COVER PAGE AND DECLARATION

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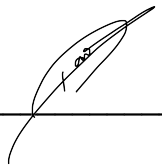
E-SIGNATURE: 

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Introduction

Swipe 50 Limited is a well-established company that specializes in the production of a high-quality screen protector known as the Plus Swipe, specifically designed for laptop computers. This innovative screen protector effectively prevents scratches and damage to laptop screens, providing high-quality protection for users' devices. With over three years of experience in the industry, the company has continuously improved its production process to enhance the quality and efficiency of its products.

Recognizing the need to gain a deeper understanding of the financial aspects of their operations, the company's directors have decided to shift their focus towards analyzing the income and costs associated with their activities. In line with this strategic shift, the Chief Financial Officer, Mrs. Tamara J. Blooms, is interested in delving into the intricacies of product costing.

In particular, Mrs.Tamara aims to thoroughly investigate how both absorption costing and variable costing methodologies impact the company's overall profitability. By conducting a comprehensive analysis of these costing methods, the company aims to gain valuable insights into the allocation of costs and the determination of product costs, ultimately allowing for informed decision-making and strategic planning to drive the company's financial success.

Purpose

In this study, the goal is to thoroughly examine the profits generated by Swipe 50 Limited through the sale of the Plus Swipes product. This analysis will employ both Absorption and Variable methodologies to assess the sales performance for the months of February and March 2024.

Scope

Throughout this study, we will thoroughly analyze Swipe 50 Limited's financial performance in February and March 2024. We will employ both the variable costing method and the absorption costing method to gain a comprehensive understanding of the company's profits. Furthermore, we will compare the profit calculated using absorption costing with that using variable costing to ensure accuracy and reliability.

Additionally, we will delve into the differences between these two costing methods and elucidate the significance of each approach. We will also propose three strategies for improving Swipe 50 Ltd.'s accounting systems. Lastly, we will underscore the importance of effective accounting management within the manufacturing sector.

Swipe 50 Ltd. Financial Inputs

	February	March
Production (units)	12,500	14,500
Sales (units)	11,500	15,500
Direct Materials	29,000 €	33,250 €
Direct Labor	19,000 €	22,000 €
Variable Production Overhead	7,300 €	8,500 €
Total Selling and Administrative Expenses	44,500 €	57,100 €

1. Swipes 50 Ltd. Has a production capacity of 20,000 units per month.
2. Fixed production overheads are 28,600 € per month.
3. Swipe 50 is selling Plus Swipes at 22 € each.
4. On the 31st of January 2024, the company's warehouse had no plus swipes.
5. Fixed and variable elements (variable portion incurred based on units sold) are included in the total administration expenses.

1. Sales: Production (units) x unit price (€)
   - February Sales: 11,500 x 22 = 253,000 €
   - March Sales: 15,500 x 22 = 341,000 €
2. Production Costs:

a. Variable production costs:

Direct Material + Direct Labor + Variable production overhead

- February variable production cost = 29,000 + 19,000 + 7,300 = 55,300 €
- March variable production cost = 33,250 + 22,000 + 8,500 = 63,750 €

b. Fixed production cost overhead: 28,600 € per month

Fixed production cost per unit = 28,600/20000 = 1.43 €

- February variance cost = Fixed production cost per unit x variance in production
  = 1.43 x (12500-11500) = 1.43 x 1000 = 1,430 €
- March variance cost = Fixed production cost per unit x variance in production

= 1.43 x (15500-14500) = 1.43 x 1000 = 1,430 €

Absorption Method Costing

Absorption Method February Costing

Total sales = 11,500 x 22 = 253,000 €

Total Production (Manufacturing) Cost

Beginning inventory = 0

Ending inventory = beginning inventory + production – sales = 0 + 12500 – 11500 =1000

Production cost = Variable Production costs + fixed production cost =

Total production variable cost = Direct materials cost + Direct labour costs + variable production overhead = 29,000 + 19,000 + 7,300 = 55,300 €

Variable production cost per unit = 55300/12500 = 4.424 €

Fixed production cost per unit = 28,600 / 20000 = 1.43 €

Total production cost per unit = 4.424 + 1.43 = 5.854

Cost of Goods Sold (COGS) = beginning inventory costs + Production cost – end inventory cost

