VASERIA

Crafted by nature
perfected by hands

ADVANCED MANAGERIAL ACCOUNTING

ACT360

Group Report on Vaseria

Section: 01

Semester: Spring 2025

Submitted to:

Sheikh Mohammad Rabby (Rby)

Lecturer

Department of Accounting & Finance, School of Business and Economics

North South University

Name	ID
Md. Shahriyar Bin Feroz	2131834630
Raisan Ahmed	2131278630
Md. Siddiqur Rahman	2212821030
Tasnuva Hossain	2212901630
Rifah Nanjiba Khan	2231169630

Date of Submission: 15th of April, 2025

LETTER OF TRANSMITTAL

15 April, 2025

Sheikh Mohammad Rabby (Rby)

Lecturer, Department of Accounting &
Finance, North South University,
Bashundhara R/A, Dhaka.

Subject: Submission of **Vaseria** Wooden Vase Project.

Dear Sir,

We are pleased to inform you that we have completed our ACT360 group project and are excited to submit our project report on **Vaseria**, a wooden vase business. We are truly grateful for the opportunity to work on this project under your guidance, support, and encouragement. This report highlights our efforts in designing and developing an elegant yet practical wooden vase, as well as outlining our strategy for expanding the business.

The report covers comprehensive information about our product, its cost structure, and a detailed examination of managerial accounting aspects. It also discusses our target customer base, competitor insights, market analysis, and the key steps we followed to turn our concept into reality.

We sincerely apologize for any errors that may be present in this project. We hope it successfully fulfills the objectives of the course and would be grateful for your valuable feedback. Thank you for your continued support and guidance throughout the course.

Sincerely,

Md. Siddiqur Rahman (2212821030)
Raisan Ahmed (2131278630)
Md. Shahriyar Bin Feroz (2131834630)
Tasnuva Hossain (2212901630)
Rifah Nanjiba Khan (2231169630)

ABSTRACT

Vaseria strives to create beautiful wooden vases that are a statement of modernism achieved through a fusion of refined materials like glass, sand, pebbles, and wood. We prioritize unique and aesthetically pleasing vases that enhance the appearance of our customers' homes. We use natural materials in our production process to ensure durability and eco-friendliness. Our innovative designs are inspired by the desire to grab the attention of the growing urban population, who are eager for new ways to create a comfortable and stylish living environment. This project discussed the market dynamics of the home décor sector in Bangladesh, highlighting the rising need for environmentally friendly decorative accessories. We have presented our product estimations and performed cost analysis using the Simple and Activity-Based Costing (ABC) approaches to illustrate how cost allocation affects profitability. Because our single-product line had higher profit margins and simpler allocation techniques, Simple Costing worked better for us. Afterward, we discussed our pricing plan with a 19.3% markup and created a master budget for our product. We also created an income statement and performed a break-even and sensitivity analysis. This project shows how new entrepreneurs can start a profitable business in the home décor sector, given that we have proper budgeting plans and key materials are sourced efficiently.

TABLE OF CONTENTS

INTRODUCTION

At Vaseria, we craft vases that blend natural beauty with artistic design. The vase is thoughtfully handmade using wooden pillars, glass, a solid wooden base, and a touch of colorful pebbles and elegant flowers - creating a piece that adds warmth and charm to any space while complementing all types of décor. Because each vase is handcrafted, no two pieces are exactly alike, giving each one a unique character.

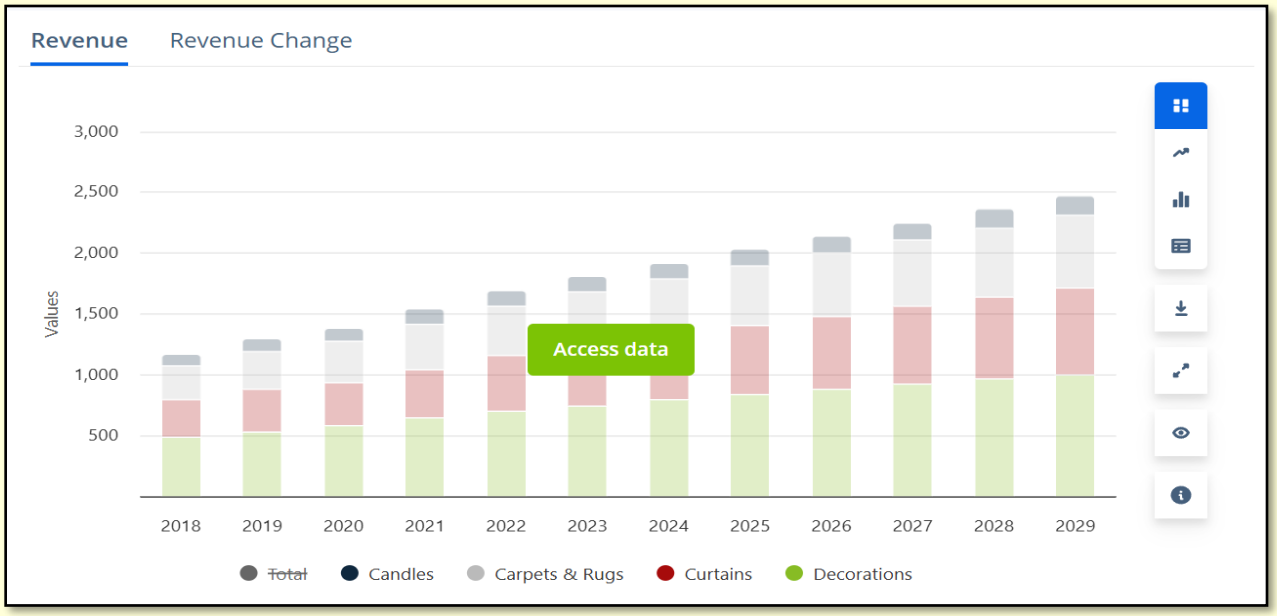
Our vases offer more than just visual appeal—they are designed with a purpose in mind. Whether used to display fresh flowers, hold glass containers, or act as elegant candle stands, they bring both beauty and functionality to any space. Their lightweight and sturdy build make them easy to move and perfect for a range of settings, from cozy living rooms to workspaces or even as a centerpiece on a dinner table. Wherever they are placed, they uplift the atmosphere with warmth and charm.

