International Journal of Academic Multidisciplinary Research (IJAMR)
ISSN: 2643-9670
Vol. 8 Issue 12 December - 2024, Pages: 13-19

Exploring the Planning, Monitoring, and Validation System for Enhanced Project Success within the Organizational Framework of the DENR – Mines and Geosciences Bureau Region IX, Philippines

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Abstract: *This study explores the successful implementation of Agile Project Management (APM) within the Mines and Geosciences Bureau (MGB) Region IX, a government agency in the Philippines, challenging prevailing skepticism about the applicability of agile methodologies in the public sector. Despite cultural norms and the rigid hierarchy typical of government organizations, MGB Region IX overcame significant barriers to adopt APM, fostering a flexible and iterative approach to project planning, monitoring, and verification. The study highlights the agency's exceptional performance since 2020, where it has consistently ranked among the top-performing regional offices, demonstrating the effectiveness of APM in enhancing efficiency, productivity, and results. The research underscores key factors contributing to the success of APM in MGB Region IX, including strategic leadership, careful planning, and the cultivation of a collaborative, innovation-driven organizational culture. These elements enabled the agency to navigate the challenges associated with introducing a non-traditional project management methodology into a traditionally structured public sector environment. The findings suggest that APM can be effectively integrated into government agencies with the right conditions, offering valuable insights for other public sector organizations considering similar transitions.*

Keywords—Organizational Framework; Agile Project Management; Planning; Monitoring

1. INTRODUCTION

The rapid technological advancements and ever-evolving socio-economic landscapes demands for a paradigm shift in the traditional methodologies of project management within and across government agencies (ElZarrad et al., 2022). This is bolstered by the shocks brought by the COVID-19 pandemic – which amplified the importance of working effectively in teams and being responsive to unprecedented situations that call for immediate changes in programs and delivery of services. To effectively respond to these situations, governments need to adapt to changes in their internal and external environments and create new systems that will allow them to scan trends, identify developments, predict their potential impact on the organization, and quickly learn how to implement changes to their standard operating procedures, and develop and implement responses (Tsalis et al., 2020)·

One such approach is the implementation of Agile Project Management ("APM"), a methodology originally rooted in the realm of software development but increasingly finding its way into diverse sectors, including government agencies (Bergmann & Karwowski, 2019). However, implementing agile methodologies within government can be challenging. Among the few notable reasons are the following: government agencies are resistant to change; Agile is radically different than more traditional project management methods. Hence, it takes work to help people in the government sector to understand how Agile can benefit their agencies (Simonofski et al., 2019).

The Mines and Geosciences Bureau Regional Office of Region IX, entrusted with the responsible development and sustainable management of the region's mineral resources, is not exempt from the pressures of evolving technologies, shifting priorities, and the need for timely and effective project delivery. Recognizing the limitations of conventional project management approaches in meeting these challenges head-on, the agency has embraced APM as a means of enhancing its project planning, monitoring, and validation processes. This approach is underpinned by the Evolutionary Model - System Development Life Cycle (SDLC), a strategic fusion of incremental and iterative methods

aimed at visualizing software components in a dynamic and responsive manner.

This study examines the adaptation and implementation of APM within the organizational setup of the Mines and Geosciences Bureau Regional Office of Region IX – investigating its impact on organizational dynamics, the challenges it addresses, and how the employees in the said organization views and understands the same.

At the heart of this study lies the exploration of the tangible effects of APM on the organizational setup of the Mines and Geosciences Bureau Regional Office of Region IX. The study endeavors to uncover how the adoption of Agile principles has influenced the agency's efficiency, collaboration, and overall project outcomes. By delving into the specifics of the agency's Agile implementation, including its planning, monitoring, and validation systems, the study aims to provide a comprehensive understanding of how the Evolutionary Model-SDLC has transformed traditional project management practices. Furthermore, the research seeks to elucidate the problems and challenges that precipitated the adoption of APM within the agency, shedding light on the contextual factors that prompted this transformation.

One of the overarching objectives of this study is to highlight the importance of openness to change in government agencies and organizations at large. The world is in a constant state of flux, propelled by technological innovations, geopolitical shifts, and changing societal norms. Embracing change, rather than resisting it, has become essential for survival and growth. In the context of government agencies, where bureaucracy and rigid structures have traditionally been the norm, the integration of APM reflects a forward-thinking approach. It acknowledges that the challenges of the twenty-first century necessitate more adaptive methodologies capable of navigating uncertainty and rapid change.

