

QSO-435 Final Project: Project Proposal

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General Dynamics is a company that leads in aviation, ship building, fighting vehicles, communications, and critical national infrastructure in the world. In this scenario, the United Kingdom office is tasked with working on a new project development that entails partnering with the government, army and civil forces, and international private businesses. Due to the governmental nature of contracting, General Dynamics is constricted on two accounts, or key constraints, which are time and costs.

The framework that General Dynamics and the government chose to use was the Dynamic Systems Development Method, or the DSDM. DSDM is a hybrid model that performs well with traditional project management methodology to assist with the associated constraints of the project, time and cost. Using this framework, General Dynamics followed the method of prioritizing known as the MosCow technique in identifying established requirements with the following categorization: must have requirements, should have requirements, could have requirements, and won’t have requirements (Cobb, 2015). This model allows for certain requirements to change between the should and/or could categories to increase efficiency for the sake of delivering a product with on-time cost and delivery.

Unfortunately, the traditional project management methodology is comparatively more restrictive than what General Dynamics used. TPM follows a rigid linear approach where each plan of the project must be completed so that the project can move to the next phase. All potential risks must be considered in the planning stage before further documentation and with TPM, changes can be unnecessarily cumbersome. Adaptive project management methodology on the other hand functions in a significantly different manner. The adaptive approach functions rather more like a rolling wave allowing the project to begin without exhausting too much time on the planning stage of the project. As the project progresses in the adaptive approach, the project is defined with more detail and accuracy.

In a traditional project, each team member holds a certain role in the process. The person in charge of the entire project from beginning to end is the project manager. The business analyst is the one who is responsible for producing the finished software project. The developer is the one who develops the code, fixes any bugs, and oversees implementing it into a working product. The final person involved is the product tester. The tester is tasked with the testing of the final product to ensure it is without any bugs and is completely and totally operational.

There are five processes that define the key principles used in the traditional project management methodology. These are: initiating, planning, executing, monitoring/controlling, and closing. The initiation stage defines the work necessary to complete the project, the planning stage defines the scope of the work and its objectives, the executing stage is where the tasks are worked on and completed as identified in the planning stage, the monitoring/controlling stage is where progress is tracked and monitored allowing the project manager to be aware of any delays of any sort, and the closing stage is where tasks are finalized and the completed work is reviewed to ensure nothing has been overlooked, it is also the stage where the final product is delivered to the customer. The triple constraints of project management are time, cost, and scope. These constraints are typically handled as trade-offs in traditional project management because if any one was to be switched, another area will still incur the negative impact. (TenSix Consulting, 2019). The project manager is tasked with finding the best combination of the triple constraint that can produce the highest quality of the final product that is most desirable by the customer. The triple constraint in project management is treated and handled as interconnected constraints throughout the lifetime of the project.

When dealing with a project with flexibility expectations in addition to budget, the project manager should highly consider using the agile method. The reason being is “agile project management focuses on delivering maximum value against business priorities in the time and budget allowed, especially when the drive to deliver is greater than the risk” (Association for Project Management, 2016). By grouping the project into sprints, or iterations, the overall progress of the project is then accelerated. Furthermore, the agile methodology concentrates on value and quality by allowing the customer to be involved in its review during iterations of the project as he or she provides feedback at the end of each iteration, or sprint. This allows the project team to make the necessary adjustments accordingly for the next iteration and deliver a product that meets, or even exceeds, the customer’s expectations and requirements.

Opposite of the agile method or approach is the waterfall approach. This traditional method should be considered by the project manager if a project has a definite beginning and end with a predetermined outcome. “Waterfall methodology is a linear project management, where stakeholder and customer requirements are gathered at the beginning of the project, and then a sequential project plan is created to accommodate those requirements” (Projectmanager, n.d.). This approach hopes and seeks to remove any risk associated to the schedule and budget by planning each step with as much detail as possible prior to the start of the project. The project is structured rigidly. This method is best used for highly complex projects that face delays or budget constraints.

The most suitable project management approach for General Dynamics is a hybrid methodology. With the unique constraints of time and cost, the waterfall approach is most appropriate. However, General Dynamics is faced with a rather under-defined final deliverable specifications making it better suited for an agile method of project management. This, then, led the project manager, or PM, to seek a different solution found in DSDM, or Dynamic Systems Development Method. This method focuses on the reduction of risk through incremental solutions which allows for greater fluidity for the project to move through. Furthermore, General Dynamics is also constrained by government regulations. DSDM uses concepts from the agile method by making way for the project team to work in tandem with the government contractors. This permitted the project team to demonstrate the CIdS solution to the end-user through the project lifecycle (Cobb, 2015).