At the heart of what we do is a commitment to our customers. We believe that stylish, eco-friendly home décor should be within everyone's reach, and that is why we focus on keeping our products accessible without compromising on quality. As we look to the future, we plan to expand our collection with a variety of designs, including both sleek modern styles and more detailed, artistic pieces.

"At Vaseria, the vases are crafted by nature, and perfected by hands."

MARKET ANALYSIS

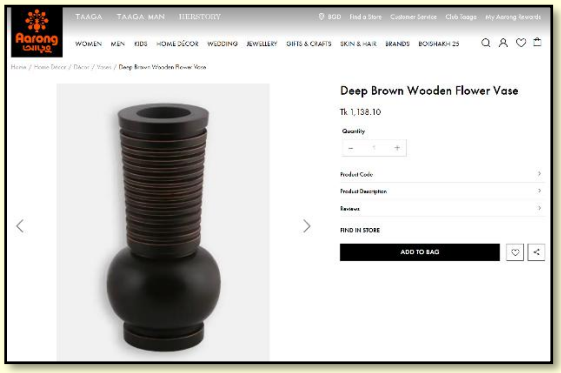
The Home Décor market in Bangladesh is experiencing significant growth and development due to shifting customer preferences and increasing income levels from rapid economic expansion. Especially customers in urbanized areas are increasingly looking for unique and aesthetically pleasing items to enhance the appearance of their homes. This has led to a greater willingness to spend more on contemporary furniture and decorative accessories to create a comfortable and stylish living environment. As consumers are seeking to embrace their cultural heritage, room decorations like ceramic or porcelain ornaments, wooden vases, and flower pots are growing in popularity. Particularly, the rising demand for such decorative items in hotels, restaurants, and resorts can be an untapped market for future growth. It is estimated that the revenue from the Home Décor market segment in 2025 will be 406.25 million USD in Bangladesh and is projected to experience an annual growth rate of 4.99% (CAGR 2025-2029). Due to growing local demand and more export contributions, Bangladeshi handicrafts, such as wooden items like vases, generated about 29.75 million USD in export earnings in the fiscal year 2022–2023. From our analysis, we can conclude that the growing demand for home decorations created from natural materials and other underlying macroeconomic factors are shaping the market and presenting opportunities for new entrepreneurs.

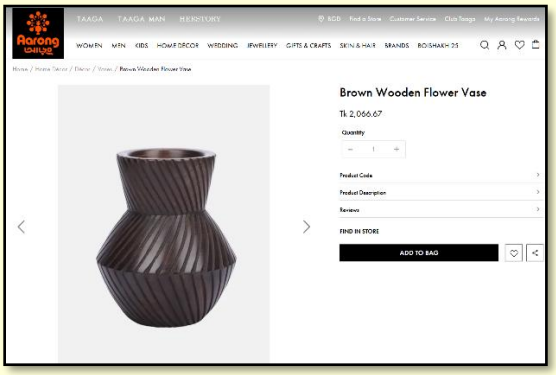


Bar Chart: Growing Revenue Trend for Home Decorations

COMPETITOR ANALYSIS OF WOODEN FLOWER VASE

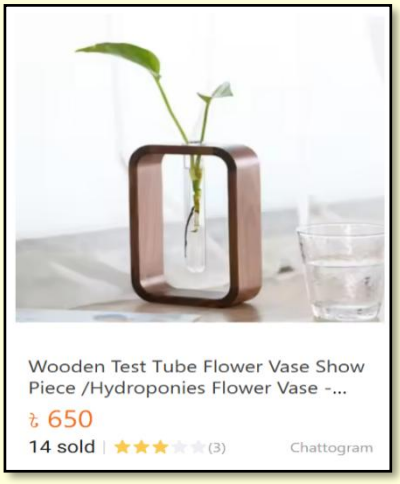
Based on our research, there are not many competitors in the market for wooden flower vases. However, two of the major competitors are Aarong and Daraz, both of which are well-known brands. Additionally, competitors like Isho Bangladesh and WoodVillage offer their own unique styles of wooden flower vases.

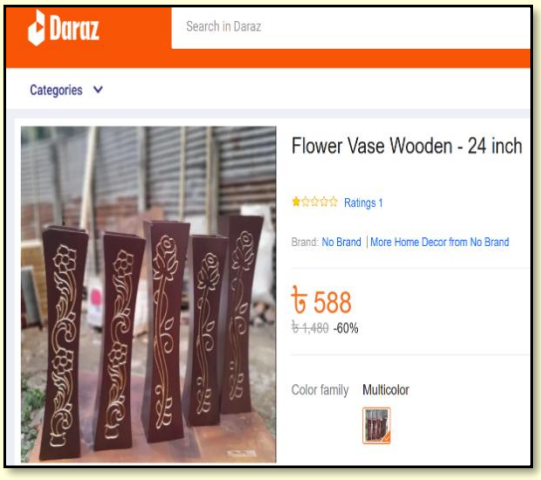




Aarong

Aarong is well-known for its ethically made handcrafted products, one of which is its beautiful wooden vases for flowers. The price for small vases starts from 300 BDT, while large wooden vases range from 1,000 BDT to 2,500 BDT, depending on their uniqueness. Most of their vases feature a dark brown or dark color theme, incorporating both modern and traditional styles. This pricing strategy allows middle-income groups to afford better decorative options for their rooms.