Being open to change in the pursuit of APM acknowledges that rigid plans and linear processes are no longer sufficient to address the multifaceted challenges of modern governance. Instead, embracing Agile principles emphasizes iterative progress, continuous stakeholder engagement, and dynamic adjustment based on real-time feedback. By studying the Mines and Geosciences Bureau Regional Office of Region IX's journey toward APM, this research underscores the role of innovation in optimizing resource allocation, enhancing project outcomes, and fostering a culture of collaboration and responsiveness.

2. METHOD

A survey was conducted to gather insights into the familiarity, perception, and utilization of Agile Project Management ("APM") methodologies, employing a Dichotomous Questionnaire. Said questionnaire was distributed among a sample of 30 participants, all of whom belonged to MGB Region IX. The following sections will delve into the survey results, highlighting key trends and observations drawn from the responses of the participants.

3. RESULTS AND DISCUSSION

3.1 Familiarity with the Concepts of Agile Project Management

First, in assessing the familiarity of the participants with the concepts of APM, results interestingly revealed an evenly split response, i.e., with 50% of the participants indicating that they are familiar with Agile Project Management concepts, and the remaining 50% stating that they are not.

The familiarity of half of the participants to the concepts of APM suggest that there may have been, at least, some level of exposure—whether by training, lecture, or otherwise—on APM concepts within the agency. This could be attributed to previous initiatives by the agency not only to foster growth of its personnel, but also to better the general operations of its office. This indicates a level of positive acceptance of APM as a management tool even in the public sector.

At the same time, it also cannot be discounted that this exposure to APM may have also been acquired before or outside of the agency, e.g. during previous employments, under- or post-graduate studies, or even personal initiatives to participate in seminars, lectures, or even watch online materials on the subject, among others. This possibility all the more reveals a widespread acceptance of APM as a management principle.

It may also be worth noting that the participants who responded to be familiar with APM concepts usually occupied top management positions—such the office head or unit chiefs, or if not, then at least administrative positions— such as administrative offices, office support staffs; with only a few occupying technical positions—such as geologists and engineers. This may signify a deliberate effort by the agency to introduce APM at higher levels of decision- making and project

oversight, especially as it is the managers and administrators who are vested the duty of setting project priorities and targets, as well as ensuring project success, making their familiarity with APM more crucial.

Meanwhile, this concentration of familiarity in managerial and administrative roles may also suggest that the subject agency implements a top- down decision-making setup, which then places the burden of proper dissemination of learned APM concepts onto those few possessing those roles. Resultantly, any failure on managerial and administrative officers to effectively communicate said principles throughout all levels of the organization may pose a risk of APM principles, its concepts, techniques, and methodologies, being misinterpreted or underutilized. For APM to be truly effective, then, a culture of open communication, collaboration, and shared understanding is essential across all staff levels.

Insofar as the limited representation of technical staff who are familiar with APM is concerned, this might reflect a potential gap in the integration of APM principles at the operational level. Technical staff, such as geologists and engineers, are the ones directly involved in project execution and development, and who, therefore, may arguably be benefited more by their knowledge of APM. This lack of familiarity among technical staff pose a challenge on the agency to broaden the scope of APM orientation and training across all roles, and not just managerial ones. Indeed, while having managerial and administrative staff familiar with APM is crucial for its adoption, it is equally important that the technical staff who actually execute and make operational the projects also understand, apply, and embrace APM, as this may pave the way for enhanced project efficiency, greater adaptability to changing requirements, and higher likelihood of overall project success. Bridging this gap between managerial and administrative personnel on one hand, and technical staff on the other hand, may be the key to a more successful APM implementation within the organization.

On the other hand, responses also revealed that 50% of the participants are not familiar with APM. This highlights a potential gap in knowledge and understanding, or worse, opportunities for education or even mere awareness of APM. If the latter, this presents a challenge on increasing awareness on APM concepts within the organization; and if the former, then a challenge on re- evaluating the effectiveness of current information drives or seminars within the agency and/or the exploring possible barriers which may have prevents the knowledge and understanding sought.

3.2 Awareness of Specific Planning Techniques in Agile Project Management (APM) with the Rate Familiarity with APM

Now inquiring on the participants' awareness of the planning techniques used in APM, the results now show an interesting disparity between familiarity with APM concepts and awareness of the specific planning techniques used therein. At the outset, this disparity already signals obvious potential gaps in knowledge and understanding—at a deeper and more impactful level, which gaps could affect the effectiveness of implementing APM practices within the organization.

