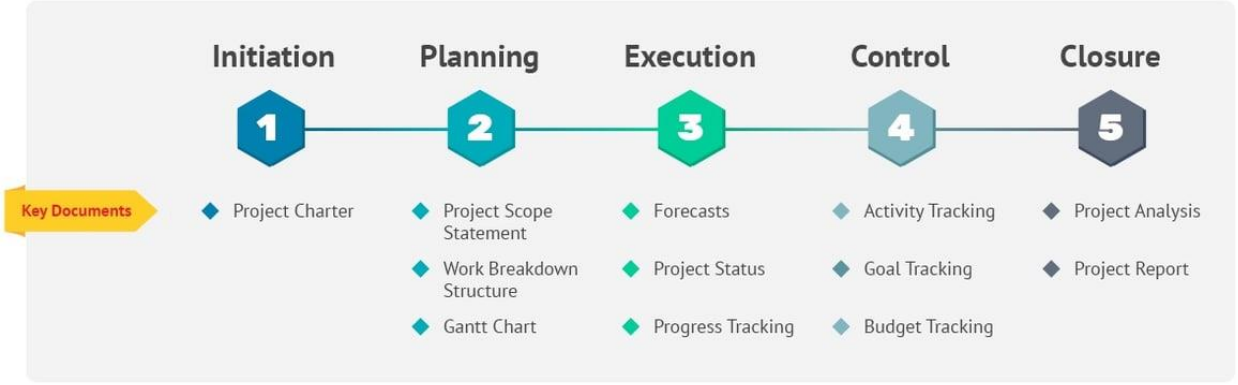

Figure1. Key steps in project management

Ensuring data security in the management of the IT sector is a constant task. Keeping the information of the order secret, their disclosure, creating an orderly document and learning to work based on all possible actions can be a challenge for companies in Uzbekistan that create an IT system. Secrets and disclosures to the client's planners can result in hefty fines. For this, it is necessary to enter a special standard procedure for checking IT services in Uzbekistan. This standard will include regulatory management, sequence control, cross-code or redirection from quality control, distribution of executables, and provision of specialized personnel to maintain data storage depending on the allocated project. (See figure 1)

To date, many sought-after scholars have written many articles and books on IT project management, processes and methods of successful delivery to the client. The methods mentioned in them are now used in almost all the design enterprises of the world. The most popular of these methods are Agile and Waterfall methodologies. These two methods are widely used in effective project management.

In addition to managing the project, the most important task is to keep the data safe. So, what do we know about data security? Who has researched data security in project management?

Data security is the practice of protecting digital information from unauthorized access, corruption, or theft throughout its entire lifecycle.

This concept encompasses the entire spectrum of information security. It includes the physical security of hardware and storage devices, along with administrative and access controls. It also covers the logical security of software applications and organizational policies and procedures.

- Some examples of data are the following:
- Personal identity records.
- Customer records.
- Intellectual properties.
- Research and development assets.
- Financial data.

The scientist who has done the biggest research on this topic is by Dr.Sc Stewart Room. In his book "Data Protection and Compliance", he gave recommendations on the proper management and protection of data.

In addition, an article entitled "Privacy and Data Security" by Alan S. Gutterman outlines standards and regulations that all project managers should follow.

Even so, the number of scientists who have conducted research on this in Uzbekistan is very small. Although they have done research on network security, I have noticed a lack of research material on security issues specifically in project management.

2. Research Methodology:

Interviews: These are open-ended interviews involving project managers, IT professionals,

regulatory experts and personnel from regulatory bodies. They are carried out in order to gain insight on specific challenges within the area of documentation practices, data security measures and compliance requirements linked to Uzbekistan's IT industry.
Case Studies: Real life cases will be examined to gain insights into how documentation practices have been implemented, data security measures taken or frameworks used for ensuring compliance with regulations among others in an assortment of sectors that exist in Uzbekistan through IT projects. Thus, it is important to consider both successful examples provided by the organizations operating in these areas that can serve as models for further research and their related shortcomings.

Quantitative Analysis Quantitative Insights are added to qualitative data by analyzing industry reports and surveys. For instance, they provide statistical information about the recent trends in security breaches, non-compliance cases, and documentation practices among IT projects in Uzbekistan to complement qualitative findings.
Data Collection and Analysis: The data collection involves purposive sampling of interview participants as well as relevant case studies selected based on their relevance to the research objectives. The interviews are recorded then transcribed while case studies are analyzed for key themes and trends associated with data security, compliance and documentation practices. Thematic analysis techniques were used to analyze qualitative data from interviews and case studies that highlighted specific problems and challenges which IT projects faced in Uzbekistan. Themes that were identified included: documentation gaps, weak points on security systems for internal control over information assets as well as compliance issues.