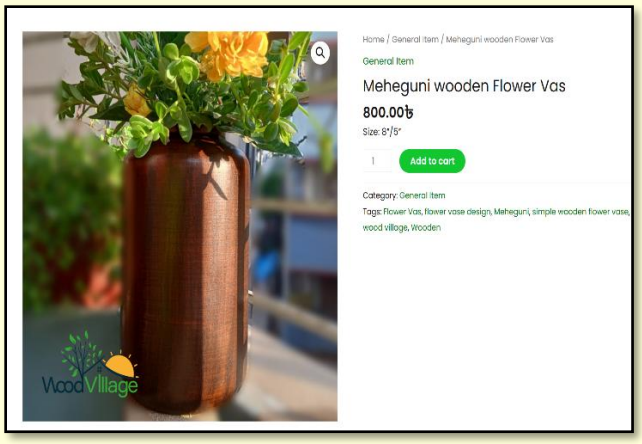


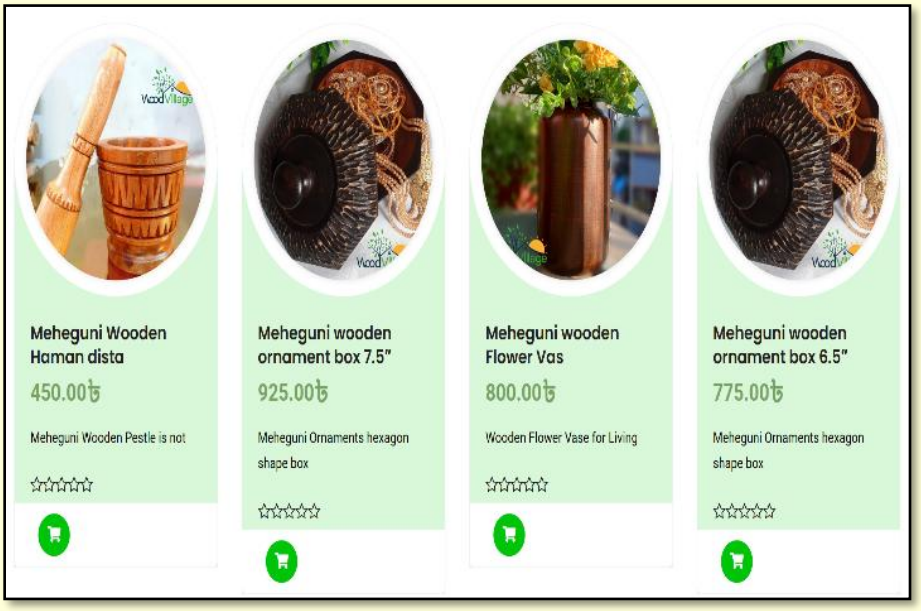
Daraz

Daraz is an e-commerce platform that offers a wide variety of products, ranging from technology items to home decor. One of the products available is their wooden flower vase, which is priced between 200 BDT and 700BDT. This makes it affordable for individuals in the low to middle income brackets.

Isho Bangladesh

Isho Bangladesh is a modern furniture brand known for its stylish tables, chairs, and beds, including a diverse range of vases. Their vases come in various sizes and shapes, showcasing uniqueness through the use of materials such as ceramics, glass, and wood, all designed to be modern and aesthetically pleasing. The price range for their vases starts from 290 BDT and can go up to 4,900 BDT, depending on the materials used. Notably, their wooden vases are priced at 1,790 BDT. Customers who prefer subtle-colored vases with a modern style will find their offerings appealing and easy to purchase.





WoodVillage

WoodVillage is an online selling platform that specializes in wooden products and exclusive items. As their name suggests, their offerings primarily focus on wood-based products. In addition to wooden flower vases, they also create and sell wooden ornament boxes, haman distas, and many other unique items. The price of their wooden flower vase is 800 BDT, making it an affordable choice for the middle-income group.

WHAT MAKES US APART

Our handcrafted vases, made from natural partex wood, are perfect for those who appreciate unique and artisanal home décor. Their simple yet elegant design complements both modern and vintage styles, while the natural texture of the wood adds a distinctive touch. Built from durable materials, these vases are not only long-lasting but also serve as a sustainable investment that maintains its value over time.

Using wood—a renewable and biodegradable resource—helps minimize environmental impact compared to non-degradable materials like plastic or metal. At the end of its life, the product can naturally decompose, contributing less waste to landfills.

Our production process is energy-efficient, requiring less power than ceramic alternatives by assembling the wood, glass components and artificial flowers using minimal machinery, while being less disruptive to the habitat. Additionally, sourcing wood locally helps reduce transportation emissions, further lowering our carbon footprint.

We also prioritize ethical labor practices, limiting work hours to avoid overtime and ensuring we have adequate rest and weekends off. Our approach to product design and production is guided by the principles of Reduce, Reuse, and Recycle, aligning with our commitment to a more sustainable and environmentally responsible future.

MANUFACTURING PROCESS

To complete manufacturing our vase, we followed a step-by-step production process.

Step-by-Step Production Process:

1. For Preparing the Base and the Structure:

- We used a **wooden disc** as the base of the vase.
- We used four squared **wooden sticks** as the pillar to secure the vase's head.

2. Attaching Wooden Sticks as the Main Frame:

- Then we applied strong adhesive and **2-inch screws** to attach the wooden sticks securely.
- We positioned, glued, and screwed the wooden sticks both vertically around the base and attached four different wooden sticks horizontally to make a **frame**.
- We ensured the sticks were evenly spaced to maintain a balanced structure.

3. Adding Colors:

- Then, we used "**Fair Straw**" colored **paint** to coat the vase, ensuring an even finish for a polished and aesthetic appearance.

4. Adding the Glass Base:

- After that, we placed a **glass jar** inside the wooden frame as the base of the vase.

5. Adding Decorative Elements:

- Then, we added **beads** horizontally over the top of the wooden frame.
- Lastly, we added **sand and pebbles** inside the glass jar and finished by placing **colorful artificial flowers** to accomplish the vase.

PICTURES OF THE MANUFACTURING PROCESS

PACKAGING


VASERIA
Crafted by nature
perfected by hands


VASERIA
Crafted by nature
perfected by hands

ESTIMATIONS

For this project, a group of five individuals has been formed, with all members participating equally and no roles of authority assigned.

Direct Labor Cost & Total Production Capacity Calculation:

Direct Labor	
Item	Unit
Labor Need	5
Budgeted Production for the Month	266
Time Required Per Product	3
Labor Rate Per Hour	40
Daily Working Hour	8
Working Days Per Month	20
Total Direct Labor Cost	32000
Per Unit Labor Cost	120.3007519

Each team member will dedicate **8 hours per day** to the project, operating for **20 working days per month**.

