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Project client: Arizona Public Service

Reflecting on Your Implementation of Project Management Tools
My project went according to plan. Since it was a solo project, I had total control over my project. I stuck very closely to my project charter. The only thing that changed after I turned in the project charter was that I added another literature review to my project. I was not terribly surprised that I needed to add this - I just wish that someone on the committee would have suggested that I do the extra literature review earlier. I also stayed on track by not having any financial requirements for my project.

While I fully support creating a timeline, I do not think a GANTT chart was extremely helpful. I think a regular timeline would suffice for this type of project. My timeline changed slightly, but these changes did not impact my ability to complete the project on time. I think that a GANNT chart may be useful for a true project management position, but the projects we have done for this class do not necessarily require the level of detail of a GANNT chart.

I was lucky in that my major stakeholder, APS, was more than willing to help me with my project. Emails and in person meetings were how I engaged my stakeholders. Meeting with APS employees, along with experts in energy storage, allowed me to get more information than I would have had I just looked at academic articles. The only thing I would do differently next time is reach out to people earlier and try to meet more than once when possible. Trying to find meeting times that work for both them and me proved to be difficult sometimes.

Reflecting on You as a Project Manager
I do not know if I gained many skills during the project, but I know I improved some of my own skills. I think this is more of a reflection on the fact that this is a small, semester long project with no team members. I am sure that I would have gained skills in project management had the scope and timeline of the project been different. In terms of improving my own skills, I got over my fear of reaching out to people, both professors as well as professionals, to discuss my project. Without their help and expertise, this project could not have been completed. Also, I confirmed that if I make a schedule, I can follow it. Following my schedule has made this project less stressful. There is limited time to complete this project, so sticking to the timeline was imperative. While I stuck to my own timeline, I did not realize
how little time we really had for this project. If I could do it all again, I would have liked to start at the end of last semester, and then continue working over break on this project. I think this says something about looking at timelines for future projects.

The hardest part about the project was setting up meetings with both faculty as well as APS employees. Most people wanted to meet with me, but their schedules made meetings difficult. However, I was surprised that once the meetings were set, everyone was eager to meet with me to discuss my project. The easiest part of my project was getting the information I needed for both the background information as well as the storage technologies. The information is easily accessible, and due to the increase in renewables there is a lot out there on storage.

In completing this project, there were some surprises. The most notable surprise is that I did not think I would recommend a technology that emits some carbon emissions. However, sustainability looks at every aspect of a decision, and for this project, the technology that emits carbon was the best choice.

Overall, I am happy with the outcome of my project, and I am glad there were no major obstacles to completing it. I am well-organized, on top of my timeline, and prepared to talk about my project with anyone. I think these skills helped me produce a quality product. I also think that my knowledge in the general topic helped me in that I knew some of the background information before I started this project.

Reflecting on Your Learning About Sustainability Projects

I think a major weakness is anticipatory thinking, and my project touches on this. If solar is only going to increase in prominence in Arizona, and specifically APS territory, then the duck curve problem as well as the storage of energy needs to be addressed. Waiting to find a solution to these issues will only compound the problem. In my discussions with those at APS, I find that anticipatory thinking is lacking on their part. I hope that this project can show them that thinking in the long-term, especially when it comes to renewables and storage, will benefit everyone.

I do not believe that there is one class that really prepared me for this project best. Many of my energy classes as well as some of the first classes I took when I started this program helped shape my thoughts and understanding of sustainability. In the very beginning of my studies at ASU, I learned about the three pillars of sustainability. I used the idea of the three pillars to create a sustainability matrix to determine which storage option is most sustainable for APS. These three pillars help break down sustainability into concepts everyone can understand and helps demonstrate the complex nature of a problem. Also, thinking holistically is one of the most important skills I learned during my time at ASU.

This project helped further my career goals. I have worked in renewable energy for the last five years, and I hope to stay in this field. Many think that storage is the next big thing in renewable energy, so increasing my knowledge in this area will only help my future career goals.

Reflecting on Your Project’s Accomplishments for Your Client and Stakeholders
APS is exploring storage options for their grid to help with the intermittent nature of renewables. This project provides a sustainability assessment of three storage options. So far, APS has been pleased with my work.

APS does not have a reputation as the most sustainable or progressive utility in the U.S. However, their vision specifically mentions sustainability. Putting together a report examining energy storage options in terms of sustainability will help APS achieve this vision. Also, my project includes a variety of aspects of sustainability, not just the environmental aspect. This is beneficial to APS as many people there think that sustainability is only about caring for the environment.

Final Prompts
At the most basic level, my studies at ASU helped solidify my understanding of sustainability. Before starting the program, it was difficult for me to explain sustainability to most people. The most important lesson I learned during my time at ASU is that sustainability may be complicated but that does not mean that we should not pursue careers in the field. The challenge of sustainability makes the prospect of a career in this field enticing for me as there is always another problem and related solution.

While I enjoyed my time at ASU, I think there are serious improvements that can be made to the MSUS program. The way it is done now makes me hesitant to recommend it to other students. It has great potential, but there are changes that should be made for this program to truly be a great graduate program. For one, the lack of an advisor really became a problem for me while I was completing my project. I understand that this is a strange master’s program, so finding a way for a student to have an advisor would be difficult. However, I think this should be addressed. I also am unsure about the required classes and class types we must take. Many students want to specialize in some aspect of sustainability, but the required classes make it difficult to take more than a couple of classes that fit within these specific interests. I really did enjoy the classes I was able to take, and I definitely learned a lot in each one of the classes.

As I stated before, storage is the new area of focus in the renewable energy industry. I am looking forward to putting my project on my resume. I would describe my project in the following way: I explored three energy storage options and evaluated a variety of sustainability indicators to determine which one was the most sustainable option for a particular utility company.