Descriptive statistics are used to analyze quantitative data from industry reports and surveys that can show the frequency and the severity of data security incidents, compliance violations, and documentation deficiencies within Uzbekistan's IT industry. In turn, these qualitative findings will be further supported by these research methods. To give nods concerning the issues in relation to practices of writing documents; as well as regarding commitment regarding information and technology confidentiality measures; within projects carried out by Uzbekistan Information Technology Industry, this research methodology has been employed to give its literature also for policymakers, organizations or project managers who want to address those problems.

3. Problems and Solutions:

As I mentioned in the abstract, my work aims to study the problems related to maintaining the security of information existing in IT project management in Uzbekistan and to show solutions to them.

My research has shown that the main weakness in project management is Inconsistency in Documentation. That is, in the process of data exchange between project creators and clients, a single standard document-keeping system has not been established. In this case, the Product Manager, who received the task from the client, faces some problems in delivering it to the Project Manager and other developers.

The solution is as follows:

Propose the implementation of standardized documentation templates, a widely recognized best practice, to ensure the coherence and uniformity of project documentation. (See figure 2)

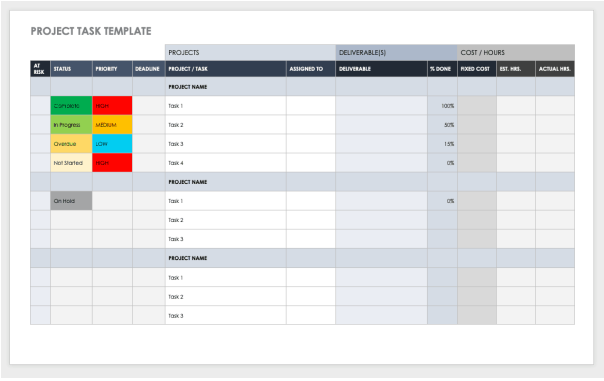

Figure 2. Standard task documentation template

Software and hardware we can use to do this.

Utilize established productivity suites such as Microsoft Office Suite (Microsoft Word, Excel,

PowerPoint) or Google Workspace (Google Docs, Sheets, Slides) to create and maintain standardized templates, ensuring adherence to industry norms.

During our research, we discovered another major problem affecting IT projects in Uzbekistan: a significant vulnerability to data breaches. This vulnerability is due to various factors like weak encryption protocols, lax access controls, and inherent flaws in the IT infrastructure. To tackle this issue, we highly recommend the use of secure document management systems. These systems come with strong encryption measures, strict access controls, and detailed audit trails to protect against breaches. In line with this suggestion, we suggest looking into reliable platforms like Microsoft SharePoint and Google Drive for a solution.(See figure 3)

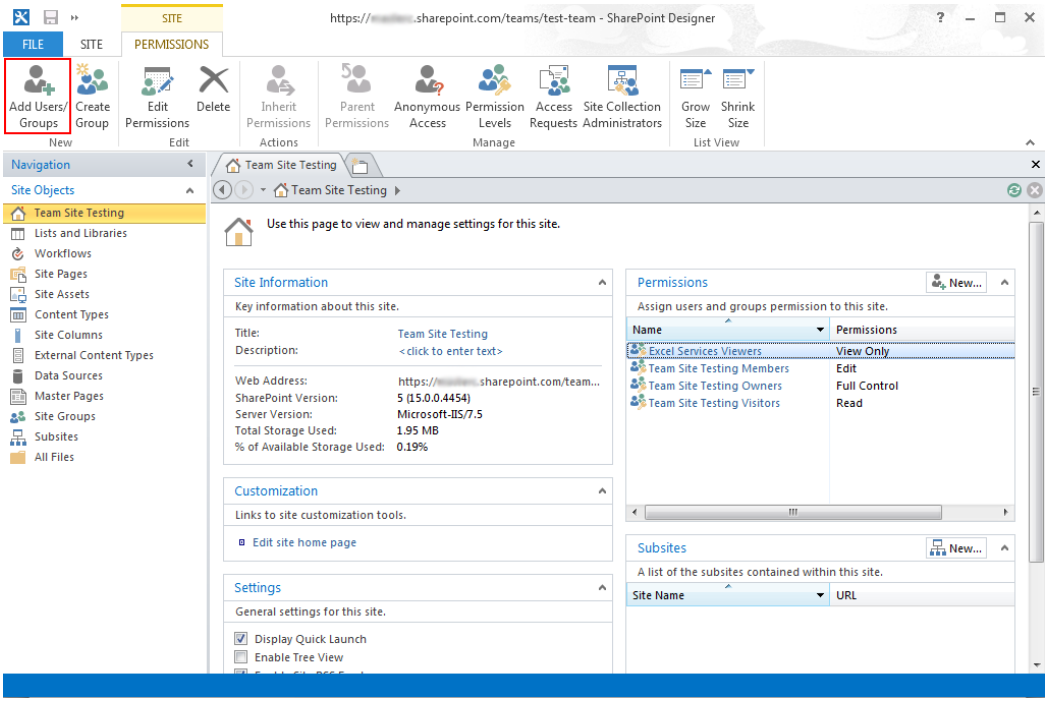

Figure 3. The dashboard of Microsoft Share Point

During my investigation of challenges in Uzbekistan's IT projects, I discovered a third significant issue: compliance violations. This underscores the critical need for a structured approach to following regulations, especially in the face of increased scrutiny and ever-changing laws. I strongly believe in the value of customized training programs to tackle this issue. These programs are designed to increase stakeholders' understanding of regulatory requirements and promote a culture of compliance awareness. I recommend using well-known training platforms like Udemy, Coursera, LinkedIn Learning, Pluralsight, Skillsoft, or Microsoft Learn for this effort. These platforms provide thorough educational materials on essential topics.

