Time Value of Money (TVM) & Investment Decision-Making – FutureVest Investments

This report evaluates two investment options for a client of FutureVest Investments using Time Value of Money (TVM) principles. The options are: (1) a fixed deposit account and (2) an investment in a business project. The analysis includes a Future Value (FV) calculation for the fixed deposit and a Net Present Value (NPV) analysis for the business project to support sound investment decisions.

# Investment Options Summary

Option 1: Fixed Deposit Account  
- Initial Investment: $10,000  
- Annual Interest Rate: 6% (compounded annually)  
- Duration: 5 years  
  
Option 2: Business Project  
- Initial Investment: $10,000  
- Expected Cash Inflows:  
 Year 1: $2,000  
 Year 2: $2,500  
 Year 3: $3,000  
 Year 4: $4,000  
 Year 5: $4,500  
- Discount Rate: 7% per year

# Part 1: Future Value Calculation – Fixed Deposit

FV = PV × (1 + r)^t  
FV = $10,000 × (1 + 0.06)^5 = $13,382.26

# Part 2: Present Value Calculation – Business Project

Using the Discounted Cash Flow (DCF) method:

PV = $2,000 / (1+0.07)^1 + $2,500 / (1+0.07)^2 + $3,000 / (1+0.07)^3 + $4,000 / (1+0.07)^4 + $4,500 / (1+0.07)^5

PV Total = $12761.67

Net Present Value (NPV) = $12761.67 - $10,000 = $2761.67

# Summary of Calculations

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| --- | --- |
| Investment Option | Value |
| Future Value (Fixed Deposit) | $13,382.26 |
| Net Present Value (Business Project) | $2,761.67 |

# Part 3: Investment Decision

1. \*\*Which investment provides higher returns?\*\*  
 - The Fixed Deposit provides a guaranteed return of $13,382.26 after 5 years.  
 - The Business Project has an NPV of $2,761.67, which is lower in present value terms.

2. \*\*What does the NPV result tell us about the business project’s viability?\*\*  
 - The NPV is $2,761.67, which means the project is not financially viable at the 7% discount rate.

3. \*\*How does the TVM concept help in making better investment decisions?\*\*  
 - TVM allows comparing options by considering when returns are received. It helps determine the most profitable choice by accounting for risk, inflation, and opportunity cost.

# Conclusion

The TVM analysis shows that the Fixed Deposit yields a better financial outcome than the Business Project. With a future value of $13,382.26, the guaranteed returns outweigh the lower present value of future business inflows. This emphasizes the value of TVM in making sound financial decisions.

# References

- Investopedia – Time Value of Money (TVM): <https://www.investopedia.com/terms/t/timevalueofmoney.asp>   
- Corporate Finance Institute – Net Present Value (NPV): <https://corporatefinanceinstitute.com/resources/valuation/net-present-value-npv/>