- **Total Labor Hours per Month**:
  5 members × 8 hours/day × 20 days/month = 800 hours/month
- **Hourly Labor Cost**:
  40 BDT/hour

- **Total Labor Cost per Month**:

  800 hours/month × 40 BDT/hour = 32,000 BDT

Production Capacity

Each unit of production requires **3 hours** to complete. Based on the total available labor hours:

- **Maximum Production Capacity per Month:**

  800 hours/month ÷ 3 hours/unit = 266 units/month

Direct Material Costs Calculation:

Direct Material						
Item	Unit Price	Units We get	Unit	Cost Per Unit	Total Units	Total Cost for 266 Units
Wooden Pillar	75	1	0.55	41.25	266	10972.5
Wooden Base	75	1	0.095	7.125	266	1895.25
Sand	0.012	1	1200	14.4	266	3830.4
Paint	0.3	1	300	90	266	23940
Glue	0.48	1	150	72	266	19152
Screw	1	1	4	4	266	1064
Pearl Bead	1	1	103	103	266	27398
Pebble	0.133	1	1500	199.5	266	53067
Label Sticker	0.625	1	1	0.625	266	166.25
Glass Jar	150	1	1	150	266	39900
Glue Stick	12	1	1	12	266	3192
Total Cost				693.9		184577.4

Wooden Pillar

Each unit uses 0.55 square feet of a wooden pillar, with a unit price of Tk.75. This results in a total cost of 41.25 BDT per unit.

Wooden Base

The wooden base is used at a rate of 0.095 square feet per unit. At Tk.75 per unit, the cost comes to 7.125 BDT per unit.

Sand

Each unit contains 1200 grams of sand. With a unit price of Tk. 0.012, the total cost per unit is 14.4 BDT.

Paint

300 milliliters of paint are used per item at a rate of Tk. 0.3 each, resulting in a total paint cost of 90 BDT per unit.

Glue

Glue is applied at 0.48 grams per item, costing Tk. 150 per unit. The total cost per item is 72 BDT.

Screw

Each item requires 4 screws, with each screw priced at Tk. 1. This results in a total cost of 4 BDT per unit.

Pearl Bead

Each unit uses 103 pearl beads, with a unit cost of Tk. 1. This totals 103 BDT per unit.

Pebble

A total of 1500 grams are used per item. At Tk. 0.133 each, which adds up to 199.5 BDT per unit.

Label Sticker

Each item uses 1 label sticker, priced at Tk. 0.625. The total cost per unit is 0.625 BDT.

Glass Jar

Each item uses one glass jar, with a unit price of Tk. 150. This results in a total cost of 150 BDT per unit.

Glue Stick

One glue stick is used per unit, priced at Tk. 12. The total glue stick cost per unit is 12 BDT.

Manufacturing Overhead Calculations:

The manufacturing overhead (MOH) includes all indirect costs incurred during production that cannot be directly attributed to individual units. These costs are essential to support the manufacturing process and are categorized into three components: **Indirect Materials**, **Indirect Labor**, and **Other Overhead Costs**.

Manufacturing Overhead			
Indirect Material			
Item	Total Needed	Cost Per Unit	Total Cost
Paint Brush	15	100	1500
Sand Paper	1	60	60
Gloves	100	5	500
Paint Thinner	14	200	2800
Paper	100	3	300
Saw	3	240	720
Hammer	4	110	440
Screw Driver	4	80	320
Glue Gun	1	220	220
Total Indirect Material Cost			6860

Paint Brush

A total of 15 paint brushes are required, each costing Tk. 100. This results in a total cost of Tk. 1,500.

Sand Paper

Only 1 unit of sand paper is needed, with a cost of Tk. 60 per unit. The total cost is Tk.60.

Gloves

100 pairs of gloves are used in the process, each priced at Tk. 5, leading to a total cost of Tk. 500.

Paint Thinner

14 liters of paint thinner are needed, at a cost of Tk. 200 per unit. The total cost is Tk. 2,800.

Paper

100 pieces of paper are required for the project. With a unit cost of Tk. 3, the total cost comes to Tk. 300.

Saw

Three saws are included as part of the indirect material, with each costing Tk. 240. This results in a total cost of Tk. 720.

Hammer

A total of 4 hammers are needed, each priced at Tk.110. The overall cost is Tk. 440.

Screw Driver

Four screwdrivers are used, at a unit cost of Tk. 80. The total cost is Tk. 320.

Glue Gun

One glue gun is needed for the project, priced at Tk. 220. The total cost is Tk. 220.

Indirect Labor:

Indirect Labor	
Social Media Moderator	2000
Total Indirect Labor Cost	2000

Indirect labor costs are associated with personnel who support production activities but are not directly involved in the manufacturing process. For this project, a social media moderator is employed at a cost of 2,000 Tk per month, which constitutes the total indirect labor expense.

Other Overhead Cost	
Items	Estimations
Electricity	1600
Quality Control	1000
Rent	4000
Total Other Overhead Cost	6600

Other overhead costs include various operational expenses necessary for supporting production. These include electricity, quality control, and rent. Electricity costs are estimated at 1,600 Tk per month, and quality control is estimated at 1,000 Tk. The largest overhead expense is rent, which is 4,000 Tk per month. Collectively, these costs total 6,600 Tk.

TOTAL MANUFACTURING OVERHEAD

The total manufacturing overhead cost is the sum of all indirect materials, indirect labor, and other overhead expenses.

MOH Calculation	
Total Indirect Material	6860
Total Indirect Labor	2000
Total Other Overhead Cost	6600
Total MOH	15460
MOH Per Unit	58.12030075

Thus, the total MOH is 15,460 Tk. The total production capacity for the month is 266 units. To determine the manufacturing overhead cost per unit, the total MOH is divided by the number of units produced. This results in an overhead cost of 58.12 Tk per unit.

Total Manufacturing Cost

The overall cost of manufacturing 266 units is calculated by considering all expenses related to direct materials, direct labor, and manufacturing overhead (MOH). This analysis offers a detailed perspective on production expenses, both in total and on a per-unit basis.

