Institute for International Business

Business Case Challenge

Online Coaching-Session I: Convincing with Numbers

Why is it Important to Convince Investors with Numbers?

Investors have trained eyes - with just a few glances they can assess the credibility and quality of a BC calculation.

Investors are put off when BC calculations appear confusing, incomplete or unrealistic. A solid calculation, on the other hand, inspires trust.

Nevertheless, Numbers are Always Wrong!

All valuations and forecasts are based on assumptions. Where information is incomplete, documentation is key!

Writing business plans is not a science and it is not an art. Writing business plans is a craft that must be learned.

Numbers Hygiene

“What numbers should look like”

Every number in your business case **must**

- Be appropriately labeled (“What does the number show?”)
- Be explained (“How did you arrive at this number or where did you get it from?”

Every number in your business case **should**

- Be part of the case you want to make (i.e. don’t include unnecessary or redundant numbers)
- Be visualized in a graph (i.e. use charts and figures)
- Be scrutinized (i.e. pessimistic & optimistic case)

Numbers Impact

“Which numbers should be there and which shouldn’t”

- Estimation of potential **market size**
  - Nr. Customers (possible quantity)
  - Revenues (possible quantity * possible price)
- Estimation of **costs**
  - Operation costs
  - Financing costs
  - Taxes
- Estimation of potential **revenues**
  - Sales (CAGR)
  - Other income
- Estimation of **investments**
- Estimation of **profits**
  - EBIT
  - Free Cash Flows
  - Return on Investment (ROI)
- Estimation of **enterprise value**

Based on a Market Analysis, we can Develop a Business Model for the Future through Forecasting

Consensus-based

- Collecting and aggregating opinions on the future development of the variable of interest (e.g. collecting analyst predictions on a stock)

Fundamental

- Estimating a variable of interest from the components that we know from theory determine it (e.g. creating a valuation model of the company behind the stock)

Technical

- Extrapolating from a historic timeseries of the variable of interest (e.g. looking at past trend of a stock)

Comparative

- Extrapolating from comparable variables of interest (e.g. studying a peer group of other stocks)

Each approach makes different assumptions, has different advantages and disadvantages. A good forecast triangulates multiple methods.

What is the Role of Business Case Calculations?

Business Plan

1. Business problem
2. Potential courses of action
3. Recommended solution
4. Implementation obstacles
5. Benefits and opportunities
6. Cost-benefit analysis
7. Scope and timeline
8. Next steps

Role

- Often one of the first things investors look at in a BC
- Often the most questioned part of the BC (especially in the current economic climate)

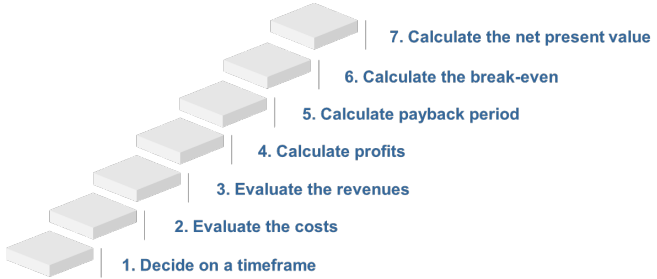
The development and valuation of a new business model is the focus of the innovation cases. Elements of the business plan may vary.

What are the Parts of a Business Case Calculation?

