Fundamentals of Credit

Introduction to Credit

What is Credit?

Credit is created when one party receives resources from another party without immediate payment

Lender
(Credit Provider)

Credit Receiver
(Borrower)

Seller of Product, Services, etc.
(Credit Provider)

Companies vs. Individuals

Credit is essentially a promise to pay for something of value later, typically with interest charged by the lender

Companies

Companies use credit to grow and operate their businesses, from short-term working capital to long-term capital investments

Individuals

Individuals also use credit through credit cards and loans such as mortgages

How and Why Is Credit Used

Why is credit important?

Credit helps companies and individuals purchase things they need now but can not pay for in full

- A borrower may make a strategic decision to not pay in full, even if they have available cash

	2019	2018	2017
ASSETS			
Current Assets:			
Cash	$ 4,486	$ 5,994	$ 5,268
Trade and Other Receivables	14,721	14,074	12,685
Inventories	8,036	7,691	7,168
Total Current Assets	27,243	27,759	25,121
Non-Current Assets:			
Property Plant and Equipment	21,175	20,371	19,563
TOTAL ASSETS	**$ 48,418**	**$ 48,130**	**$ 44,684**
LIABILITIES AND SHAREHOLDERS' EQUITY			
Current Liabilities:			
Trade and Other Payables	$ 11,077	$ 10,504	$ 10,001
Income Taxes Payable	581	894	1,088
Dividends Payable	2,931	4,209	4,312
Short-Term Debt	-	-	-
Total Current Liabilities	14,589	15,607	15,401
Non-Current Liabilities:			
Long-Term Debt	20,000	19,427	17,903
Shareholder's Equity:			
Common Stock and Additional Paid-In Capital	5,762	5,762	5,524
Retained Earnings	8,067	7,334	5,856
Total Shareholder's Equity	**13,829**	**13,096**	**11,380**
TOTAL LIABILITIES AND SHAREHOLDERS' EQUITY	**$ 48,418**	**$ 48,130**	**$ 44,684**

Examples of Credit

Companies

- Companies use credit to either maintain or grow their operations

1. Fund working capital for the short term (buy inventory)
2. Fund long term growth projects (build a factory)
3. Fund acquisitions (buy another business)

Individuals

- A person that wants to purchase a car but does not have enough money or does not want to spend a large amount at once can use credit
- A student wants to pay for university but doesn't have enough cash currently

Sources of Funding – Cash, Equity, Credit/Debt

Cash

Equity

Credit/Debt

Sources of Funding – Cash

Cash

Pros

- Always accepted
- Very liquid and can be used during emergencies
- No cost (other than opportunity cost)

Cons

- Most companies don't keep large cash amounts – don't have enough cash to cover large scale or longer-term projects
- Want to reserve as much cash as possible

Sources of Funding – Equity

Equity

Pros

- Companies can issue stock to raise money
- Good for start-ups with no ability to borrow
- Good for higher risk, expensive, long term projects
- Doesn’t have additional financial commitments – don’t have to pay stockholders anything

Cons

- Usually the cost of equity is higher than the cost of credit (debt)
- Gives away ownership and control of the company
- Accountable to stockholders – need to have quarterly reports and produce short term results

Sources of Funding – Credit/Debt

Credit/Debt

Pros

- Also good for funding longer term projects
- Interest payments are tax deductible
- Won't dilute existing shareholder's value or change ownership percentage
- Cheaper than equity

Cons

- Requires greater attention around liquidity (must pay interest and principal on predetermined dates)
- Might have to pay higher interest rates if company has poor credit quality
- Excessive debt and/or insufficient liquidity can cause insolvency

Sources of Funding – Cash, Equity, Credit/Debt

Cash

Equity

Credit/Debt

Types & Features of Credit

Types of Credit

Revolving Credit

- A line of credit that has a cap or credit limit
- A person can use it any time until the limit is reached and then pay off the credit to use it again
- Examples include credit cards and HELOCs

Installments

- Loans for a set amount with a predetermined repayment structure
- Examples include mortgages, auto loans, student loans, and term loans

Open Credit

- Credit that is due in full each period (i.e. each month)
- Examples include utility, cell-phone bills, and trade payables

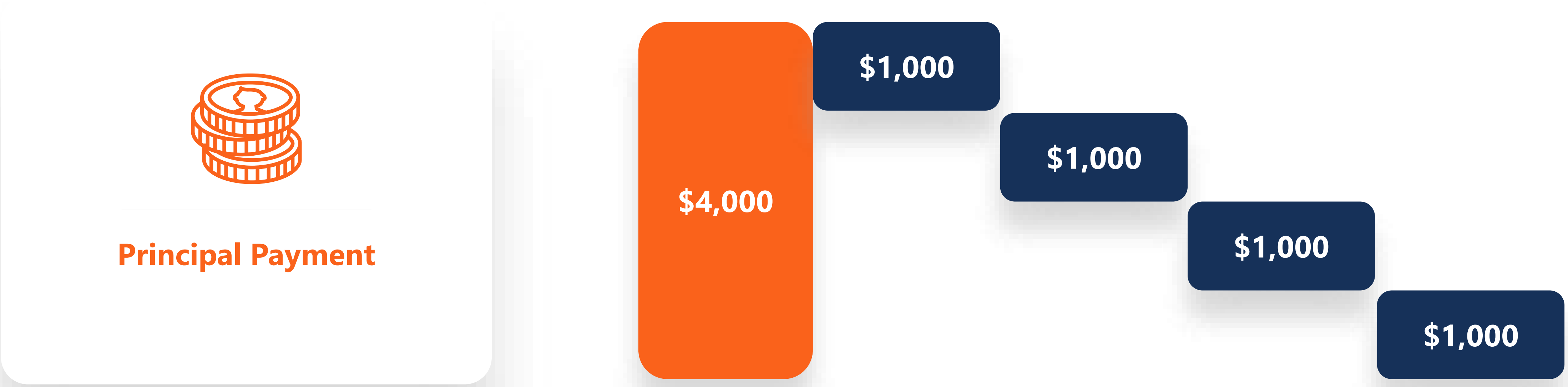
Note: The final payment of a non-amortizing loan is often called a “bullet”

