**Module 5 Critical Thinking**

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Course Code: **CSC501** (Management for the Computer Science Professional)

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**Strategic Project Portfolio Evaluation and Recommendation**

As the newly appointed Project Manager at Top-Flight Project Management Inc. I have been tasked with evaluating three prospective projects. Each project has distinct capital requirements, risk factors, and potential returns. Below is an assessment of each project, including an analysis of payback periods and strategic recommendations.

## Build a MAN Network for the City:

A city-wide Metropolitan Area Network (MAN) installation designed to support large scale data and communication infrastructure.

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| **Capital Investment** | $10 million |
| **Revenue** | $500,000/month starting after year 2; city collects revenue for year 1 and half of year 2 |
| **Payback Calculation** | Year 1: $0 revenue  Year 2: $250,000/month for 6 months = $1.5 million  Year 3 onward: $500,000/month = $6 million/year  Payback completed around Year 4 (after recouping remaining $8.5 million) |
| **Pros** | High long-term cash flow, essential infrastructure, recurring revenue |
| **Cons** | Long ramp-up period, high initial investment |

## School District IT Setup:

An IT infrastructure project aimed at equipping county schools with modern networks, computer systems, and servers. Includes an ongoing service contract to ensure maintenance and operational stability.

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| **Capital Investment** | $1 million |
| **Revenue** | $50,000/month starting after Year 1 |
| **Payback Calculation** | Year 1: $0 revenue  Year 2 onward: $600,000/year  Payback period: ~2 years |
| **Pros** | Low capital outlay, steady income, low risk |
| **Cons** | Limited revenue, dependency on government contracts |

## Housing Network Development:

A real estate initiative involving the construction of single-family and multi-family housing units. Designed for both sales and rental income

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| **Capital Investment** | $10 million (requires financing at 10% interest) |
| **Revenue** | Year 1: Construction  Year 2: Sell 12 homes @ $450,000 = $5.4 million  Year 3 onward: $70,000/month from multifamily units = $840,000/year |
| **Payback Calculation** | End of Year 2: $5.4 million (home sales)  Additional 5+ years to recover the remaining $4.6 million (plus interest), so it takes over 7 years total |
| **Pros** | Tangible assets, housing demand, multiple revenue streams |
| **Cons** | High financial risk, delayed returns, interest burden |

# References

"**Project Management: A Systems Approach to Planning, Scheduling, and Controlling**"

by Harold Kerzner

A foundational book for project evaluation, risk assessment, cost estimation, and stakeholder engagement.

<https://learning-oreilly-com.csuglobal.idm.oclc.org/library/view/project-management-a/9780470278703/>

"**Measuring and Managing Performance in Organizations**" by Robert D. Austin

Offers insights into quantifying project success and handling trade-offs in investments and expected returns.

<https://learning-oreilly-com.csuglobal.idm.oclc.org/library/view/measuring-and-managing/9780133488425/?ar=&email=MT3OraT%2B%2FQPH11KS%2F7Dup5a1kwBcMookmqoXI%2BcUMLbAvNW2BuWroTeSYIPg6DX6&tstamp=1747576285&id=D1883ED96BCF413CCB06E62CCEDEBC4999825314>