# **Feasibility Study**

**Introduction**

A feasibility study is a detailed analysis conducted to determine the viability of a proposed project or idea. It helps decide whether a project is feasible and worth pursuing by evaluating various factors like technical requirements, financial implications, and market potential. Here's a breakdown of the key components typically included in a feasibility study, especially for a software project

1. **Technical Feasibility**
   1. **Introduction**

The Technical Feasibility section examines the technological requirements and resources necessary for setting up and operating an online store. This includes the choice of platform, payment solutions, and technical infrastructure.

* 1. **Technical Requirements**

**1.2.1)** **Software Requirements**

1. Payment Gateway
2. Operating System like windows, mac or Linux
3. Database like MySQL
4. Web server
5. Development Environment like VS code and Git Hub
6. E-commerce Platform (optional)

**1.2.2)** **Hardware Requirements**

1. Servers: We can use cloud hosting platforms like AWS, Google Cloud, or Azure for servers, backups, and storage.
2. Internet Connectivity: High-speed internet connection essential for managing store operations and development
3. Development Devices: we need PCs or laptops to develop.
   1. **Technical Expertise**
4. Frontend: we use languages like (JavaScript, HTML5, CSS3) and use libraries like Bootstrap or Material-UI
5. Backend: For the backend, we will use native PHP
6. Database: We will use a relational database like MySQL.
7. UI/UX: use Canva to design pages
   1. **Project Complexity and Risks**
8. Scalability: Ensure the system can handle growth in users and data.
9. Security Requirements: Identify necessary cybersecurity measures to protect user data
10. Website Performance:

* Slow Loading: Pages may take too long to load, causing frustration.
* Downtime: The website could be temporarily unavailable, leading to lost sales.

1. Navigation Issues: The user interface must be simple to make it easy for users to navigate the website.
2. Account Management: Users may face challenges while managing an account or in setup.
3. Product Information: Lack of detailed product information can make users hesitant to purchase
4. **Economic Feasibility**

**2.1) Introduction**

Economic Feasibility helps determine if the financial benefits of a project justify the investment required. This is achieved through a cost-benefit analysis, ROI calculation, NPV calculation, break-even analysis, and risk assessment

**2.1) Identify and Estimate Costs**

* + **Initial costs**

|  |  |  |  |
| --- | --- | --- | --- |
| Cost Category | Item | Description | Initial Cost |
| Website Development & Design | Domain Name | Website address registration | 500 |
|  | SSL Certificate | Security certificate for HTTPS | 500 |
|  | Front-End Development | User interface (HTML, CSS, JavaScript) | 1,500 |
|  | Back-End Development | Server-side logic, databases | 2,000 |
|  | E-commerce Integration | Shopping cart, checkout, payment APIs | 500 |
|  | UI/UX Design | Users experience design & testing | 1,000 |
| E-commerce & Payment Solutions | Payment Gateway Fees | Fees for processing payments | 1.000 |
| Marketing & Advertising | Initial Marketing Campaign | First ads on social media, Google Ads | 1,000 |

|  |  |
| --- | --- |
| **Total** | **8000** |

* **Operational Costs**

|  |  |  |  |
| --- | --- | --- | --- |
| Cost Category | Item | Description | Operational Cost |
| Website Development & Design | Hosting | Website server hosting | 250 |
|  | Website Maintenance | Updates and fixes | 350 |
|  | E-commerce & Payment Solutions | Payment Gateway Fees | 100 (2.9% + 0.30 per transaction) |
| Marketing & Advertising | Initial Marketing Campaign | ads on social media, Google Ads | 500 |
|  | Social Media Management | Content creation and engagement | 450 |
| Customer Support | Part-time support | Support for inquiries | 350 |

|  |  |
| --- | --- |
| **Total** | **2000** (excluding transaction fees) |

**2.3)** **Identify and Estimate Benefits**

### **Estimated Revenue Calculation**

* Average Order Value:200$
* Monthly Orders:100
* Monthly Revenue: Average Order Value × Monthly Orders >>100\*200=20000$
* **Cost of Goods Sold**

50% of revenue, or $20,000 × 50% = $10,000

* **Gross Profit**

Gross Profit = Monthly Revenue – COGS

20,000-10,000=10,000

* **Net Profit**

Net Profit = Gross Profit - Operating Expenses

10,000-2000=8000

* **Annual Profit**

monthly net profit \* 12

8000\*12=96,000

|  |  |  |
| --- | --- | --- |
| Metric | Calculation | Amount |
| Monthly Revenue | Average Order Value × Monthly Orders | $20,000 |
| Cost of Goods Sold (COGS) | Revenue × COGS % (e.g., 50%) | $10,000 |
| Gross Profit | Monthly Revenue - COGS | $10,000 |
| Operating Expenses | Monthly costs (from cost table) | $2,000 |
| Net Profit | Gross Profit - Operating Expenses | $8,000 |
| Annual Profit | monthly net profit \* 12: | $96,000 |

## **2.4) Calculate Net Present Value (NPV)**

NPV helps determine the investment’s feasibility by calculating the present value of future cash flows and subtracting initial costs.

## Required Inputs

1. Future Cash Flows: Estimate the annual cash flow expected from the project.  
 - Assume the annual net profit of the project, after accounting for revenue and expenses, is $96,000.

2. Discount Rate: Used to account for inflation and investment risk over time.  
 - Let’s assume a discount rate of 10%.

3. Initial Costs: The total cost paid to start the project, representing the initial investment.  
 - Assume the initial cost of $8,000.

4. Project Duration: The expected number of years the project will continue or yield cash flows.  
 - Let’s assume the project will last for 5 years.

## NPV Calculation Formula

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Description automatically generated with medium confidence**- Cash Flow: Annual cash flow for year t  
- r: Discount rate  
- t: Year (from 1 up to project duration)

## **2.5)** **Calculate Return on Investment (ROI)**

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Inputs for ROI Calculation

1. Total Net Profit: This is the total cash flow over the project duration minus the initial investment.
   * In our case, the total cash flows over 5 years (from the NPV calculation) is $363,915.16.
   * Subtracting the initial investment of $8,000, the total net profit is:
   * 363,915.16−8,000=355,915.16
2. Initial Investment: The cost required to start the project, which is $8,000.

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**2.6)** **Risk Assessment**

 **Market Size Misestimation**: Underestimating or overestimating the potential customer base can lead to inaccurate sales forecasts.

 **Revenue Projections**: Overly optimistic sales expectations may result in financial difficulties if actual sales fall short.

 **Unexpected Costs**: Unforeseen expenses, such as website maintenance or increased shipping costs, can negatively impact profit margins.

 **Customer Acquisition Costs**: High costs associated with attracting customers through marketing and advertising can reduce overall profitability.

 **Inventory Management Risks**: Poor inventory control can lead to excess stock, resulting in increased holding costs, or stockouts, leading to missed sales opportunities.

 **Payment Processing Fees**: Transaction fees from payment processors can significantly reduce profit margins, especially with high sales volumes.

 **Economic Downturns**: Economic challenges can decrease consumer spending, directly impacting sales and revenue.

 **Supply Chain Disruptions**: Issues with suppliers or logistics can lead to delays in product availability, affecting sales and customer satisfaction.

 **Legal Compliance Risks**: Failing to comply with e-commerce regulations, such as data protection laws, can result in fines and legal issues.

 **Competitive Pressure**: A saturated market with many competitors can make it difficult to attract and retain customers, impacting profitability.