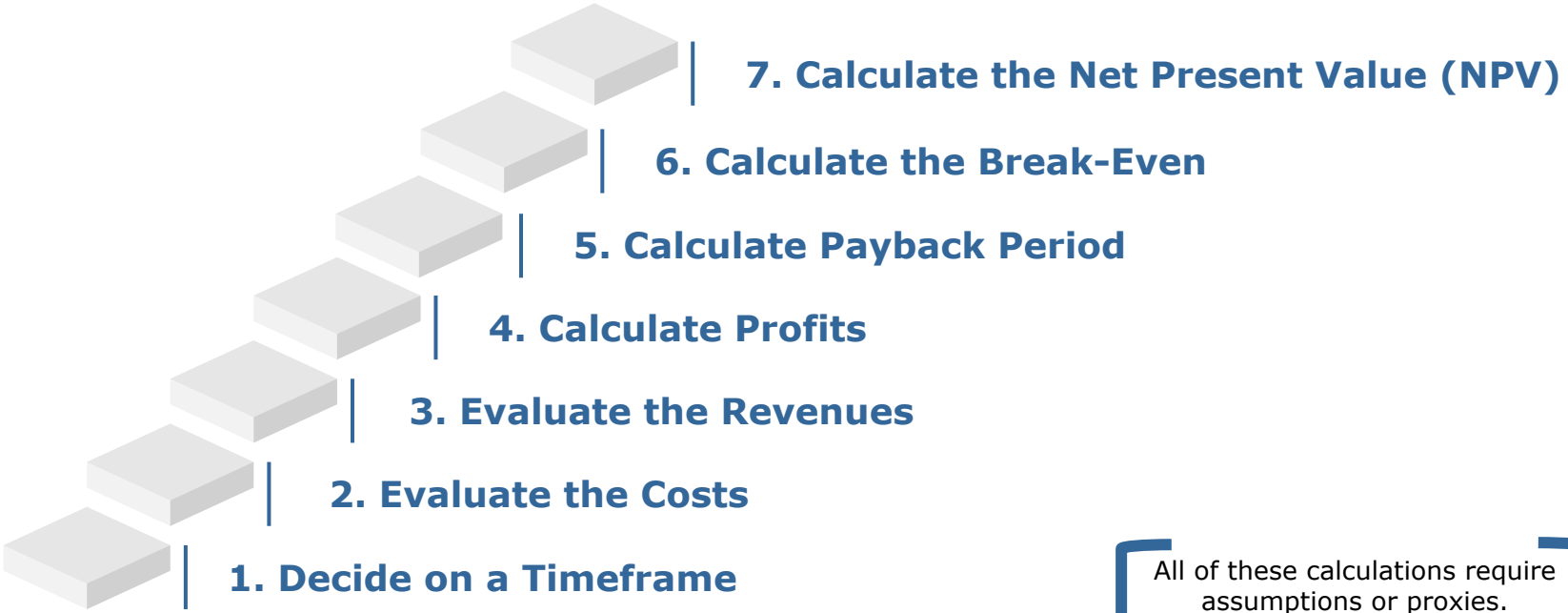
Business Plan

1. Business problem
2. Potential courses of action
3. Recommended solution
4. Implementation obstacles
5. Benefits and opportunities
6. Cost-benefit analysis
7. Scope and timeline
8. Next steps

Costs, revenues, profits, payback period, break-even, Net-Value Present Value (NPV)