Total Manufacturing Cost		
Accounts	Total	Per Unit
Total Direct Material Cost	184577.4	693.9
Total Direct Labor Cost	32000	120.3007519
Total MOH	15460	58.12030075
Total Manufacturing Cost	232037.4	872.3210526

Total Direct Material Cost

The overall direct material cost for manufacturing 266 units of wooden flower vases amounts to 184,577.4 Tk. On a per-unit basis, this translates to 693.9 Tk for each unit. This cost encompasses all the raw materials that are directly used in the finished product, including the wooden pillar, wooden base, pearl beads, glue, glass jar, and other necessary materials.

Total Direct Labor Cost

The overall direct labor cost incurred during the manufacturing process is 32,000 Tk for 266 production units. The direct labor cost per unit is 120.3007519 Tk each. This indicates the time and effort contributed by the production team, who work 800 hours a month at a labor rate of 40 Tk per hour.

Total Manufacturing Overhead (MOH)

The total manufacturing overhead expense, which includes indirect materials, indirect labor, and various other overhead costs, amounts to 15,460 Tk. When distributed over the production of 266 units, the manufacturing overhead per unit is 58.12030075 Tk. This indicates that all indirect costs have been adequately included in the overall manufacturing cost.

Total Manufacturing Cost

The overall sum of all production expenses, which include direct materials, direct labor, and manufacturing overhead (MOH), amounts to 232037.4 Tk for the creation of 266 units of wooden flower vases. The cost of manufacturing per unit totals 872.3210526 Tk, calculated as follows:

Total Manufacturing Cost Per Unit = Direct Material Cost Per Unit + Direct Labor Cost Per Unit + MOH Per Unit

872.3210526 = 693.9 + 120.3007519 + 58.12030075

Support Cost & Schedule of Direct, Indirect, Fixed & Variable Cost

Overview

The table presented here offers an in-depth breakdown of the Schedule of Direct, Variable, Indirect, and Fixed Costs, providing insights into the categorization and allocation across various components of the manufacturing process of wooden flower vases. This analysis distinguishes between direct and indirect costs while identifying both fixed and variable components to assist in effective cost management.

Schedule of Direct, Variable, Indirect & Fixed Cost					
Items	Cost Type	Variable	Direct	Fixed	Indirect
Direct Material					
Wooden Pillar	Direct Variable	10972.5	10972.5		
Wooden Base	Direct Variable	1895.25	1895.25		
Sand	Direct Variable	3830.4	3830.4		
Paint	Direct Variable	23940	23940		
Glue	Direct Variable	19152	19152		
Screw	Direct Variable	1064	1064		
Pearl Bead	Direct Variable	27398	27398		
Pebble	Direct Variable	53067	53067		
Label Sticker	Direct Variable	166.25	166.25		
Glass Jar	Direct Variable	39900	39900		
Glue Stick	Direct Variable	3192	3192		
Direct Labor		32000	32000		
Manufacturing Overhead					
Indirect Material	Indirect Variable	6860			6860
Indirect Labor	Indirect Fixed			2000	2000
Electricity	Indirect Fixed			1600	1600
Quality Control	Indirect Fixed			1000	1000
Rent	Indirect Fixed			4000	4000
Selling and Administrative Support cost	Indirect Fixed			17600	17600
Procurement	Indirect Fixed			700	700
Delivery	Indirect Fixed			460	460
Total		223437.4	216577.4	27360	34220

Direct Material Costs

Direct material costs are essential to the production process as it exhibits expenses directly attributable to the finished product. These costs are entirely variable and include:

- Wooden Pillar: Tk 10972.5
- Wooden Base: Tk 1895.25
- Sand: Tk 3830.4
- Paint: Tk 23940
- Glue: Tk 19152
- Screw: Tk 1064

- Pearl Bead: Tk 27398
- Pebble: Tk 53067
- Label Sticker: Tk 166.25
- Glass Jar: Tk 39900
- Glue Stick: Tk 3192

Total Direct Material Cost: Tk. Tk. 184577.4

This type of cost is entirely variable, as it increases in direct relation to production output, illustrating the changing nature of material consumption.

Direct Labor

Direct labor cost that totals Tk. 32000 shows a variable expense directly related to production. These costs fluctuate with the level of manufacturing activity.

Manufacturing Overhead

Manufacturing overhead includes indirect expenses related to the production process, which can be divided into fixed and variable components

- Indirect Material (Variable): Tk. 6860
- Indirect Labor (Fixed): Tk. 2000
- Electricity (Fixed): Tk. 1600
- Quality Control (Fixed): Tk. 1000
- Rent (Fixed): Tk. 4000

Overhead Cost Summary:

- Variable Overhead: Tk. 6860
- Fixed Overhead: Tk. 8600

Selling and Administrative Costs

Selling and Administrative costs that are categorized as fixed and indirect amounted to Tk. 17600. This encompasses expenditure that is related to support activities required for operational and strategic continuity.

Additional Fixed Support Costs

Procurement: Tk. 700

Delivery: Tk. 460

Overall Cost Analysis

- Total Variable Costs: Tk. 223437.4
- Total Fixed Costs: Tk. 216577.4
- Total Direct Costs: Tk. 27360
- Total Indirect Costs: Tk. 34220

The cost analysis indicates a significant dependence on variable costs, primarily influenced by direct materials and labor, which support the scalability of production. Fixed costs, although contributing to structural stability, offer avenues for enhancing operational efficiency and cost-effectiveness.

Cost Analysis Report

The subsequent information offers an in-depth analysis of production costs categorized as Prime Costs, Conversion Costs, and Full Costs to aid in strategic financial decision-making.

Prime Cost	
Direct Material	184577.4
Direct Labor	32000
Total Prime Cost	216577.4
Conversion Cost	
Direct Labor	32,000
MOH	15460
Total Conversion Cost	47,460
Full Cost	
Total Variable Cost	223437.4
Total Fixed Cost	27360
Total Full Cost	250797.4

Prime Costs

Prime costs refer to the total of all direct costs that are directly linked to the manufacturing process. This encompasses:

- **Direct Material**: Tk. 184577.4
- **Direct Labor**: Tk. 32000

Total Prime Cost: Tk. 216577.4

This indicates the primary expenditures that are used for raw materials and direct labor required for the production of finished goods.