Principal and Interest

Principal Payment

Interest Payment

Principal



Interest

Interest Payment

Regular Interest

Accrued Interest

- Interest is the fee charged for borrowing
- Calculated as a percentage of outstanding loan

Types of Interest

Regular Interest

Accrued Interest

Regular Interest

Regular Interest

The amount of interest due based on principal loan outstanding and **paid in cash**

Simple Interest

Interest calculated on the principal or original amount of loan

If a person borrowed $1000 with 2% interest, they would pay **$20** for interest each year regardless of how much accrued interest they have

Compounding Interest

Interest is calculated on the principal amount and accumulated interest of previous periods

If a person borrowed $1000 with 2% interest and has $100 of accrued interest, then that year’s interest would be **$22**

$$\text{Compound Interest} = P[(1+i)^n - 1]$$

P = Principal
i = Nominal annual interest rate
n = Number of periods

Accrued Interest

Accrued Interest

The amount of interest due based on principal loan outstanding but **not paid in cash until later**

Simple Interest

Interest calculated on the principal or original amount of loan

If a person borrowed $1000 with 2% interest, they accrue **$20** for interest each year regardless of how much accrued interest they have

Compounding Interest

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$$\text{Compound Interest} = P[(1+i)^n - 1]$$

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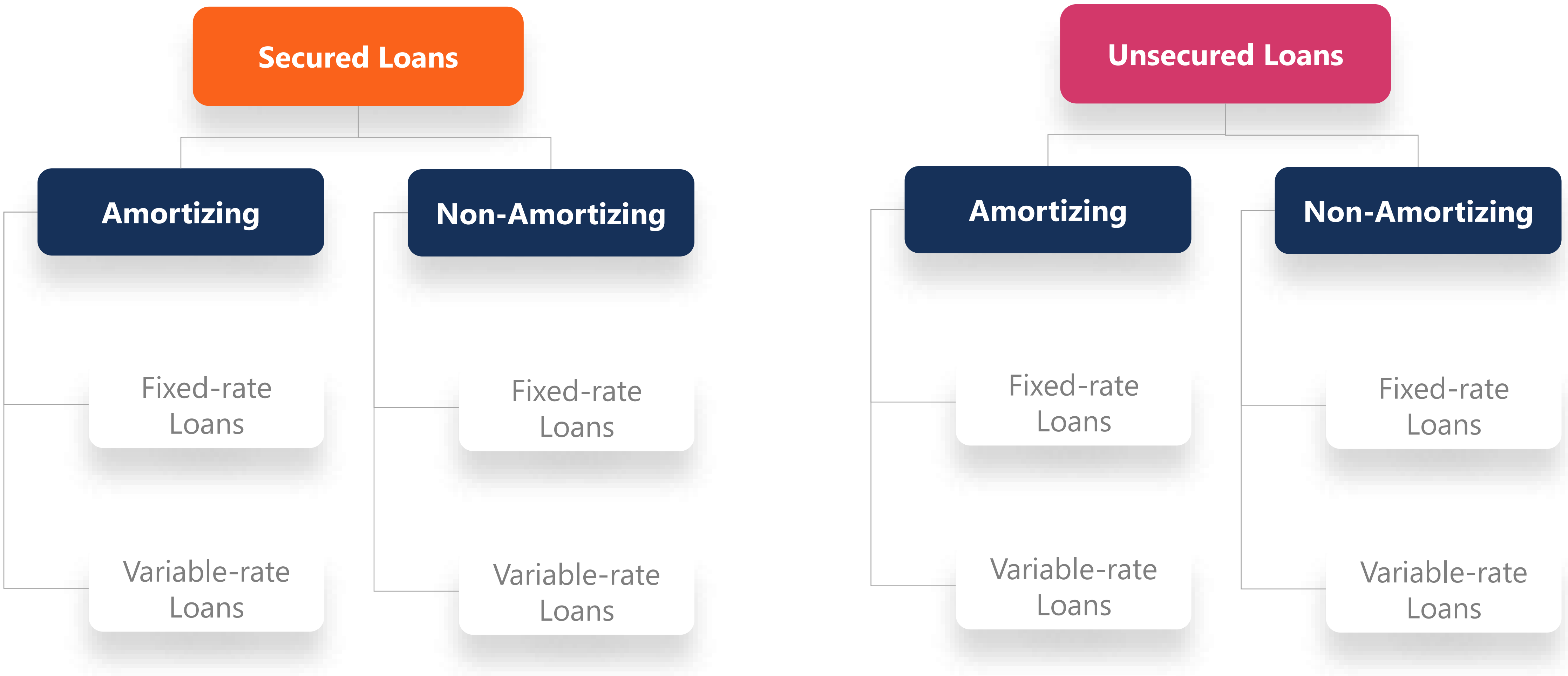
Types of Loans



Secured vs Unsecured Loans

Secured Loans

- Borrower pledges assets to cover their loan, the asset is called collateral
- Collateral can be used by the lender if the borrower defaults on the loan
- A secured loan usually has a lower interest rate
- Can be secured by a specific asset, like property, or by all assets using a General Security Agreement

Unsecured Loans

- Loan that is supported by the general creditworthiness of the borrower, instead of specific collateral assets
- Since the borrower is deemed as creditworthy, lender does not ask for collateral

Amortizing vs Non-Amortizing Loans

Amortizing

- Spreads the principal payments over several periods
- The principal amount of loan will decrease over time
- Payments are designed so the loan is paid off at a defined end date
- Payments each period may be the same (equal amortizing) or not

Why take an amortizing loan?