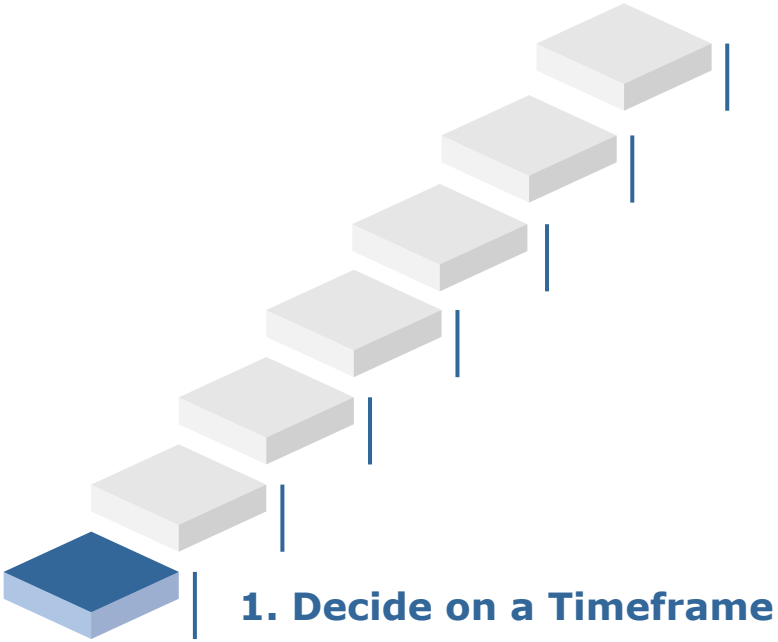


Calculate a Business Case in 7 Steps



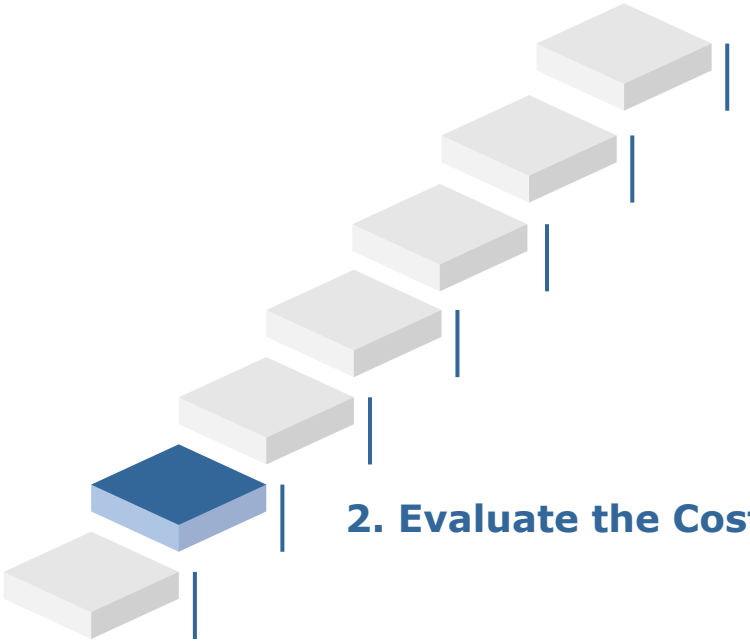
All of these calculations require assumptions or proxies. Looking into the future can only be based on best-effort. For this, documentation is key!

Calculate a Business Case in 7 Steps:
1. Decide on a Timeframe



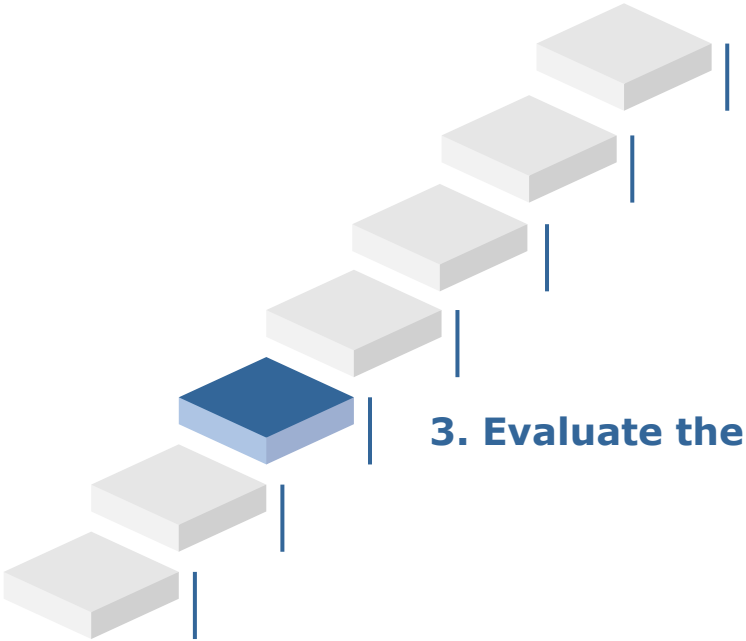
- Usually on a **monthly basis**
- Investors are particularly interested in:
  - **Year 1**
  - **Year 5**
  - **Year 10**

Calculate a Business Case in 7 Steps:
2. Evaluate the Costs



- Reflect on costs vs. investments
- Examples:
  - Energy costs
  - Acquisition of machines (depreciation is not a cash flow but an expense)
  - Maintenance
  - Personnel costs
  - IT costs
  - Research & development

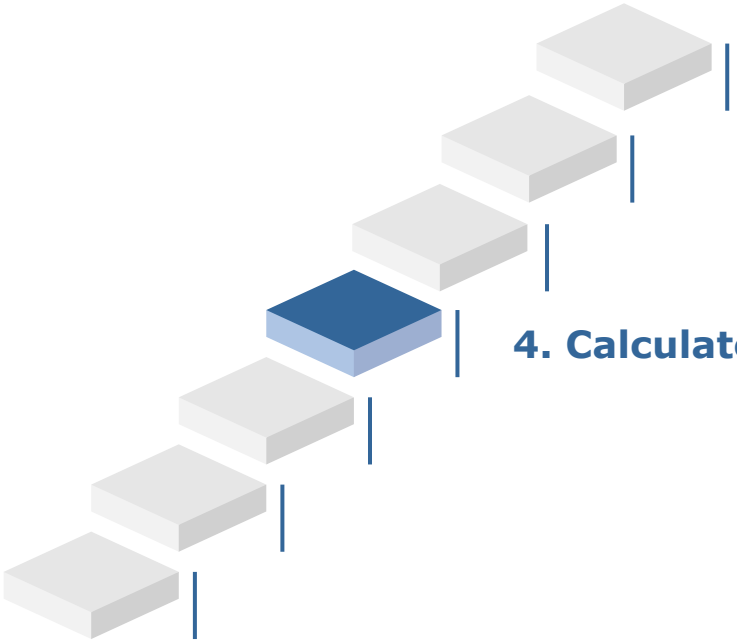
Calculate a Business Case in 7 Steps:
3. Evaluate the Revenues



