Module 5: Critical Thinking

Making A Choice

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As a project manager for Top-Flight Management, Inc. I have been given three separate portfolios for potential projects. The portfolios include building a MAN Network for the City, setting up computers and networks for the County School District, and building a housing network that includes 12 houses, and a multifamily unit complex. In this paper, the 3 portfolios will be discussed in more detail, which portfolios would take the least and most amount of time to pay off the initial investment, and which is the best option to move forward with.

The project where we build a MAN network for the city requires $10 million of capital, and after the second year, it has been estimated that we will receive $500,000 a month after the second year. Based on the estimates, it would take 38 months to pay back the initial investment of $10 million. According to Volyntseva (2021), MAN Networks are prone to cyber-attacks, and are not easy to set up, so there would need to be high-security staff to prevent data leakage, and network troubleshooters to help with setup, so there would be plenty of staff to keep on the payroll. For this endeavor, there is no contract involved, and Top-Flight Management Inc. would not be partnering with another company to help balance out the risk. Without the partnership, Top-Flight Management Inc. may consider cutting costs by using cable that is cheaper than Fiber-Optic, which would decrease network speed, or not hire as much Cyber-Security staff, leaving us with a more vulnerable network, which would turn away customers from using the installed MAN network.

Setting up computers for the County school district requires an investment of $1 million, with a service contract that would bring in $50,000 a month after the first year. It would take 32 months to pay back the initial investment of $1 million based off the estimates. With this endeavor, the city passed legislation that would allow Top-Flight Management Inc. to recover the costs of assembly with standard rates, and a service contract. Knowing that we have guaranteed income due to the service contract, we would be able to budget for support staff and hardware repairs. Also, the Storage Network Industry Association (SNIA, 2022) claims that a dedicated IT Professional is generally not required for NAS because they are simple to operate, it is easy to keep secure and having all the data centralized is a safe and reliable way to store the data.

Building a housing network requires an investment of $10 million up front for 12 single-family residences that will be priced at $450,000 each, and a multifamily unit complex that will bring in an income of $70,000 after the second year. Since Top-Flight Management does not have $10 million in liquidity, a partner would need to be brought in, or a loan would need to be made with an interest rate of 10% per annum. This endeavor would take the longest to pay back the initial investment, especially with the 10% interest rate. Building the housing network is the riskiest endeavor. With the fluctuations of the price of materials and supply chain issues, the cost to develop these houses could be more than what it is estimated to build, and the houses could take longer than expected If the houses are waiting for new parts to arrive. The housing market also needs to be considered. If the housing market crashes, then it could be harder to sell the houses at the $450,000 listed price.

If we were going to pursue the Housing Network option, we would go with a partner, rather than taking a loan with a 10% interest rate. Siegel suggests that “if the company is holding all of the risk, they will look for pieces of work that can be avoided so as to lessen the chance of the cost exceeding that which is the basis for the price in the contract” (Seigel, 2019, pg. 189). Cutting costs when building housing will inevitably cause more issues down the road. Having a partner would increase the time it takes to earn back the money that was invested; however, it is the option that has less risk involved, and there would not be as much pressure to skip out on tasks, just to attempt to keep us under budget, which could create issues in the future.

Ultimately, I would choose the project where we set up computers and networks for the County School District. With having a service contract with the city, the approximate $50,000 is what we can expect per month due to the contract. Building the housing network would take the longest to pay back the investment, and there is too much risk for my liking. Current supply chain issues, and the current housing market could make it difficult to sell the houses. With the MAN Network option, we would have to keep security staff on payroll to ensure that the MAN Network is secure, and there is not any partnerships or contracts with this portfolio. The risk factors of the MAN Project include having slower connection speeds, or data breaches could drive customers away. Also, since there is no partnership, Top-Flight is holding all the risk for a $10,000,000 investment. Although the estimated monthly income for setting up the school networks for the County School District is not as much as the other two options, it is a more secure project with a contract, has the shortest payback period, and has fewer factors that could effect the success of the project than the other two.

**REFERENCES**

Siegel, N. G. (2019). *Engineering Project Management*. Wiley.

SNIA. (2022). *What is NAS (network attached storage) and why is Nas important?* What is NAS (Network Attached Storage) and why is NAS Important? Retrieved April 23, 2022, from https://www.snia.org/education/what-is-nas

Volyntseva, Y. (2021). *Metropolitan Area Networks: A quick guide to Mans*. Businesstechweekly.com. Retrieved April 23, 2022, from https://www.businesstechweekly.com/operational-efficiency/computer-networking/metropolitan-area-network/