First, it is important to highlight the difference between mere Familiarity versus Awareness. That 15 out of the 30 participants are familiar with APM concepts suggests that a significant portion of the sample size has a general understanding of the principles and ideas underlying APM. However, the number drops to a mere 9 out of 30 when it comes to awareness of the planning techniques associated with APM. This discrepancy is indicative that while significant portions of the participants might have a basic grasp of the concepts, not all who become familiar with them actually become fully informed about the specific methodologies and techniques that consist APM—stunting the effective implementation thereof.

This discrepancy poses a challenge on ensuring that education and training conducted about APM be more focused and detailed; not only introducing APM principles to the personnel, but also delving into its planning techniques and even practical application. Truly, exposure to hands-on APM projects may address this disparity, which may then in turn allow the organization to maximize the benefits therefrom.

Tying back on the above-discussed concentration of participants familiar with APM concepts within managerial and administrative roles, the lack of awareness on APM planning techniques even among those supposedly already familiar with APM concepts heightens the challenges in ensuring proper dissemination of APM principles (and its specifics) across all roles in the organization—even to technical staff, for how may such dissemination and integration be effectively carried out when those burdened with the same are themselves under-informed.

3.3 A General Consensus on Agile Project Management's Ability to Enhance Project Success and Potential to Lead to Faster Project Delivery

While the disparity between familiarity of the concepts of APM on one hand, and the awareness of its specific planning techniques on the other, may be cause for concern, the results on the participants' perception and belief on the ability of APM to nevertheless enhance the projects' success as well as lead to faster delivery of the projects reveal a more positive note.

Intriguingly, in contrast to participants' familiarity with APM concepts and awareness of its planning techniques, a significant majority of 25 out of 30 nevertheless believe that APM can enhance project success, and an even higher number of 27 out of 30 believe that APM can lead to faster project delivery. This highlights a positive attitude among participants and their recognition of the potential benefits derivable from implementing APM, even among those who might not possess such understanding of APM's intricacies sufficient to rise to the level of awareness or even familiarity.

Indeed, some participants may have just heard about APM and/or its advantages even if they have not, in fact, had extensive exposure to the specific methodologies consisting it. This shows that an appreciation for APM's principles and outcomes already exist, regardless of participants' full understanding thereof—a gap between Familiarity/Awareness and Attitude/Perspective which the organization can exploit to better leverage on the benefits of APM. Verily, this gap presents a good opportunity for cultivating deeper and wider knowledge and education on APM within the organization. This opportunity springs from the observable tendency among the participants to accept and positively regard APM principles as conducive to improving project outcomes.

Worthy to also further note that of the 15 participants who are familiar with APM concepts, almost all (i.e. 13) attest on APM's potential to lead to faster project delivery. This indicates a high probability that any general belief and recognition on APM's benefits (held by those not even familiar of its concepts) would only be solidified once such general belief and recognition is properly cultivated into actual knowledge and education about APM. This forecast becomes even more promising as All, or 15 out of 15, attest to a general belief on APM's ability to enhance a project's success.

3.4 Challenges and Customer Satisfaction in the Use of Agile Project Management Methodologies and Practices

Turning now to participants' experience in using and implementing APM methodologies, the results provide valuable insights into the rate of actual usage and application of learned principles, the encountered challenges in their application, and the observed improvements in customer satisfaction as a result therefrom.

As above-mentioned, while 15 out of 30 are familiar with APM concepts, only 9 out of 30 are actually aware of the specific planning techniques thereunder. Interestingly, these same 9 participants are the very same personnel who have actually used APM methodologies in their project management practices, who have observed improved customer satisfaction through APM practices, and who have encountered challenges in implementing them.

As to the first consistency—knowledge of specific techniques vis-à-vis usage of APM methodologies, this is interpretable in two (2) ways. First, it suggests that recognizing (and therefore claiming awareness over) these planning techniques intimately ties with one's actual experience in using them, leaving one oblivious about himself/herself being actually aware thereof sans actual use. This first interpretation in turn leads to the possibility that more participants— beyond the consistent 9—may actually be also aware of such specific techniques without them realizing it. Second, this consistency also suggests that, in reverse, once one knows of such specific planning techniques, one becomes more likely to (if not will certainly) adopt them. Either way, whether the first or second, both interpretations are desirable.