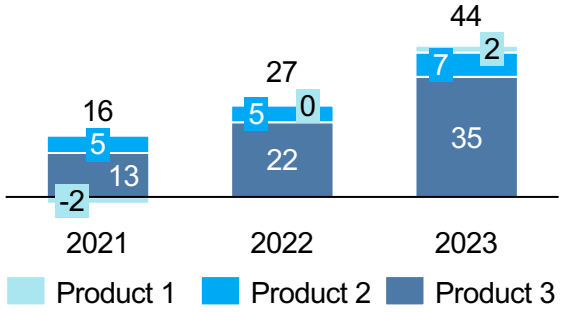
- Evaluate streams of income
- Example:

	Year 1	Year 2
Product A	…	…
Product B	…	…
Product C	…	…

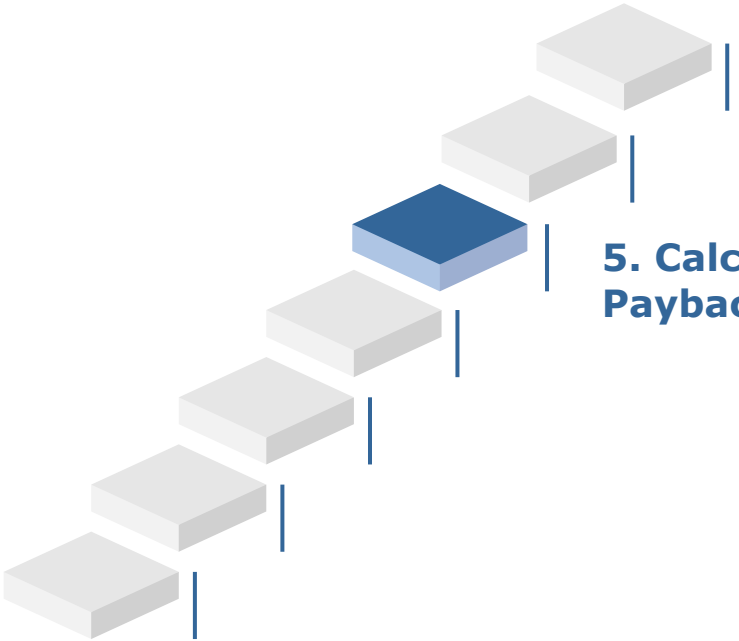
Calculate a Business Case in 7 Steps:
4. Calculate Profits



- Calculate the difference between expenses and income (remember: investments are only considered by including depreciation costs)

