CSIT 416: INFORMATION TECHNOLOGY PROJECT MANAGEMENT

ASSIGNMENT 1

FBI's Virtual Case File (VCF) Project: Case Study

1. Summary or Synopsis [20 points]

In your own words, provide a short summary (3-4 short paragraphs) about the VCF project. Try to include at least the following points in your summary (*Do not simply respond to these questions. These are only guidelines for this section. Read the guidelines and remove the bullet points and provide your summary as three-four short paragraphs*):

The Virtual Case File project was launched to upgrade the FBI's information technology resources. As FBI had hundreds of standardized papers forms an obsolete information technology system with over thousands of computers that could not run modern software. The purpose of the software development was to web enable the existing investigative applications, improve capabilities to share information, and provide access to information. The VCF project was part of a large initiative called Trilogy.

Congress approved $379.8 million in September 2000 for three years for this project (Goldstein, 2005). The goal of the trilogy project was to upgrade the FBI's hardware and software, communication network, and investigative applications. The FBI awarded a contract to DynCorp and SAIC to develop the three trilogy goals. After the 9/11 attack the FBI's mission altered drastically. This caused the project to have many changes during the development phase like unclear requirements and technical difficulties that led to delays in the schedule and cost overruns.

The VCF was being created from scratch not utilizing any existing software. A project that should have taken three years, failed after four years with requirements not met. The VCF project failed due to scope creep and changing requirements, contributing to add features the scope was not adequately managed. The lack of scope control combined with technical challenges and mishandling lead to the project falling significantly behind schedule. Blueprints were not developed at the beginning of the project, and this led to the ultimate failure of the project.

2. Data Collection [15 points]

Although, the link provided to you supplies all the necessary details about the VCF project, try to perform your own background research about VCF project. In this section, provide the information (related to VCF project failure) that you were able to gather during your research. Limit this section to 2-3 short paragraphs. This information can include the following (if available):

Important Note: Please provide citations for all the material and websites that were used to collect the information (in order to complete the assignment). This template contains a *Reference* section towards the end of the document. Provide all your citations in this reference section.

The stakeholders associated with VCF project included FBI Agents, United States Congress, contractors, and the users. The FBI contracted with Science Applications International Corp (SAIC) in San Diego, California for software development and DynCorp in Reston, Virginia for hardware and secure networks. Later the FBI contracted with Aerospace Corp. to review whether the systems are accurate and complete. SAIC is an international company with various locations. During the trilogy project the FBI went through 5 different CIOs, 10 Project Managers and 36 contract changes (Knorr, 2005).

The challenges were changing requirements, communication issues, unclear project scope and contractor performance. The development team had to "feel their way in the dark" due to absence of documentation mapping the FBI's process and IT infrastructure (Marchewka, 2010). Limiting prototyping in the development process made it difficult to address functional requirements effectively. The design phase where they needed to combine various databases into VCF software was challenging. And the requirements continued, developers faced errors in their codes to add those changes. The rush in the development process resulted in numerous functional deficiencies identified during testing.

The project adding features and changes introduced to meet emerging needs, contributed to scope creep. Sufficient resources, including an experienced project manager and budget would have prevented constraints that contributed to delays and poor quality.

3. Post-mortem Analysis

In this section, you will perform a post-mortem analysis of the VCF project. Use the facts and data that you found during your own research and the facts/data given in the article that was supplied to you.

Your post-mortem analysis should have the following sub-sections:

3.1. Planning failures [10 points]:

In this subsection, write a 1-2 sentence answer for each of the following questions (when you answer these questions, adhere to facts and data about the VCF case study):

(a) Which of the following areas were inadequately planned for (or not planned for at all) at the start of the VCF project: scope (i.e., user needs), budget, risk, or stakeholder engagement? Cite examples from the case study to provide evidence for your choices.

[In the VCF project, lack of planning was seen in scope. For example, SAIC and project leaders sometimes disagreed on what the project should have, and decisions were left to others, making difficult to have stable plan (Goldstein, 2005).]

(b) Were the right resources (i.e., right personnel and right tools) identified when planning for the VCF project?

[No, they hired Special Agent Larry Depew as Project Manager, lacking prior experience was misalignment of personnel. Moreover, inconsistency within the teams shows challenges in finding right resources.]

(c) Was the initially-planned schedule realistic? Why or why not?
[The initially planned schedule was unrealistic. The FBI's requirement changes and technical challenges for development teams, indicates the complexities and uncertainties involvement in the development process led to original schedule unrealistic.]

(d) Was there inadequate planning related to how project documentation (e.g., requirements documents, design documents, etc.) would be written and maintained?
[Yes, there was inadequate planning related to project documentation from the beginning of VCF project. The article suggests challenges in requirements management, that had a cascading effect on what had already been designed and produced (Goldstein, 2005).]

3.2. Execution Failures [10 points]:

In this subsection, write a 1-2 sentence answer for each of the following questions (when you answer these questions, adhere to facts and data about the VCF case study):

(a) Was the project's team-structures and hierarchies clear and consistent?
[No, team structures and hierarchies were not clear. When SAIC divided development team in eight groups, working on different functional pieces of code, but later proved difficult to combine into one system (Goldstein, 2005).]