- Reduces principal amount so borrower doesn't have to pay as much interest

Non-Amortizing

- Full payment on the principal is made at the end of the loan term
- Interest payments are still made at predetermined intervals

Why take a non-amortizing loan?

- With principal repayment deferred to the end of the loan term, monthly obligations (interest-only) are lower and require less near-term cash flow to service

Equal Amortizing

Amortizing

Loan Details	
Fixed Payment	1000
Interest rate	2%

Principal payment remains the same

Interest payments decrease over time

Year	Balance	Principal	Interest	Payment	Balance
1	10,000.00	1,000.00	200.00	1,200.00	9,000.00
2	9,000.00	1,000.00	180.00	1,180.00	8,000.00
3	8,000.00	1,000.00	160.00	1,160.00	7,000.00
4	7,000.00	1,000.00	140.00	1,140.00	6,000.00
5	6,000.00	1,000.00	120.00	1,120.00	5,000.00
6	5,000.00	1,000.00	100.00	1,100.00	4,000.00
7	4,000.00	1,000.00	80.00	1,080.00	3,000.00
8	3,000.00	1,000.00	60.00	1,060.00	2,000.00
9	2,000.00	1,000.00	40.00	1,040.00	1,000.00
10	1,000.00	1,000.00	20.00	1,020.00	0.00

Equal Payments

Amortizing

Loan Details	
Fixed Payment	1000
Interest rate	2%

Interest payments decrease and principal increase over time

Payment remains the same

Year	Balance	Principal	Interest	Payment	Balance
1	10,000.00	913.27	200.00	1,113.27	9,086.73
2	9,086.73	931.53	181.73	1,113.27	8,155.20
3	8,155.20	950.16	163.10	1,113.27	7,205.04
4	7,205.04	969.16	144.10	1,113.27	6,235.88
5	6,235.88	988.55	124.72	1,113.27	5,247.33
6	5,247.33	1,008.32	104.95	1,113.27	4,239.01
7	4,239.01	1,028.49	84.78	1,113.27	3,210.53
8	3,210.53	1,049.05	64.21	1,113.27	2,161.47
9	2,161.47	1,070.04	43.23	1,113.27	1,091.44
10	1,091.44	1,091.44	21.83	1,113.27	0.00

Breaking Down Loans

Non - Amortizing

Amortizing

Credit cards

- Only have to pay minimum payment
- No fix payment for amount borrowed or interest accrued

Interest only loans

- Only have to pay interest for part of the loan term
- Principal payment is unchanged at the beginning of the loan

Traditional Mortgages

- Principal and interest paid every month

Fixed vs Variable Rate Pros/Cons

Fixed-rate Loans

- Loan where interest rates remain the same over loan term

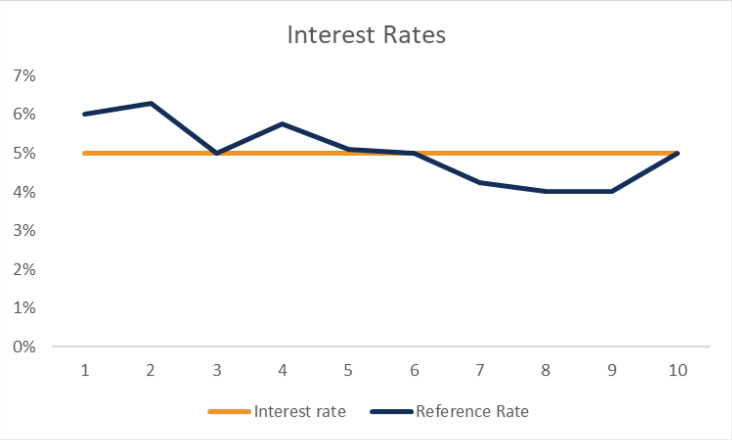
Variable-rate Loans

- Loan where interest rates are set relative to a reference rate, which changes

Fixed

Fixed

Interest rate on loan does not follow changing rates in the market



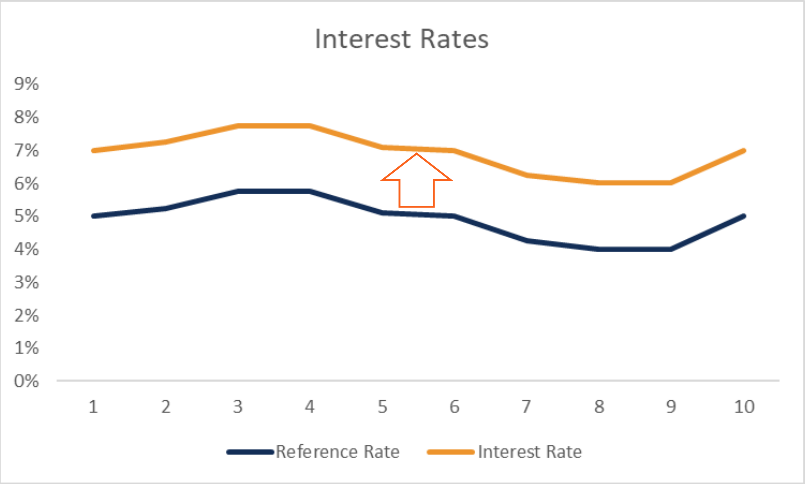
Interest rate remains the same for the full term of loan

