CS5914 Individual Assignment 1

Selecting a Project Management Approach

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**Introduction**

This paper provides an analysis of three hypothetical projects to be undertaken by the rapidly growing Bravo Company, while providing recommendations and justification for management styles best suited for each. Through comparing these justifications, it will be possible to gain insight into defining characteristics that promote either the agile, traditional, or hybrid project management style.

**Project 1: Headquarters Construction**

**Project management style:**

Hybrid - initially traditional yet becoming increasingly agile towards completion.

**Project summary:**

This project involves construction of a new company headquarters for Bravo Company, as the previous buildings capacity has been reached. A construction company has been contracted to complete the $40 million build within 1.5 years, with all the necessary building requirements being provided by Bravo Company. It assumed that these requirements are well defined and inclusive of architectural blueprints created after an initial planning phase between Bravo Company and the contracted builders. Furthermore, it is assumed that that once construction is complete, the project scope includes a separate furnishing phase.

**Justification of management style:**

As construction is largely an incremental project, it is exceptionally difficult to separate the process into smaller usable products, and the building will therefore not be a viable product until it is completed in its entirety. Since each step of implementation is dependent on the prior in a linear manner, such as the frame depending on the foundation, the traditional approach to project management is preferred. Furthermore, as modifications of certain decisions are impossible once decided upon, such as the number of floors and room locations, the iteration and refinement of ideas within agile management is not possible without great cost.

The traditional design approach is best implemented within larger teams like those in large-scale construction projects consisting of multiple builders and subcontractors. Implementing agile development practices in this situation would result in slowdowns due to coordination overhead between team members, potentially resulting in the project running over budget and over time. The traditional approach additionally ensures that the stringent safety requirements for a construction project can be adhered to by the large team.

While the initial construction phase should be conducted under a traditional project management scheme, the final furnishing phase could be segmented into multiple product deliverables and incorporate feedback from Bravo Company such that workspace is iterated upon. This would allow for early stopping of the furnishing should Bravo Company be satisfied, while allowing for modifications such as additional computer monitors or the arrangement of workstations.

**Project 2: Hurricane Emergency Management Control Center**

**Project management style:**

Agile

**Project summary:**

Bravo Company has been tasked with providing emergency management in the immediate aftermath of a hurricane resulting in the widespread destruction of Miami. This project involves setting up a web portal and intranet infrastructure to facilitate information exchange and of collaboration between key stakeholders as soon as possible. In addition to these immediate tasks, the project includes an extended planning phase after three months, whereby the project scope may be increased based on the initial performance. It is assumed that Bravo company has allocated a relatively small, T shaped team to complete this project, and that the project requirements are vaguely defined due to the need for a rapid response.

**Justification of management style:**

As this project is in response to a disaster, rapid implementation of a minimum viable product while maintaining the ability to dynamically respond to the emerging situation is the highest priority. The agile development practice lends itself to this by producing usable products per sprint and allowing reprioritization and alterations to the product backlog based on changing requirements. Traditional approaches to product management lack these characteristics, being all or nothing in terms of output, along with being ridged in terms of requirements. Furthermore, as the requirements are initially assumed to be vaguely defined, the agile practice allow for their evolution as the disaster situation develops. Agile practices will additionally ensure that the feedback from all stakeholders is incorporated into the design iterations via retroactive sprint meetings.

Once the initial implementation phase is complete, a modified agile approach may be more appropriate if the project increases in scope. Frameworks such as the Scaled Agile Framework (SAFe) would allow for an increased number of agile teams operating in coordination such that the project scope is facilitated, while maintaining the ability to rapidly produce and reprioritize products which is essential to disaster response.

**Project 3: Headquarters Construction**

**Project management style:**

Hybrid: Agile during development phase, shifting towards traditional during production.

**Project summary:**

Bravo company in conjunction with other partners have been tasked with developing and producing a self-driving car. The project is estimated to take between 2-3 years at a cost of $450 million. While the team has expertise within the area, it is assumed that the project begins in the development stage and that minimal prior work has been done.

**Justification of management style:**

As the project begins within the research and development stage, it is expected that ideas will need to be iterated and refined over time as their viability will be unclear. A predominantly agile base approach will be best suited because of this, as it allows the team to frequently review the current design and make necessary adjustments to complete the project within budget. The long project duration of 2-3 years can accommodate an agile management approach as there is sufficient time for multiple modifications to the design, yet the project may benefit from subdivision into smaller epics due to its complexity.

The projects complexity may result in the deadline or budget being exceeded. In this case, the agile framework allows for the shipping of a functional product, albeit missing a portion of the intended features. This is in contrasts to the traditional approach wherein the car would not be functional until all requirements were met.

Assuming that the project includes the production of the autonomous car, a more traditional approach would be better suited during this phase as the requirements are fixed in the form of assembly instructions. There is however room for small modifications to the production process, such as altering the workflow, difficult to install components, or expanding the design for future models, all of which would be best conducted under an agile framework due to its flexibility.

**Conclusion**

While most projects are best suited to some form of hybrid management approach, analysis of the three projects identified important common characteristics such as the level of confidence in the initial design and environmental stability. These factors had the largest impact in determining a project management style, with stable working environments and confident designs favoring a traditional approach and dynamic environments with unrefined ideas favoring an iterative agile approach. It was noted that all three projects could be further divided into distinct subphases, with different management approaches being preferable in each.