As to the second consistency—knowledge and usage vis-à-vis observed improved customer satisfaction, it is worthy to note that not only the said consistent 9 participants have observed such improvement, 9 more others (or a total of 18 out of 30) have reported the same observation. This in turn translates to two positive indications: For one, it strongly suggests that the adoption of APM methodologies will indeed result to improved customer satisfaction; And that for another, such improved customer satisfaction is tangible enough to allow even those who have not themselves adopted APM (or were simply not aware of themselves using it) to testify on such improvement. These indications indeed align with the core tenets of APM, which emphasize customer collaboration, frequent deliverables, and adaptability.

As to the third consistency—encountering challenges in their implementation, the consistency also suggests that while APM is generally perceived to enhance project success, lead to faster project delivery, and even improve customer satisfaction, APM is not without difficulties. Any organization aiming maximize APM in their organization should seek to study these challenges (e.g., whether they be related to cultural shifts, lack of resources, or unfamiliarity) in order to improve the effectiveness of APM practices.

3.5. **Use of and Perception on Continuous Monitoring, Feedback Mechanisms, and Validation Systems**

Delving deeper into the specific practices constituting APM, it is shown that consistently: (i) 19 out of the 30 participants have implemented continuous monitoring and feedback mechanisms in their projects; and that just the same

(ii) 19 out of 30 participants have also used validation systems to assess project progress and adapt accordingly. Continuous monitoring, feedback mechanisms, and validation systems being APM practices, it is therefore interesting to note that while 19 have reported to have used these practices, only 9 claimed to have used APM in their projects and only 15 claimed to be familiar with APM at all.

This suggests that an integration of APM practices into the organization may have had already been effected, and their use already resorted, even without the personnel realizing that said practices already constitute APM.

Furthermore, regardless of familiarity of APM, its specific techniques and methodologies, and even of one's awareness in adopting it, it is shown that All participants, or 30 out of 30, perceive continuous monitoring and feedback mechanisms as practices that improve project outcome, and that 30 out of 30 also perceive validation systems as contributive to better project outcomes. This unanimity underscores the understanding that APM principles benefit projects, and the organization as whole, immensely.

3.6. Familiarity and Use of Scrum Practices

Out of the 15 participants who claimed familiarity with APM concepts, and only 9 participants claiming awareness of specific APM techniques, an even smaller number of only 5 participants are familiar with the Scrum framework; though these same number have themselves reported to have also applied Scrum practices in the projects.

Much like the consistencies discussed in *Subsection E* above, that the same participants who know of Scrum practices also apply them suggest that:

(i) recognizing (and therefore claiming awareness over) Scrum practices is intimately tied with one's actual experience in using them, leaving one oblivious about himself/herself being actually aware thereof sans actual use; and/or (ii) in reverse, once one knows of such practices, one becomes more likely to (if not will certainly) adopt them. Both, or even just either one of these interpretations, bear positive impacts on the organization benefiting from APM.

Nevertheless, regardless of the small number of participants claiming to know about and apply Scrum practices, it should be recalled that other results (as discussed above) tend to reveal an already prevalent adoption of APM practices regardless of the implementers actually recognizing the same as such APM practices. It is not improbable to assume that the same tendency may also apply to the awareness and application of the Scrum framework.

3.7 Perception on the Suitability of Agile Project Management for All Types of Projects and Its Required Mindset in Comparison from Traditional Project Management Approaches

The participants have also expressed their opinion on whether or not APM is suitable for all types of projects, and on whether or not APM requires a different mindset compared to traditional project management approaches.

Out of the 30 participants, 17 believe that APM is suitable for all types of projects. Behind these numbers, it is worthy to note that only some (but not all) of the 15 participants who claimed familiarity on APM believed it to be applicable to all types of projects, while some other participants believing on APM's suitability across all project types do not claim familiarity on APM at all.

It may be suggested that those who believe in the universality of APM likely appreciate its adaptability and iterative nature; while those who do not, are in turn more cautious in applying APM haphazardly. Notably, it can be observed that more members of top management are found to belong to the former subset; while interestingly, more senior

administrators and even the planning officer belong to the latter subset.