Year	Reference Rate	Interest rate
1	6.00%	5%
2	6.30%	5%
3	5.00%	5%
4	5.75%	5%
5	5.10%	5%
6	5.00%	5%
7	4.25%	5%
8	4.00%	5%
9	4.00%	5%
10	5.00%	5%

Variable

Variable

Interest rate on loans follows the reference rate



The spread is set at 2% and the interest rate on loan will always be 2% above reference rate

Year	Reference Rate	Spread	Interest Rate
1	5.00%	2.0%	7.00%
2	5.25%	2.0%	7.25%
3	5.75%	2.0%	7.75%
4	5.75%	2.0%	7.75%
5	5.10%	2.0%	7.10%
6	5.00%	2.0%	7.00%
7	4.25%	2.0%	6.25%
8	4.00%	2.0%	6.00%
9	4.00%	2.0%	6.00%
10	5.00%	2.0%	7.00%

Fixed vs Variable Rate Pros/Cons

Fixed-rate Loans

Variable-rate Loans

Why take a fixed-rate loan?

- Protects borrower from rising interest rates
- Makes it easier for borrower to plan for future payments
- Worse for borrower if interest rate falls
- Borrowers should consider breakage costs associated with the loan agreement

Why take a variable-rate loan?

- Ability to capitalize on a reference rate decrease
- Worse for borrower if reference rate rises

Combining Loan Features

Secured Loans	Amortizing	Fixed-rate Loans		Loan on machinery/equipment
Loan is secured by the house which is used as collateral	Borrower will pay off the principal amount every month for 5 years	Borrower will pay 5% on principal payment for 5 years		

Unsecured Loans	Non - Amortizing	Variable-rate Loans		Line of credit for working capital
The loan is backed up by the creditworthiness of borrower instead of house	Borrower is required to pay the interest payment every month but not principal	Interest payment on amount borrowed will change depending on reference rate		

Client-Loan Matching Example

- Looking to borrow $500,000 to purchase a house
- Credit record shows that the customer had made late payments on credit card
- Medium income salary
- Believes interest rates will decline in the future

Secured Loans

It's better for the creditor if the house is used as collateral for a secure loan

Amortizing

Amortizing loans will make sure borrower continues to make steady payments instead of one big payment at the end

Variable-rate Loans

If interest rates decline, a variable-rate loan will provide a better solution

Benefits and Trade-offs of Using Credit

For Borrowers

Benefits

- Corporations can use credit to gain funds for company expansion or development
- Individuals can use credit to purchase large scale items

Trade-offs

- Have to pay interest
- Can accumulate a large sum that can be difficult to pay off

For Lenders

Benefits

- Collect interest payments as a source of revenue

Trade-offs

- Lending money can lead to increased risk for banks or financial institutions if default rates rise

Credit Process and Analysis

General Lending Process

Origination

- Banks contact potential borrowers or borrowers contact banks

Negotiation

- The lender and borrower discuss loan amount and interest rate
- Borrower submits application for the loan

Underwriting

- The assessment of the applicant's eligibility for the loan
- Credit analyst will check if the loan matches with company policies regarding risk

Documentation

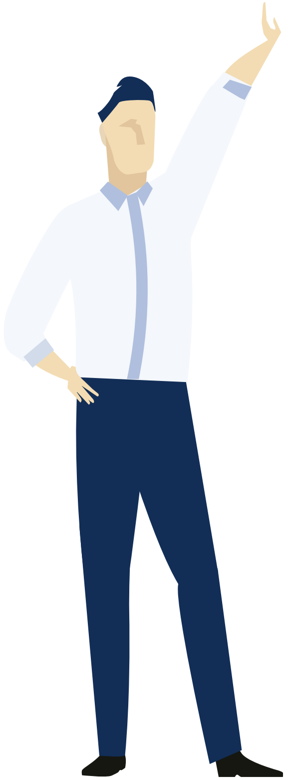
- Formal documentations are created and signed by borrowers

Closing, Booking, and Funding

- The new loan will be added to a financial institution's loan book
- Borrowers will receive their loan
- Credit analysts will continue to monitor loan accounts

What a Credit Analyst Does

- Determine the risk involved with lending or extending credit – analyze financial risk of a firm
- Ex. Look at the financial history of the company to determine the how much money they can borrow
- Manage financial information and documentation



What credentials or skills are necessary?

- Bachelor's degree in finance, accounting, or other business-related fields
- Proficient in MS Office and computer use
- Strong analytical skills
- Understand financial statements, ratios, financial and accounting concepts

Where Credit Analysts Work

Banks

- Financial institutions that accept deposits and use them as a resource to lend money to customers

Private Lenders

- A person or organization that lends money to those that do not qualify for a bank loan or do not want to borrow from banks
- Usually charge a higher rate

Corporations

- Working in the Treasury department (managing cash flow, lowering borrowing cost, increasing investment income)
- Working in the customer credit department

Where Credit Analysts Work

Institutional Investors

- Determine the credit risk of bonds and credit securities
- Manage the risks involved with investments

Rating Agencies

- Create ratings for financial institutions such as banks and insurance companies, as well as for corporations
- Rating agencies include Moody's Investor Services and S&P Services

Government Agencies

- Analyze the credit of state-run banks, insurance providers, and other institutions that will have influence on economy

Types of Credit Analysis

Fundamental Question: Does the business have the ability to repay its obligations?