Conversion Costs

Conversion costs are those necessary to transform the raw materials into finished goods, which consists of direct labor and manufacturing overhead (MOH):

- **Direct Labor:** Tk. 32000
- **Manufacturing Overhead (MOH):** Tk. 15460

Total Conversion Cost: Tk. 47460

This reflects the resources required beyond raw materials, focusing on the value-added process during production.

Full Costs-

Full Costs consist of both variable and fixed components to show a holistic view of total production expenses.

- **Total Variable Cost:** Tk. 223437.4
- **Total Fixed Cost:** Tk. 27360

Total Full Cost: Tk. 250797.4

This calculated amount guarantees that all production costs are fully covered, offering insights into the cost structure that help evaluate profitability and pinpoint areas for efficiency enhancements.

UNIT PRODUCT COST UNDER SIMPLE COSTING METHOD

Under simple costing system, we have taken only one allocation base for allocating overhead costs. Direct labor hour is an appropriate allocation base since it covers a significant portion of our total incurred expenses. Our POHR for the product comes out to Tk. 19.325 per unit of product. The calculation is (15460/800) = 19.325

Simple Costing System			
Cost Accounts	Input Per Unit of Output	Cost Per Unit of Input	Cost Per Unit of Output
Direct Material			
Wooden Pillar	0.55	75	41.25
Wooden Base	0.095	75	7.125
Sand	1200	0.012	14.4
Paint	300	0.3	90
Glue	150	0.48	72
Screw	4	1	4
Pearl Bead	103	1	103
Pebble	1500	0.133	199.5
Label Sticker	1	0.625	0.625
Glass Jar	1	150	150
Glue Stick	1	12	12
Direct Labor			120
MOH(Allocated Using Labor Hours)	3	19.325	57.975
Unit Product Cost Using Simple Costing			871.875

The Unit Product Cost under the Simple Costing System is 871.875 BDT.

UNIT PRODUCT COST UNDER ABC SYSTEM

Unit Product Cost Under ABC System				
Cost Pool	Cost Driver	Activity Cost	Cost Driver Quantity	Allocated Rate
Indirect Material				
Paint Brush	Per Bundle Needed	1500	1	1500
Sand Paper	Per Sheet Needed	60	1	60
Gloves	Per Box Needed	500	1	500
Paint Thinner	Per Can Needed	2800	14	200
Paper	Per Packet Needed	300	2	150
Saw	Per Saw Needed	720	3	240
Hammer	Per Hammer Needed	440	4	110
Screw Driver	Per Screw Driver Needed	320	4	80
Glue Gun	Per Gun Needed	220	1	220
Other				
Electricity	Machine hours	1600	800	2
Quality Control	Labor hours	1000	800	1.25
Rent	Per square feet	4000	500	8
Indirect Labor	Labor Hours	2000	800	2.5

For the Activity-Based Costing system (ABC), we assigned a specific cost driver to each manufacturing overhead cost category to reflect the true cause-and-effect relationship of resource usage.

For **indirect materials**, the following cost drivers were used:

- **Paint Brush** cost is driven by ***per bundle needed***, as usage depends on the number of bundles required.
- **Sand Paper** is allocated ***per sheet needed***, reflecting how many sheets are used in production.
- **Gloves** are costed ***per box needed***, since they are consumed in box quantities during manufacturing.
- **Paint Thinner** uses ***per can needed*** as the cost driver, with more units produced requiring more cans.

- **Paper** is allocated ***per packet needed***, which aligns with how paper is used in set amounts.
- **Saw** costs are allocated ***per saw needed***, based on the number of saws used for the process.
- **Hammer** expenses are assigned *per* ***hammer needed***, indicating usage per production unit.
- **Screw Driver** costs are distributed ***per screw driver needed***, based on the tools required per batch.
- **Glue Gun** is assigned ***per gun needed***, since it is a one-time tool requirement for the task.

For other overhead costs:

- **Electricity** is driven by ***machine hours***, as increased machinery usage leads to higher electricity consumption.
- **Quality Control** is allocated based on ***labor hours***, reflecting the time workers spend inspecting products.
- **Rent** is distributed according to ***square feet used*** since rental cost depends on the amount of space occupied.

Lastly, **indirect labor** is allocated using *labor hours* as the cost driver, which accurately reflects the effort and time support staff spend on production-related activities.

Support costs such as **procurement** and **delivery** were excluded from this allocation because they are not directly tied to manufacturing overhead.

Cost Pool	Allocated Rate	Cost Driver Quantity	Total Cost
Direct Materials			184577.4
Direct Labor			32000
Indirect Labor			
Paint Brush	1500	1	1500
Sand Paper	60	1	60
Gloves	500	1	500
Paint Thinner	200	14	2800
Paper	150	2	300
Saw	240	3	720
Hammer	110	4	440
Screw Driver	80	4	320
Glue Gun	220	1	220
Other			
Electricity	2	800	1600
Quality Control	1.25	800	1000
Rent	8	500	4000
Indirect Labor	2.5	800	2000
Total Cost Under ABC System			232037.4
Unit Produced			266
Cost Per Unit			872.3210526

Under the ABC system, the Unit Cost of our product is 872.321 BDT.

Product Line Profitability under Simple Costing and ABC System				
Accounts	Simple Costing		ABC Costing	
Revenue		244400		244400
Less: COGS		204890.625		204995.447
Gross Profit		39509.375		39404.5526
Sales Commission	4000		4000	
Marketing	2500		2500	
Transportation	3600		3600	
Packaging	2500		2500	
Office Supplies	1500		1500	
Internet	500		500	
Customer Service	3000		3000	
Total Expenses		17600		17600
Net Operating Income		21909.375		21804.5526
Net Profit Margin		8.964556056		8.92166638
Gross Profit Margin		16.16586538		16.1229757

Profitability under Simple Costing and ABC Costing varies because of how costs are allocated. The table shows that COGS under Simple Costing is 204,890.625 BDT, while ABC COGS is 204,995.447 BDT, as ABC assigns costs based on specific activities. This difference impacts profits. In Simple Costing, the Net Operating Income is 21,909.375 BDT, while in ABC, it has a profit of 21,804.553 BDT. The Net Profit Margin is 8.965% under Simple Costing but 8.922% under ABC. Similarly, the Gross Profit Margin is 16.166% for Simple Costing, compared to 16.123% for ABC. Since we only produce one product, Simple Costing is preferred as it is straightforward and aligns with our lower indirect costs.