The DSDM approach is the most suitable approach for the CIdS project because of its hybrid nature. This methodology ensures the project team flexibility by compensating for the gradual changes in the technical requirements without affecting the schedule and budget. However, this approach also requires customer involvement and feedback as it is integral to the project’s completion making the customer a necessary and vital member of the team. This ensures that each sprint, or iteration, meets the expectations and requirements. Thereby, the team will abide by the time and budget constraints while already ensuring the end-user’s approval throughout the project lifecycle. Thus, the DSDM proves to be the best method for General Dynamics to use for the project they are responsible for completing.

The project management framework seeks to provide direction and structure avoiding rigidity and being too detailed using a guideline style (Wood, 2013). The framework assists the project team get the project tasks done effectively and efficiently. There are many project management framework options and all having the same founding principles consisting of: initiation, planning, execution, controlling, deployment, and evaluation. For non-traditional project management approaches, there is a variety of frameworks that may be used. The most popular are scrum, lean, and Kanban. Scrum is the project management framework that is commonly and primarily used for software development projects because it helps the project team expedite the product while still increasing and maintaining high quality.

In Scrum, customers have direct involvement in the project and gives feedback and commentary throughout the project’s life cycle. Sprints, or iterations, allow for changes to take place as early as necessary, once discovered, instead of at the end of the project, like in the traditional method. Daily check-in meetings are scheduled and done for a team review to ensure everything that needs addressing is addressed and solutions are presented and implemented. However, like any other method, there are limitations in scrum. The scrum framework is not as efficient when a project is considerably large, in terms of scope, and team members have a habit of delaying tasks. Scrum relies heavily on short time frames to ensure the project is executed timely, without delay.

The lean approach is more commonly used for waste reduction and to increase integrity and learning (Alexander, 2017). The process in lean is streamlined in such a way where customers can expect the project completed and executed faster which can impact profit in a positive way. According to Alexander (2017), “there is no specific timeline” in lean. Once changes are identified, resolutions are implemented. The team meets as often as required by the project to address issues and fix them. The disadvantage in using the lean approach is there is little room for error. Any unresolved issue can set a project back behind schedule missing deadlines. This approach does not work well if the project is unstable and unpredictable but can be used effectively with another framework.

Lastly, the Kanban approach is a project management framework that focuses on tasks while improving processes in a project. Customers are also involved in Kanban and tasks are broken down into sections. Kanban takes a unique approach with time. It limits workload in tasks and to-do lists. It allows the project to welcome change and accommodate changes while documenting them. Kanban still has limits and does not eliminate variables. It provides visual evidence of when a project should start, slow down, or stop. It provides weak insight in the quality of the final project deliverable.

General Dynamics used a different framework than those just mentioned. They used Dynamic System Development Method, or DSDM. This method is a hybrid approach between DSDM and the traditional project management method of waterfall. It focuses on a fixed time, cost, and quality at the foundations phase while contingency is managed by delivering varying features. The CIds project priorities were written out three separate categories acknowledging that lower priorities could be abandoned to ensure deadlines are met and the project is within budget. With this approach, General Dynamics was able to provide substantial clarity on the business needs and intentionally discern its objectives. The combination of the waterfall approach as a hybrid in DSDM enabled the company to work within the cost and time constraints while still allowing planning and building to be executed using a wave method.

Because of the adaptability of the agile approach to project management, risks are continuously monitored at the end of each iteration, or sprint. There are four procedures in agile used to reduce these risks. They are identifying hazards, conducting assessments, contemplating responses, and assessing reviews. All of these are critical for risk management in the agile method. Having the hyper-awareness of these tools in the agile method can positively impact the management of the project, especially with the project General Dynamics is tasked with completing.

I intend to combine the agile method with the Kanban framework because of Kanban's visual approach to project management. By adopting this and combining it with the agile method, team members should be better equipped with making any changes as soon as possible especially within the time and cost constraints of the project. If the team and its members feel confident and prepared with how to approach the project, then the result of the project has a higher chance of being high quality. This is why I chose these methods to integrate. When a team is empowered, desirable results can be better secured and its effectiveness will be evident.

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