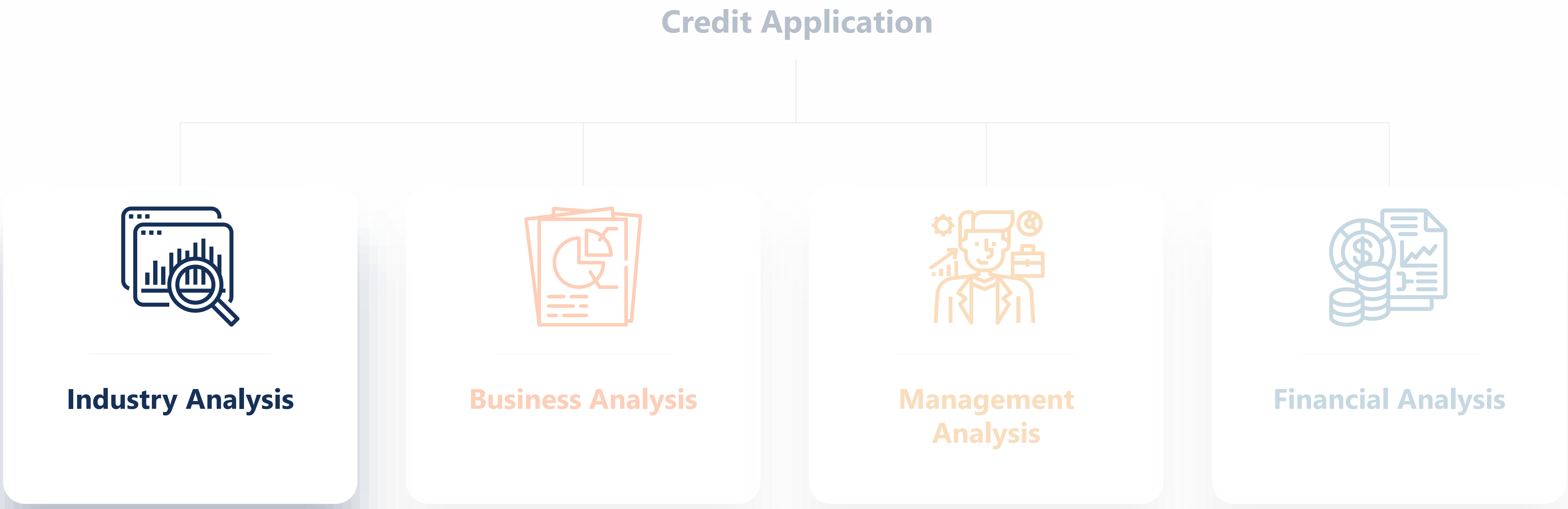
Industry Analysis

Business Analysis

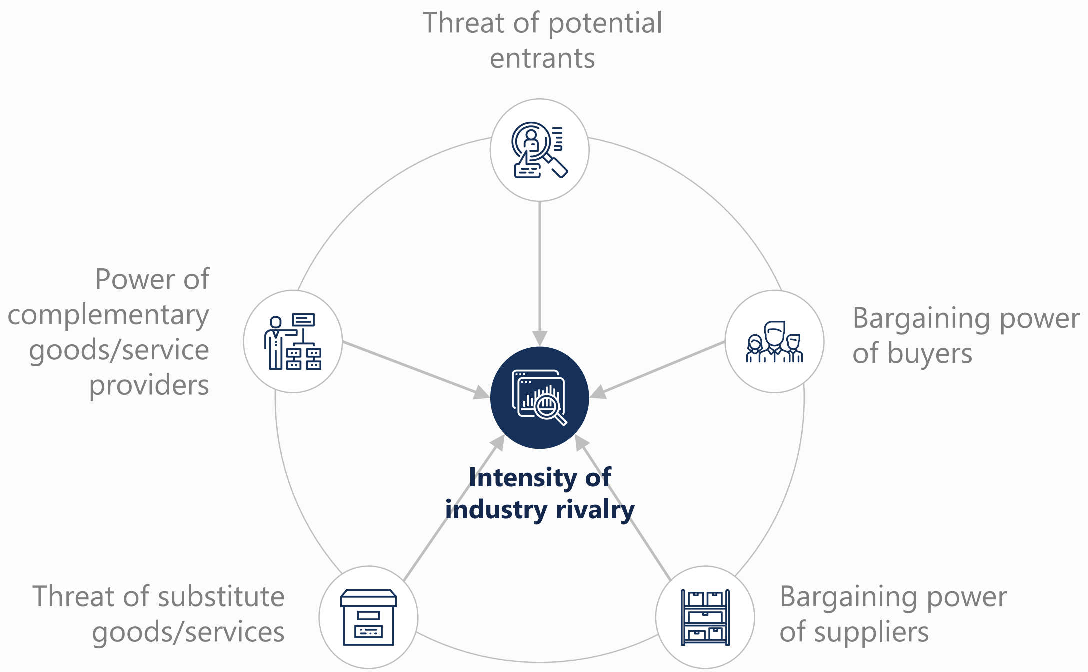
Management Analysis

Financial Analysis

Industry Analysis



Industry Analysis



Industry Analysis

Political

- Centers on the role of governments in shaping business
- Includes elements such as tax policies, stability of government, and trade deals/tariffs