Support Cost Allocation					
Accounts	Support Department		Operating Department		Proof
	Procurement	Delivery	Production	Sales	
Budgeted Cost Incurred Before Allocation	700	460	230438	16000	247598
Support Supplied by Procurement Department			60%	40%	
Support Supplied by Delivery Department			15%	85%	
Allocation of Procurement Department			420	280	
Allocation of Delivery Department			69	391	
Total Cost Allocated			230927	16671	247598

We used the Direct Method to allocate support costs, as because they are not significant. Support Department costs, which include Procurement and Delivery, are allocated to the Operating Department which includes production and Sales functions. Procurement expenses are divided 60% and 40% respectively between the two, while 85% of delivery costs are assigned to sales, given that most deliveries take place post-sale.

BUDGETS

Sales Revenue Budget

We estimate that we will sell around 235 units. By applying a 19.3% markup to our unit product cost of 871.875 tk, the price for each vase will be set at 1040 tk.

Revenue Budget	
Units To Be Sold	235
Selling Price Per Unit	1040
Total Sales	244400

Production Budget

We will produce 266 vases, assuming that we want to maintain 13.25% of budgeted sales in ending stock. Therefore, our target ending inventory is 31 (235 x 13.25% = 31.1375 ~ 31) units.

Production Budget	
Units To Be Sold	235
Target Ending Inventory of Finished Goods	31
Quantity Needed	266
Beginning Inventory of Finished Goods	0
Quantity To Be Produced	266

Direct Material Usage

The Direct Material Usage details all the raw materials required for producing each vase, indicating the units needed for every vase as well as the overall usage of each direct material.

Direct Material Usage						
Direct Material	Units Required Vase	Total Units Used For Production	Beginning DM Inventory	Total DM Puchase Needed	Cost Per DM	Total DM Usage
Wooden Pillar	0.55	146.3	0	146.3	75	10972.5
Wooden Base	0.095	25.27	0	25.27	75	1895.25
Sand	1200	319200	0	319200	0.012	3830.4
Paint	300	79800	0	79800	0.3	23940
Glue	150	39900	0	39900	0.48	19152
Screw	4	1064	0	1064	1	1064
Pearl Bead	103	27398	0	27398	1	27398
Pebble	1500	399000	0	399000	0.133	53067
Label Sticker	1	266	0	266	0.625	166.25
Glass Jar	1	266	0	266	150	39900
Glue Stick	1	266	0	266	12	3192
Total Cost						184577.4

Direct Material Budget

In order to keep 16% of the budgeted direct materials required for production as ending inventory, we will proceed with the following direct material purchases.

Direct Material Purchase							
Direct Material	Total DM Needed For Production	Target Ending DM Inventory	Total DM Needed	Beginning DM Inventory	DM Purchase Needed	Cost Per DM	Total DM Purchas
Wooden Pillar	146.3	23.408	169.708	0	169.708	75	12728.1
Wooden Base	25.27	4.0432	29.3132	0	29.3132	75	2198.49
Sand	319200	51072	370272	0	370272	0.012	4443.264
Paint	79800	12768	92568	0	92568	0.3	27770.4
Glue	39900	6384	46284	0	46284	0.48	22216.32
Screw	1064	170.24	1234.24	0	1234.24	1	1234.24
Pearl Bead	27398	4383.68	31781.68	0	31781.68	1	31781.68
Pebble	399000	63840	462840	0	462840	0.133	61557.72
Label Sticker	266	42.56	308.56	0	308.56	0.625	192.85
Glass Jar	266	42.56	308.56	0	308.56	150	46284
Glue Stick	266	42.56	308.56	0	308.56	12	3702.72
Total Cost							214109.784

Direct Labor Budget

We estimate that each unit will need 3 hours to make a vase, resulting in a total of 798 hours needed to manufacture 266 vases. Our hourly labor rate is 40 Tk. Thus, the direct labor cost for each unit will amount to 120 Tk (40 x 3). The overall projected direct labor cost is 31920 Tk.

Direct Labor Budget	
Quantity	266
Direct Labor Hour Per Unit	3
Number of Labor	5
Total Direct Labor Hours	798
Direct Labor Rate	40
Total Direct Labor Cost	31920
Direct Labor Cost Per Unit	120

Manufacturing Overhead Budget

As we have seen each vase incurs 25.7895 indirect variable cost. The total variable manufacturing overhead cost incurred is 6860.007 tk. Total fixed manufacturing overhead resulted in 15460.007 Tk before support cost allocation and 16620.007 Tk after support cost allocation. The total manufacturing overhead rate per unit is 62.48122932 Tk (16620.007/266).

Manufacturing Overhead Budget	
Total Production	266
Variable Manufacturing Overhead Rate	25.7895
Total Variable Manufacturing Overhead	6860.007
Fixed Manufacturing Overhead	8600
Total Manufacturing Overhead Before Support Cost Allocation	15460.007
Support Cost	1160
Total Manufacturing Overhead After Support Cost Allocation	16620.007
62.48122932	MOH/unit

Ending Inventory Budget

Based on simple costing, the production cost for each unit is 871.875 Tk. To determine the cost of the finished goods ending inventory, this amount is multiplied by the number of vases, which is 31. The targeted number of direct materials to be maintained as ending inventory is multiplied by their respective costs.