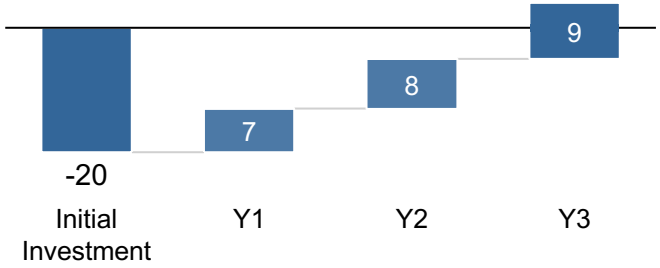


Calculate a Business Case in 7 Steps:
5. Calculate Payback Period

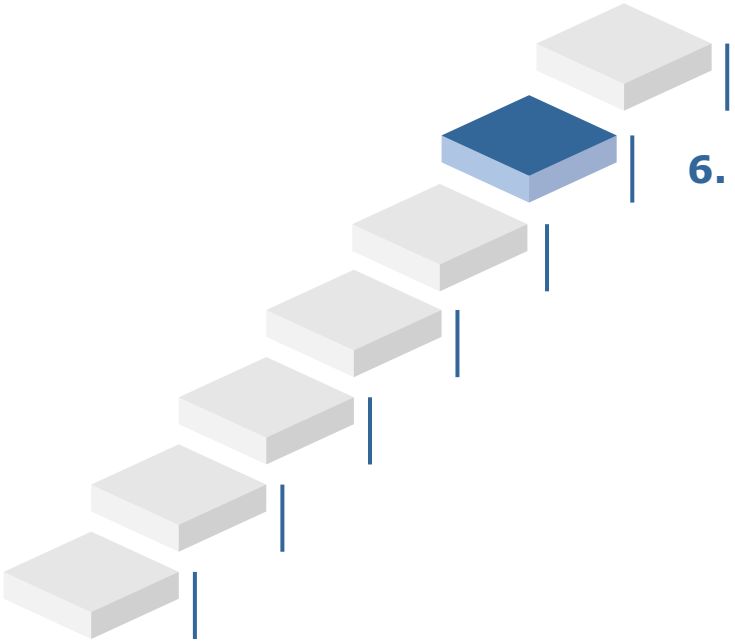


5. Calculate Payback Period

- Calculate the time until the cumulative cash flows reach a positive value
- Perspective of deposits and with-drawals (not revenues and expenses)

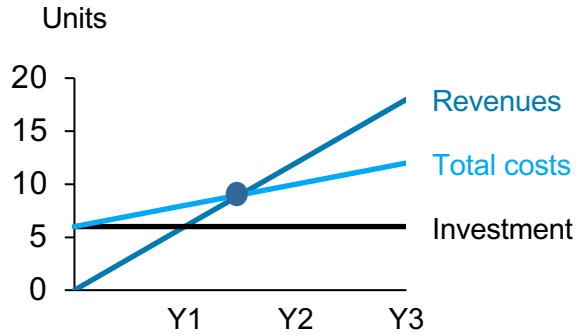


Calculate a Business Case in 7 Steps:
6. Calculate the Break-Even

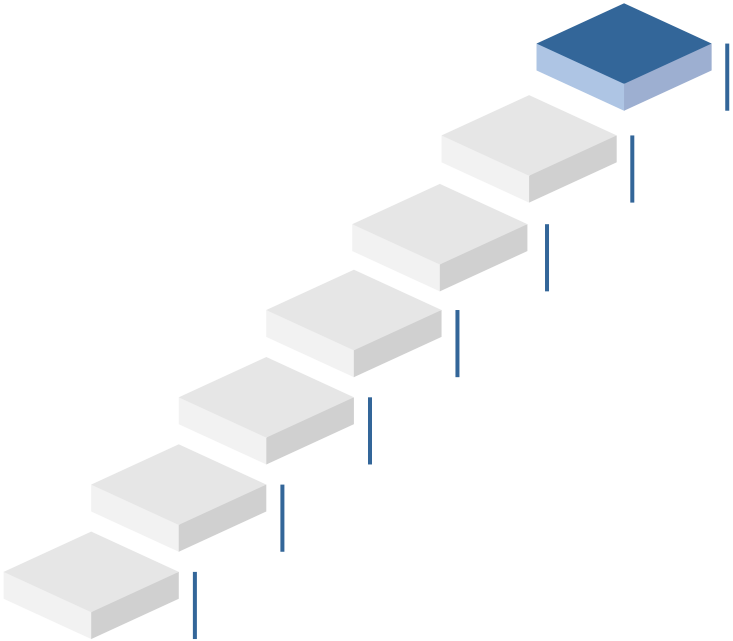


6. Calculate the Break-Even

- **Break-Even Point** = investment / contribution margin per piece



Calculate a Business Case in 7 Steps:
7. Calculate the Net Present Value (NPV)