Economic

- Focuses on the broader economic conditions
- Includes interest rates, GDP, disposable income, and growth or recession

Social

- Demographic trends, such as age, size of population, and ethnicity
- Cultural trends on what's popular

Technological

- Centers on changes in new technological products and advancement in existing products

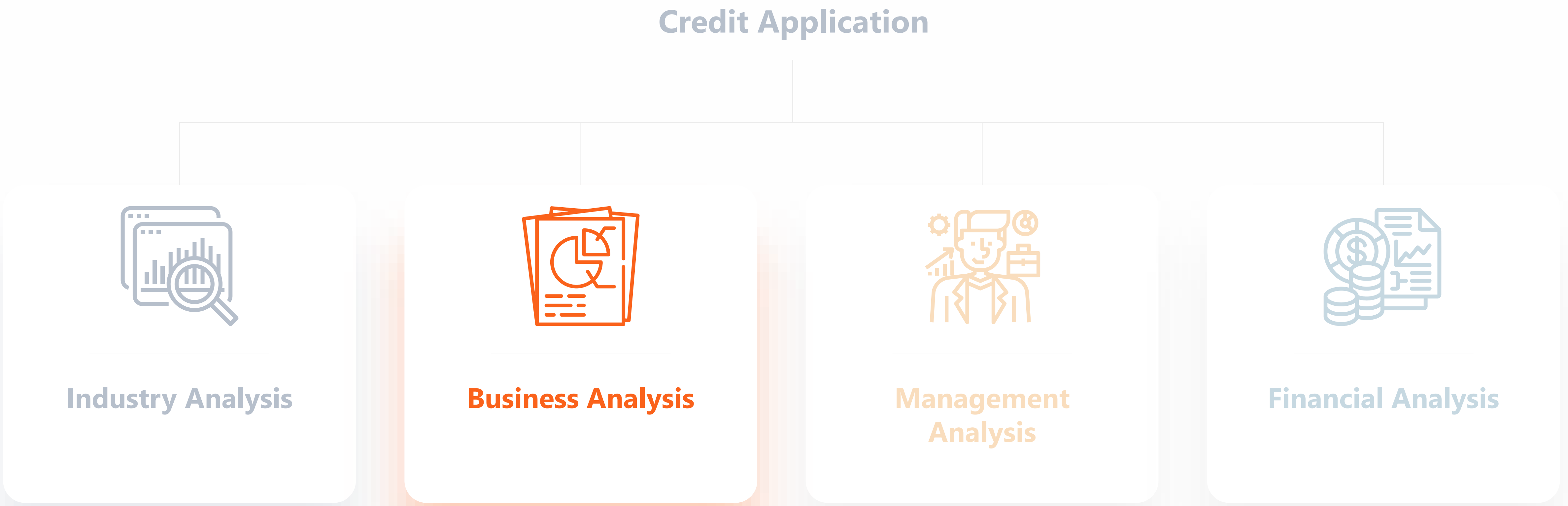
Environmental

- Revolves around the physical condition in which companies operate
- Risk of pollution, natural disasters, weather patterns, etc.

Legal

- Involves how changes in the courts influence the business environment
- This involves employment law, intellectual property rights, health and safety regulations, and environmental laws

Business Analysis



Business Analysis

SWOT analysis

Identify the following…

Strengths

- Undertake peer group analysis and assess competitive advantage relative to peers

Weaknesses

- Identify areas of weakness such as poor distribution network or lack of online presence

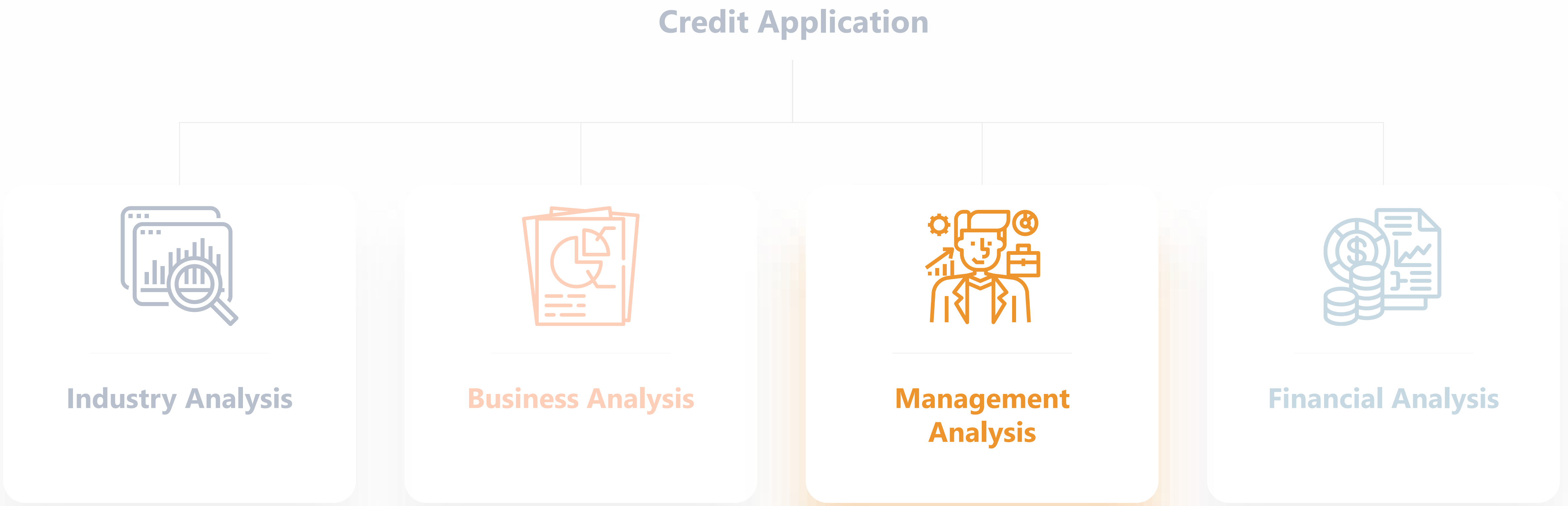
Opportunities

- Identify areas that can be improved to increase value proposition for customers