Finally, out of the 30 participants, 20 believe that APM requires a different mindset compared to traditional project management approaches. This shows that regardless of knowledge or even familiarity of APM concepts, there is a majority opinion that a shift from traditional project management to APM will necessarily entail a transition of not only the techniques, but also of the very approach and attitude, or simply mindset, towards project management. This may be aided by the effective dissemination of information on APM and/or the conduct of trainings thereon, which programs will give opportunities to correct misconceptions, thresh out potential concerns, or address possible future resistance to such shift.

Indeed, for APM to be successfully integrated into an organization, it must be holistically embraced by those implementing it; and this is only possible by adopting the correct mindset that caters to the maximization of APM as a principle.

Insofar as MGB Region IX is concerned, the value of a correct mindset was attested to have played an indispensable role in the successful adoption of APM within the organization. In the post-survey interview with MGB Region IX personnel who had direct interaction with the introduced APM system, the interviewees reported positive outcomes that, as some admitted, were even beyond their expectations.

For one, as the interviewees shared, introducing the system yielded an overall result of 87% in terms of meeting the parameters based on the design and interface of the system. This indicated that the introduced system of planning, monitoring, and verification proved to be a responsive tool in solving the problems brought about by the traditional approach previously adopted. The same likewise showed tangible manifestations of success, not just within the standards of MGB Region IX, but across other regional offices within the country. Since the full implementation of Planning, Monitoring and Validation System in 2020, a breakthrough in performance was achieved—MGB Region IX was hailed as the top performing regional office in 2020 as validated by MGB-Central Office; and the succeeding years showed significant improvement of the performance of the MGB Region IX. Moreover, in terms of the summary of all regional offices First Semester OPCR, the performance level evaluation indicates that the MGB- IX Regional Office has the highest ranking for the current year, where the system was continually improved and implemented.

This reported success in adopting APM is consistent with the above- discussed findings and analyses on the survey results, where the responses tended to show the actual use of and appreciation for APM principles within the organization, even if some of the participants were not even themselves aware of their adoption of such practices.

The case of MGB Region IX stands as a testament to the transformative power of APM in a government agency. The journey from the initial adoption of the Planning, Monitoring, and Validation System in 2020 to becoming a consistently top-performing regional office showcases the profound impact that embracing agility can have. The agency's ability to adapt, respond, and continually refine its processes has enabled it to navigate complex challenges and deliver exceptional results. The success of MGB-IX provides valuable insights for other government agencies seeking to modernize their project management practices, and underscores the importance of APM principles in driving sustainable performance improvement. As MGB-IX continues to build upon its Agile foundation, it serves as a compelling example of how a forward- looking approach to project management can yield significant benefits, both in terms of operational efficiency and overall effectiveness.

4 CONLUSION

In conclusion, the implementation of Agile Project Management ("APM") within a Philippine government agency, specifically the MGB Region IX, has defied the prevailing skepticism surrounding its viability in the public sector. Despite the challenges posed by cultural norms and the rigid hierarchy inherent to government organizations, this study has showcased a remarkable success story that challenges the status quo. The hesitations about introducing a flexible and iterative project management approach in an environment accustomed to stringent rules and protocols were surpassed by the enthusiastic reception and adoption from the agency's personnel.

The success of MGB Region IX's implementation of APM system, encompassing planning, monitoring, and verification processes, is reflected in the tangible outcomes achieved by MGB Region IX. The region's consistent top- ranking performance among all Regional Offices in the Philippines since 2020 signifies the effectiveness of the agile approach in enhancing efficiency, productivity, and ultimately, results. This achievement serves as a testament to the adaptability

of agile principles even within the traditionally rigid public sector landscape.

The study's findings carry important implications for both public sector organizations and the broader APM community. It demonstrates that with careful planning, strategic leadership, and a focus on fostering a culture of collaboration and innovation, the barriers to implementing agile methodologies can be overcome. Moreover, the success of MGB Region IX serves as an inspiring case study for other government agencies seeking to enhance their project management practices.

However, as inspiring this case study may be, it may still be prudent to refrain from over-generalizing the potential success of integrating APM into any and all organizations comprising the public sector. This is especially true considering the size and nature of the organization involved, the work environment within the organization, and the gravity of the problems sought to be solved by the introduction of APM.

Nonetheless, as the MGB Region IX continues to build upon its success, this study's lessons serve as a testament to the transformative power of APM principles in reshaping how the government pursues its objectives. By demonstrating that adaptation and innovation are not only feasible but also advantageous, this endeavor offers a compelling case for broader adoption of agile practices throughout the public sector.

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