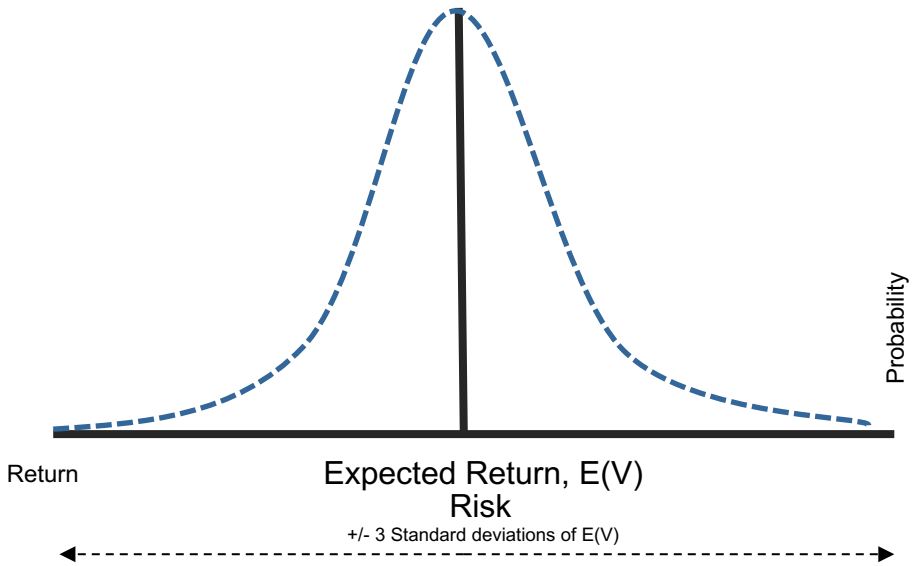
7. Calculate the Net Present Value (NPV)

- **Break-Even Point** = investment / contribution margin per piece
- $NPV = \frac{Cashflow}{(1+i)^t} - \text{Initial Investment}$

	Cashflow	Calculation
Year 1	50	$(50*1{,}05^1) = 48$
Year 2	75	$(75*1{,}05^2) = 68$
Year n	…	…
Sum	125	116

What does this mean for your Business Plan?

Make assumptions → **Calculate expected value** → **Analyze st.dev. of expected value**



Steps:

1. Make forecasts of your revenues and costs (Cash-Flows) and substantiate your numbers with objectifiable data
2. Create a "base case NPV" of your business proposal based on your most likely case by discounting the cash-flows using your estimated WACC
3. Visualize your base case NPV and the underlying assumptions
4. Reiterate analysis with „optimistic and pessimistic cases" and assumptions and visualize changes of NPV (quantitative scenario analysis)
5. Discuss specific risks in depth (qualitative scenario analysis)

Make sure that the Business Case Calculation is Easily Understandable

- Use consistent formatting
- Work on several levels in the table
- Highlight the 1-3 most important numbers
- Make sure there isn't too much text
- Use horizontal lines instead of vertical lines
- Visualizations help to understand numbers

There are Different Sources for and Types of Data to Analyze a Market

Secondary vs. Primary
Quantitative vs. Qualitative

- Newspaper databases (e.g. Factiva)
- Statistics databases (Statista, Statistics Austria)
- Literature databases

- Questioning by-passers on the street (bias!)
- First statistically valid results from a sample size of at least 30-50

- Public institutions may provide experts
- Industry experts
- University professors
- School professors

- Based on available data
- Clearly identify and explain assumptions
- Be conservative

A good analysis triangulates different sources and types of data to arrive at a conclusion. To progress from describing a business to forecasting a business, one must combine quantitative and qualitative data

See Appendix 2 for useful databases.

Key Message

The most important thing to remember is that even investment experts are wrong almost 50% of the time.

Give it a try. Have fun, learn and maybe…

Any Questions?

Extended Video Materials

Ansoff matrix explained: Video
Porter's 5 Forces: Video
Business Model Canvas: Video
Template: CANVAS Template
Disruptive Innovation Explained: Video
Business Model: Video
Discounted Cash-flow Calculation in EXCEL: Video
Writing Great Business Plans: Video
Further reading on CANVAS business model:

Osterwalder & Pigneur (2010). *Business Model Generation: A Handbook for Visionaries, Game Changers, and Challengers.* Hoboken, NJ: Wiley & Sons

Sinek (2009). *Start with Why. How great leaders inspire everyone to take action.* New York:Portfolio.

Christensen (1997). *The innovators dilemma.* Boston, MA: Harvard Business Review Press

Potentially Useful Databases? [see WU library]

Literature
- Scopus

Market & Industry Reports
- MarketLine
- Passport
- Retail Insight
- Supply Chain Analysis

Company Information
- Orbis
- Bloomberg
- Eikon
- Capital IQ

Macro Statistics
- Statista
- StatCube
- OECD Library
- IMD World Competitiveness
- EIU Country Data
- World Bank Data Catalogue
- UN Comptrade

Law
- EUR-Lex

Press
- Factiva

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