Threats

- Identify competitors
- Identify specific risks that can affect the business along with mitigation strategies

Management Analysis



Management Analysis

Strengths and Weaknesses

- Identify management's overall strengths and weaknesses
- This can include technical skills, leadership qualities, etc.

Acumen

- What is management's level of business and financial acumen
- What do they have experience with

Approach

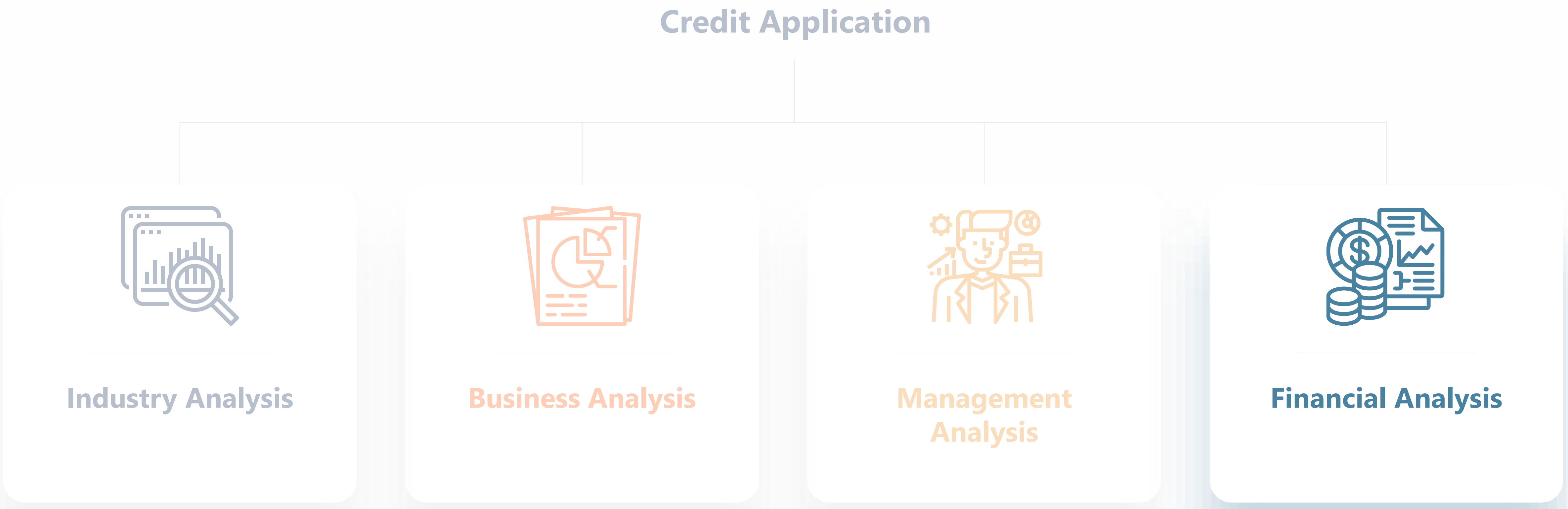
- Identify their approach to customers, suppliers, and the competition
- How do they negotiate or handle conflict

Planning

- What is their approach to growth and contingencies
- Are they planning to grow aggressively

Given these characteristics, assess what types of problems may arise, and how they can be mitigated

Financial Analysis



Financial Analysis

Company Specific Ratios

- Identify the key ratios used to determine company performance

Interpretation

- Understand how to interpret trends and ratios using analytical frameworks and models
- Compare against industry benchmarks

Capital Structure

- How much of the company is funded by debt or equity
- Assess the repayment capacity

Financial Analysis

Company Specific Ratios

- Identify the key ratios used to determine company performance

For a Grocery Company

$$\text{Inventory Turnover Ratio} = \frac{\text{Cost of Goods Sold}}{\text{Average Inventory}}$$

$$\text{Sales Ratio} = \frac{\text{Revenue}}{\text{Amount of Square Feet}}$$

$$\text{Liquidity Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$$

$$\text{Profit Ratio} = \frac{\text{Gross Profit}}{\text{Revenue}}$$

Financial Analysis

Interpretation

- Understand how to interpret trends and ratios using analytical frameworks and models
- Compare against industry benchmarks

For a Grocery Company

Inventory Turnover Ratio — Quick turnover rates are critical in grocery stores as it shows that the spoilage rate is lower

Sales Ratios — Grocery stores usually have low profit margins which are made up by high volumes, efficiency is measured by sales per week or sales per square foot

Liquidity Ratios — High liquidity ratio suggests better ability to pay off debt

Profit Ratios — Higher profit ratios mean the company is generating higher earnings relative to its costs