Ending Inventory Budget			
Materials	Ending Units	Cost Per Unit	Total Cost
Wooden Pillar	23.408	75	1755.6
Wooden Base	4.0432	75	303.24
Sand	51072	0.012	612.864
Paint	12768	0.3	3830.4
Glue	6384	0.48	3064.32
Screw	170.24	1	170.24
Pearl Bead	4383.68	1	4383.68
Pebble	63840	0.133	8490.72
Label Sticker	42.56	0.625	26.6
Glass Jar	42.56	150	6384
Glue Stick	42.56	12	510.72
Total DM Ending Inventory	138773.0512	315.55	29532.384
Total Finished Goods Inventory	31	871.875	27028.125
Total Ending Inventory			56560.509

Cost of Goods Sold Budget

The total cost of goods manufactured is obtained by adding up all the direct material, direct labor, and manufacturing overheads. The targeted ending finished goods inventory is subtracted from the total manufactured units to get the cost incurred for vases that were sold.

Cost of Goods Sold Budget	
Cost of Goods Manufactured	
Direct Material Usage	184577.4
Direct Labor	31920
Manufacturing Overhead	16620.007
Cost of Goods Available For Sale	233117.407
Ending Finished Goods Inventory	27028
Cost of Goods Sold	206089

Pricing Strategy

We have decided to mark up our unit product cost by 19.3%, leading us to charge 1040 Tk per unit sold (871.875 x 1.193 = 1040.15 ~ 1040).

As our wooden vase uses a premium glass jar and high-quality sand and pebbles, we think 1040 Tk is an appropriate price for our wooden flower vase.

INCOME STATEMENT

Income Statement using the Traditional Format:

Traditional Format		
Budgeted Income Statement		
Account		
Sales Revenue		244400
COGS		206089
Gross Profit		38311
Less: S&A		
Sales Commission	4000	
Marketing	2500	
Transportation	3600	
Packaging	2500	
Office Supplies	1500	
Internet	500	
Customer Service	3000	
Procurement	700	
Delivery	460	18760
Net Operating Income		19551

Income Statement using the Contribution Format:

Contribution Format	
Budgeted Income Statement	
Account	
Sales Revenue	244400
Less: Variable Cost	197398
Contribution Margin	47002.3
Less: Fixed Cost	27360
Net Operating Income	19642.3

Account		Per Unit
Sales Revenue	244400	1040
Variable Cost	197398	839.99
Contribution Margin	47002.3	200.01
Contribution Ratio		0.19232

Break Even Point Calculation:	
Account	
Total Fixed Cost	27360
Per Unit Contribution Margin	200.01
Break-Even Point in Units	136.793
Break-Even Point in BDT	142265

Break-Even Point in Units:

In order to cover all costs and reach the break-even point, approximately 137 vases need to be sold. Any units sold beyond this point will generate profit, while selling fewer will result in a loss.

Break-Even point in BDT:

A sales revenue of around 142,265 BDT is required to break-even. This is the minimum revenue needed to cover all fixed and variable costs, ensuring no profit or loss is made.

CVP ANALYSIS

Margin of Safety Calculation:	
Account	
Margin of Safety in Units	129.207
Margin of Safety in BDT	134375
Margin of Safety in Ratio	0.12424

The margin of safety has been determined to be 129.207 units, 134,375 BDT, or 12.424%. This means that our revenue could decrease by up to 12.424% before we reach the break-even point. If sales fall beyond this threshold—either in units or value—we will begin to face losses. While a low margin of safety increases the risk of loss, our product is relatively safe due to the high margin of safety.

Degree of Leverage Calculation:	
Account	
Contribution Margin	47002.3
Net Operating Income	19642.3
Degree of Leverage	2.39291

The degree of operating leverage is 2.393%, indicating that a 1% rise in sales will lead to a 2.393% increase in Operating Income, while a 1% decline in sales will cause a 2.393% decrease in Operating Income. As a newly established business, it's important for us to keep operating leverage low. Doing so allows more flexibility in managing costs and expenses in response to shifts in sales or market conditions.

SENSITIVITY ANALYSIS

If 10% Decrease in Demand		
Contribution Format		
Budgeted Income Statement		
Account	Per Unit	Total
Sales Revenue	1040	219960
Less: Variable Cost	839.99	177658
Contribution Margin	200.01	42302.1
Less: Fixed Cost		27360
Net Operating Income		14942.1

This will result in our Net Operating Income falling by [(19642.3-14942.1)/19642.3] × 100% = 23.93%.

If a 10% Increase in Demand		
Contribution Format		
Budgeted Income Statement		
Account	Per Unit	Total
Sales Revenue	1040	268840
Less: Variable Cost	839.99	217137
Contribution Margin	200.01	51702.5
Less: Fixed Cost		27360
Net Operating Income		24342.5

This will result in our Net Operating Income to increase by [(24342.5-19642.3)/19642.3] × 100% = 23.93%.

If 10% Increase in Direct Material Price		
Contribution Format		
Budgeted Income Statement		
Account	Per Unit	Total
Sales Revenue	1040	244400
Less: Variable Cost	909.3794737	213704.1763
Contribution Margin	130.6205263	30695.82368
Less: Fixed Cost		27360
Net Operating Income		3335.823684

This will result in our Net Operating Income to fall by [(19642.3-3335.823684)/19642.3] × 100% = 83.02%.

CONCLUSION

Here at Vaseria, our mission is to show that creativity and sustainability can work hand in hand to build a meaningful home décor brand. Through careful design and efficient, eco-conscious production, we have created a product that not only looks elegant and eye-catching but also reflects our values and personalities. Our handmade wooden vases stand out not just for their design but for the story they tell—one rooted in environmental responsibility, support for local craftsmanship, and a genuine passion for creating something meaningful. We are always driven to grow this vision further, introducing new styles and concepts that stay true to our core principles of quality, affordability, and sustainability. With Vaseria, we are willing to do more than make home décor—we are shaping a more conscious, inspired future for design enthusiasts everywhere and sending a message that beautiful things in life do not always come at a high price.

REFERENCES

https://www.aarong.com/

https://www.daraz.com.bd/

https://www.isho.com/

https://woodvillagebd.com/

https://www.6wresearch.com/industry-report/bangladesh-home-decor-market-2020-2026

https://www.marketresearch.com/Williams-Marshall-Strategy-v4196/Bangladesh-Home-Decor-Size-Trends-40001913/

https://www.statista.com/outlook/cmo/furniture/home-decor/bangladesh

https://www.thedailystar.net/business/economy/news/handicrafts-declared-product-the-year-2024-3550446