(b) The leadership of the VCF project changed multiple times. What effects (both negative and positive) did changes in leadership have on the project?
[The negative effect of changing leadership multiple times was lack of continuity, disrupted project momentum, and clear direction. When Azmi took leadership, few positive changes were seen like his involvement in day-to-day activities with teams, strict development schedule and control mechanism were put into place (Marchewka, 2010).]

(c) Was the workload on different project team members too high for some team members and too low for other team members (in other words, was the workload distribution uneven)?
[The team was divided into eight groups for fast completion of project, so I believe they tried to distribute workload evenly to reach their goal and different teams were working on different functionality and at the end the goal was to

combine and make one system. But it went in opposite direction errors occurred while combining the systems.]

(d) Can you enumerate some steps/actions taken by the leadership at FBI that impeded the day-to-day execution of the VCF project?
[FBI's changing project priorities contributing to scope creep, and contractor oversight impeded the day-to-day execution of VCF project. Without proper planning and rigid approach further impeded the project's ability to adapt to evolving requirements.]

3.3. Communication Failures [10 points]:

In this subsection, write a 1-2 sentence answer for each of the following questions (when you answer these questions, adhere to facts and data about the VCF case study):

(a) Where did the major communication breakdowns occur? Between the various contracted agencies? Or, between contracted agencies and the FBI leadership? Or, within the FBI leadership itself?
[The major communication breakdowns occur between contracted agencies and the FBI leadership. For example, when Higgins asked DynCorp to give detailed schedule which was not mapped out how it would deploy, integrate, test and Higgins blamed Mueller's staff for not communicating about deliver properly (Goldstein, 2005).]

(b) What were the main methods/tools of communication during the VCF project (e.g., daily stand up meetings, monthly meetings, etc.)? Were there particular problems with these methods/tools of communication?
[Special Agent Larry Depew's team held a Joint Application Development (JAD) session with SAIC engineers to discuss the requirements and how the VCF will look. They met over a six-month period and held two-week sessions.]

(c) Do you think when leadership made changes related to scope, budget, and schedule, they communicated these changes effectively to all stakeholders involved in the project? Provide some rationale to support your answer.
[I think yes as they were adding more features to their project, they had to change scope, budget, and schedule. Followed by requesting more funding, they decided to deliver the project earlier than the set schedule.]

3.4. Miscellaneous failures [5 points]:

In this subsection, write a 1-2 sentence answer for each of the following questions (when you answer these questions, adhere to facts and data about the VCF case study):

(a) Enumerate some issues that the VCF project inherited from the older system (Automated Case Support or ACS system) that was being used by FBI.
[Outdated technology, difficulties in combining data for investigation from multiple sources and sharing information to different FBI units.]

(b) Was the VCF project doomed from the start? Why or why not?
[Yes, it was doomed from the start the factors contributed to this were changing requirements, communication breakdowns, leadership turnover and challenges in contract management. If from the beginning right resources and person with prior experienced were hired, then this project would have succeeded.]

4. Classical Project Management Mistakes [25 points].

Enlist at least 4 to 5 Classical Project Management mistakes that were committed during the VCF project and *provide the rationale behind your selection of each classical mistake*. When writing this section, you should use the supplementary reading document titled, "**Lecture 1.7 - Classic PM Mistakes - Supplementary Reading**".

- **Failure to establish appropriate control over requirements and/or scope:** The VCF project had unclear requirements and scope. Adding web interface to the existing ACS system developed an entirely new system. FBI held Joint Application Development (JAD) sessions with SAIC, but the requirements were not controlled such as "page crumb", and project scope seemed to expand without proper evaluation. This lack of control led to scope creep and many change requests, which impacted project's timeline and budget.
- **Lack of communication:** Communication breakdown was the major factor for VCF fail. When Matthew Patton raised an issue regarding security and design no one took these issues seriously and realized SAIC did not want any opinions from him. Lack of communication between the FBI and SAIC, as well as within the internal teams. Lack of communication contributed to unclear requirements and development process.
- **Failure to engage stakeholders:** Stakeholder engagement was inadequate throughout the project. The FBI agents who were the end-users were not involved effectively in the early stages in defining the requirements for new VCF project. The departure of individuals such as Sherry Higgins and others signaled a lack of continuity and stakeholder involvement.
- **Poor quality implementation:** The VCF project delivered a system with numerous functional defaults. The development team, under pressure to meet the timeline of project used shortcuts in planning and development, insufficient testing and validation processes, resulting in a product that did not meet quality standards and unfit to use.

5. References [5 points]

In this section, provide the list of resources (research papers, links to webpages, book titles, etc.) that you used when completing this assignment.

Goldstein, H. (2005, September 1). *Who Killed the Virtual Case File?* IEEE Spectrum.

https://spectrum.ieee.org/who-killed-the-virtual-case-file

Knorr, E. (2005, March 21). *Anatomy of an IT disaster: How the FBI blew it*. InfoWorld.

https://www.infoworld.com/article/2672020/anatomy-of-an-it-disaster--how-the-fbi-blew-it.html

Marchewka, J. (2010). The FBI Virtual Case File: A Case Study. *Communications of the IIMA Communications of the IIMA*, *10*(2).

https://scholarworks.lib.csusb.edu/cgi/viewcontent.cgi?article=1132&context=ciima