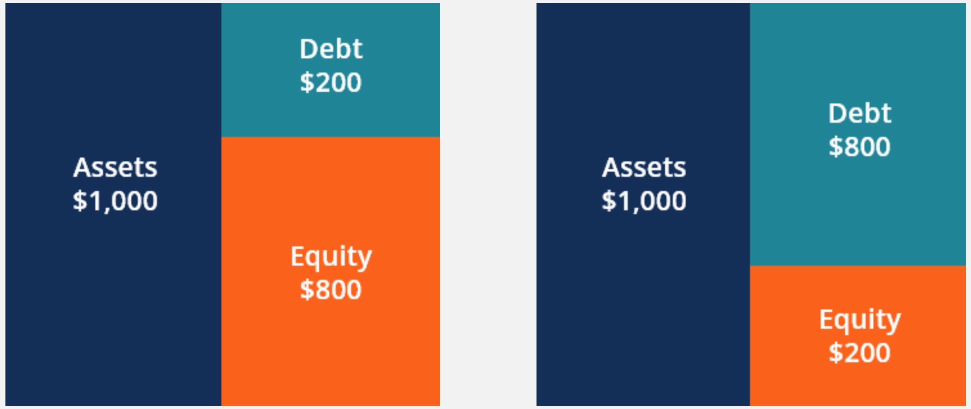
Financial Analysis

Capital Structure

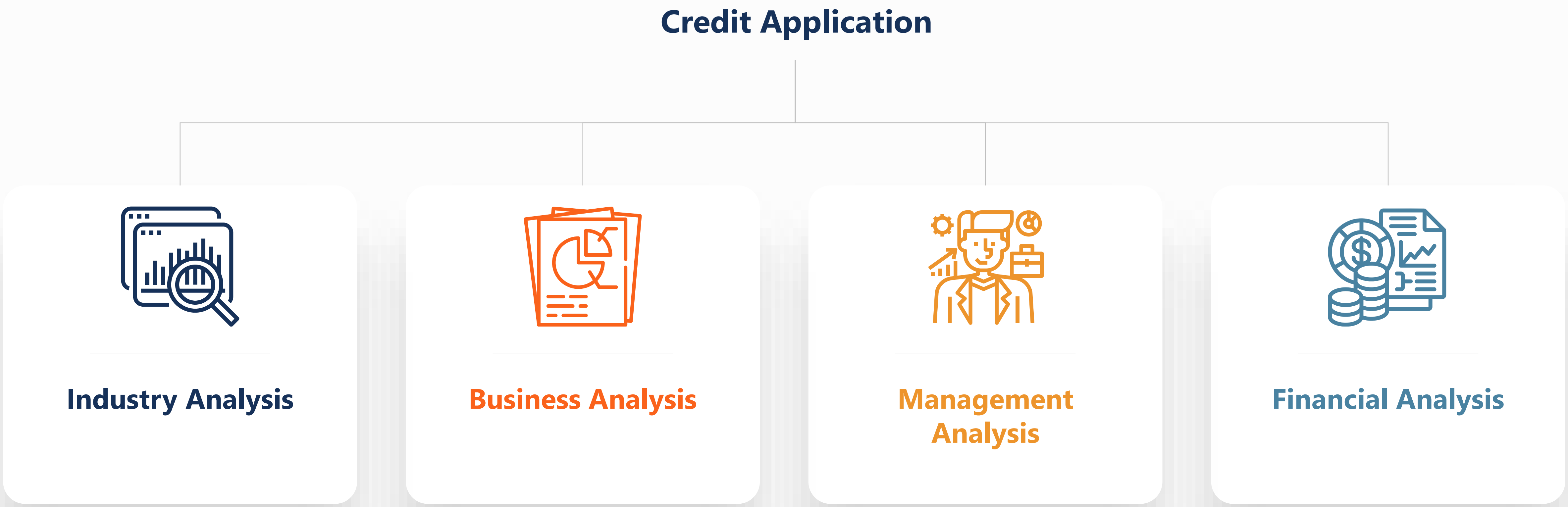
- How much of the company is funded by debt or equity
- Assess the repayment capacity

Low Leverage

High Leverage



Credit Application



Credit Application Considerations

Key questions to ask when moving forward with an investment or credit application

For the company

- Is it a good deal for the company?
- Does the investment or loan fit with the company's objectives in terms of profitability, risk, and ease of administration

For the applicant

- Is it a good deal for the applicant?
- If the loan or investment is good for the applicant, then it's more likely they'll return with additional financing needs

5 Cs of Credit

The five Cs of credit is a system used by lenders to measure the creditworthiness of potential borrowers.

Character

Capacity

Capital

Collateral

Condition

5 Cs of Credit

Character | Capacity | Capital | Collateral | Condition

- Who is the company?
- What is the company's reputation?
- Where does the management want to take the company?

5 Cs of Credit

Character

Capacity

Capital

Collateral

Condition

- What is the level of profitability?
- Is working capital being well managed?
- Is there enough cash to manage operations and growth?

5 Cs of Credit

Character

Capacity

Capital

Collateral

Condition

- What is the financial structure of the business?
- Does the company have sufficient equity?
- Is the company able to raise equity?

5 Cs of Credit

Character

Capacity

Capital

Collateral

Condition

- What security does the company have?
- Where will that security be held?
- What is the most appropriate security to take?

5 Cs of Credit

Character

Capacity

Capital

Collateral

Condition

- What is the attractiveness of the industry?
- What are the company's competitive advantages?
- What are the guidelines and obligations relevant to the specific loan contract?

5 Cs of Credit

Character

Capacity

Capital

Collateral

Condition