IDC and Circular Reference in Financial Models

Case Summary

This financial model explores the concept of **Interest During Construction (IDC)** and the issue of **circular references** that arise when financing costs are capitalized into the project cost. The file I created demonstrates how IDC affects project funding requirements and how to fix circularity in Excel models.

IDC (Interest During Construction)

- IDC represents the interest expense incurred during the project's construction phase, before operations begin.
- Since the project is not generating revenue during this phase, interest is usually capitalized (added) to the total project cost.
- IDC increases the project cost, which may in turn increase the required debt funding.

Example Flow

1. Loan taken for construction.
2. Interest accrues on this loan during construction.
3. This interest is added back to the project cost.
4. The higher project cost increases the loan amount → leading to higher interest.
5. This loop creates a **circular reference**.

Circular Reference in Financial Models

A **circular reference** occurs when the value of a cell depends, directly or indirectly, on its own value.

In IDC models:

- **Debt → Interest → IDC → Project Cost → Debt again**
- This creates a loop because debt and IDC feed into each other.

Fixes for Circular References

1. Iterative Calculation Method.

2. VBA Macro Method

About the File (Uploaded Model)

- Includes an **IDC Gantt chart** to model construction progress.
- Calculates interest during construction and adds it back to project cost.
- Demonstrates **two methods** to fix circular references:
    1. Using Iterative Calculation.
    2. Using a VBA Macro.
- Provides a practical case of how IDC can change total project cost and funding needs.