

Introduction to Project Valuation



Is this project worthwhile?

Introduction to Project Valuation

You have two groups of people to convince your project is worthwhile:

Your Customers



The Value Proposition:
Why should they buy your product?

Your Bosses



The Business Case:
Why should they fund your project?

Is the Project Financially Worthwhile?

Consider the following situation:

You work for a manufacturer of hip implants.

The current process is to make a variety of sizes, and let the doctor select the best size for the patient during surgery.

This is the way it has been for decades and has had quite good results – even your grandmother has one of your implants!

*But as Manager of the Product Development Team,
you have a better idea.*



Is the Project Financially Worthwhile?

Consider the following situation:

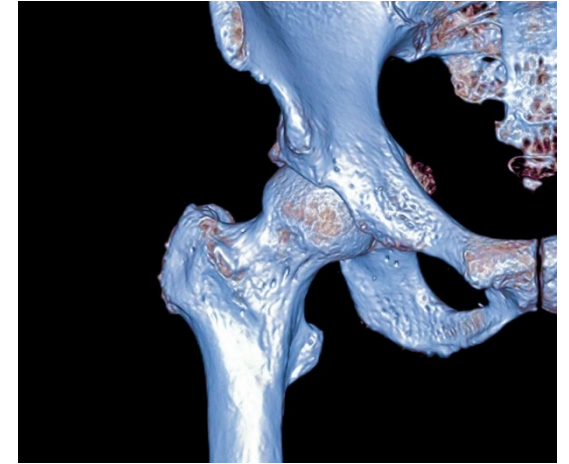
You propose a new project, that integrates a patient's MRI scan of their hip with new titanium 3D printing process.

You argue that this new approach creates a hip implant that perfectly matches the patient's physiology, and therefore leads to better patient outcomes.

A new metal 3D printer costs \$250,000.

The project requires 3 full-time engineers for 2 years, for a total cost of \$750,000.

Is this \$1M a good investment?



Is the Project Financially Worthwhile?

What factors go into the decision?

Engineering Concerns

- Will the performance of titanium processed by 3D printing be the same as that processed by melt processing?
- Can the MRI scan provide the right information to optimize the implant to the patient?
- Can the implant be printed in the timeframe required by the doctor and scheduled surgery?
- Will patient outcomes indeed be better?

Financial Concerns

- Will the \$1M for equipment and personnel costs provide an adequate rate of return?
- Will this new process improve patient outcomes, thereby increasing sales and reducing warranty expense vis-à-vis the current process?
- What will a 10-year financial analysis tell us?
- How does this project stack up to all the others the C-Suite is evaluating?

*You and your team have ensured engineering concerns are addressed.
For investment purposes, management focuses on a sound financial analysis.*

Is the Project Financially Worthwhile?

Are the cash inflows (benefits) $>$ cash outflows (costs) when Time Value of Money (TVM) is considered?



If the Benefits $>$ the Costs, the project is financially worthwhile.

Evaluating the Financial Viability of a Project

Companies often evaluate the financial “worthiness” of a project using 3 common financial metrics:

- ✓ Net Present Value (NPV)
- ✓ Internal Rate of Return (IRR)
- ✓ Payback Period (PBP)

And in special cases:

- ✓ Modified Internal Rate of Return (MIRR)

Next Time...

Discounted Cash Flow Analysis



Credits & References

Slide 1: Group of young creative business brain storm meeting by Yingyaipumi, Adobe Stock (474819284.jpeg).

Slide 2: Business colleagues gesturing thumbs up in office by WavebreakmediaMicro, Adobe Stock (203012806.jpeg).

Close up of executive team standing in headquarters by David Pereiras, Adobe Stock (100190402.jpeg).

Slide 3: Hip replacement implant by frog, Adobe Stock (77422712.jpeg).

Slide 4: Hip replacement implant by frog, Adobe Stock (77422712.jpeg). CT Scan of pelvic bone with both hip joint 3D rendering image for diagnosis fracture of hip joint, by samunella, Adobe Stock (66936257.jpeg). Metal 3D printer by chesky, Adobe Stock (89355491.jpeg).

Slide 6: Benefit and cost concept by cacaroot, Adobe Stock (88458915.jpeg).

Slide 8: DCF Discounted Cash Flow by momius, Adobe Stock (161123720.jpeg).