4. Case Studies.

I have recently successfully completed a project by working on the above-mentioned problems and analyzing their solutions. This project included such processes as the establishment of a new BPO enterprise in Uzbekistan, the establishment of a professional training center for training specialists on the basis of the enterprise.

At the beginning of the project, a business plan was drawn up, costs and a deadline for the completion of all work were determined. The work to be done was divided among the creative staff and the work was done as a team. A single standard documentation system was created and recorded in the Project Management system with strict adherence to this system.

We used the Jira Atlassian PM tool for this.

In addition, we used cloud computing to keep all data safe. We used the Microsoft Azure service for this, and all employees were given accounts in the Office 365 system. Data exchange and storage was also done in Microsoft Azure.

During the project, new employees were recruited to the team, and the content and full plan of the project were explained to them. Courses were provided for them on educational platforms to improve their knowledge and skills.

The statistics of productivity of team in the first month of project before imposing standard documentation (December 2023)

Table 1.

Productivity rate of team members before implementation of new standards

Positions	Number of daily tasks	Task response rate	Participation of weekly meeting	Deficiencies in documentation
Accountant	1	60%	Not needed	40%
QA	8	40%	Seldom	60%
HR	2	50%	Always	10%
BD manager	4	50%	Always	30%
Web developer	10	80%	Sometimes	25%
BA	5	70%	Seldom	30%
Marketing specialist	5	60%	Seldom	70%

The statistics of productivity of team in the after imposing standard documentation (January 2024-March 2024)

Table 2.

Productivity rate of team members after implementation of new standards

Positions	Number of daily tasks	Task response rate	Participation of weekly meeting	Deficiencies in documentation
Accountant	1	95%	Always	5%
QA	8	100%	Always	4%
HR	2	100%	Always	5%
BD manager	4	90%	Always	0%
Web developer	10	100%	Always	0%
BA	5	90%	Always	0%
Marketing specialist	5	95%	Always	5%

This is noticeable that we have increased the productivity rate after implementing some changes to documentation. The employees have started taking on all tasks with a better attitude and we have achieved good results. (See table 1 and table 2)

5. Discussion and conclusion

While conducting this research, I delved deeper into the field of IT project management. I studied all the methods in it and analyzed the advantages and disadvantages of each of them. The challenge for me was to create standard documentation templates for project participants. Because I observed that IT project developers, QA testers and other members did not use such standards in their previous work, and each of them wanted to do the documentation work in the project according to their own knowledge.

Also, implementing a password policy for data protection and using modern software applications also caused difficulties in the initial process.

Even so, our research was effectively completed. In conclusion, I would like to say that systematic documentation, ensuring data security, and the work that should be done to improve the knowledge of employees in this regard are the main reasons for the effective completion of projects. I would like to implement these case studies in other projects in the future. I publish these works in public magazines and conferences.

Bibliography

1. **A. O. Adeniji Seok-Won Lee** Assimilating and Optimizing Software Assurance in the SDLC: A Framework and Stepwise Approach [Journal] // Int. J. Secur. Softw. Eng. - 2010.
2. **Dittman. Jeffrey L. Brewer and Kevin C.** Methods of IT Project Management, Fourth Edition [Article]. - 2022.
3. https://www.projectmanager.com [Online] // 1. - projectmanager, 2024. - https://www.projectmanager.com/guides/it-project-management.
4. **M. T. Baldassarre Vita Santa Barletta, D Caivano, G Dimauro, A Piccinno** A Tool for Improving Privacy in Software Development A Tool for Improving Privacy in Software Development [Article]. - 2022.
5. **McNeice Kirsten** 1 [Online] // https://www.accelo.com. - 05 11, 2021. - https://www.accelo.com/resources/blog/what-are-the-biggest-challenges-of-it-project-management/.
6. **S. Sangi Mustafa Ilkan, Hakan Tokgöz** Incorporating Information Security into IT Project Management (A Proposed Framework) [Article]. - 2017.
7. The Permanent Mission of the Republic of Uzbekistan to the United Nations [Online] // 1. - 06 8, 2020. - https://www.un.int/uzbekistan/news/development-it-sector-uzbekistan-discussed.
8. **Wang Cheng** esearch on Enterprise Information Security of the ERP System [Book]. - 2013.