= 0 + (5.854 x 12500) – (5.854 x (12500 – 11500)) =

= 0 + 73,175 – 5,854 = 67,321 €

Cost of production variance = fixed production cost per unit x (capacity – production)

= 1.43 x (20000-12500) = 10,725 €

Adjusted COGS = 10,725 + 31,321 = 78,046 €

Gross Profit = Sales – total production cost = 253,000 – 78,046 = 174,954 €

Operation (Administrative) Cost

Total variable + fixed operational cost = 44,500 €

Total Absorption Costing Profit in February = Gross Profit – Total operational sales and administrative costs

= 174,954 – 44,500 = 130,454 €

February-Absorption (Summary)

Sales	11,500 x 22	253,000 €

(-) COGS	0 + (5.854 x 12500) – (5.854 x (12500 – 11500))= 0 + 73,175 – 5,854	(-) 67,321 €
(-) Cost of Variance	1.43 x (20000-12500)	(-)10,725 €
Gross Profit		174,954 €
(-) Operating Cost		(-) 44,500 €
Total Absorption Costing Income		130,454 €

Absorption Method March Costing

Total sales = 15,500 x 22 = 341,000 €

Total Production (Manufacturing) Cost

Ending inventory = beginning inventory (last month ending inventory) + production – sales

= 1000 + 14500-155000 = 0

Production cost = Variable Production costs + fixed production cost =

Total production variable cost = Direct materials cost + Direct labour costs + variable production overhead = 33,250 + 22,000 + 8500 = 63,750 €

Variable production cost per unit = 63,750/14500= 4.4 €

Fixed production cost per unit = 28,600 / 20000 = 1.43 €

Total production cost per unit = 4.397 + 1.43 = 5.83

Cost of Goods Sold (COGS) = beginning inventory costs + Production cost – end inventory cost

= ((12500-11500) x 5.8)+ (5.83 x 14500) – (5.8 x (1000 + 14500 – 15500)) = (1000 x 5.83)+ (5.83 x 14500) – 0 = 5830 + 84,485 – 0 = 90,315 €

Cost of production variance = fixed production cost per unit x (capacity – production)

= 1.43 x (20000-14500) = 7,865 €

Adjusted COGS = cost of goods sold + cost in variance = 90,315+ 7,865 = 98,180 €

Gross Profit = Sales – total production cost = 341,000 - 98,150 = 242,820 €

Total Operation (Administrative) Cost

Total variable + fixed operational cost = 57,100 €

Total Absorption Profit in March = Gross Profit – Total operational sales and administrative costs

= 242,850 – 57,100 = 185,750 €

March-Absorption (Summary)

Sales	14,500 x 22	341,000 €
(-) COGS	((12500-11500) x 5.8)+ (5.8 x 14500) – (5.8 x (1000 + 14500 – 15500)) = (1000 x 5.8)+ (5.8x 14500) – 0	(-) 90,315 €
(-) Cost of Variance	1.43 x (20000-14500)	(-) 7,865 €
Gross Profit		242,820 €
(-) Operating Cost		(-) 57,100 €
Total Absorption Costing Income		185,720 €

Variable Method Costing

	February	March
Production (units)	12,500	14,500
Sales (units)	11,500	15,500
Direct Materials	29,000 €	33,250 €
Direct Labor	19,000 €	22,000 €
Variable Production Overhead	7,300 €	8,500 €
Total Selling and Administrative Expenses	44,500 €	57,100 €

1. Swipes 50 Ltd. Has a production capacity of 20,000 units per month.
2. Fixed production overheads are 28,600 € per month.
3. Swipe 50 is selling Plus Swipes at 22 € each.
4. On the 31st of January 2024, the company's warehouse had no plus swipes.
5. Fixed and variable elements (variable portion incurred based on units sold) are included in the total administration expenses.

Variable Method Costing in February

Total sales = 11,500 x 22 = 253,000 €

Variable Production Cost

Total production variable cost = Direct materials cost + Direct labour costs + variable production overhead = 29,000 + 19,000 + 7,300 = 55,300 €

Variable production cost per unit = total variable production cost / produced units = 55,300/12,500= 4.424 €

Operation (Administrative) Variable Cost

Total selling and administrative costs in February = 44,500 €

Total selling and administrative costs in March = 57,100 €

Variance = 57,100 – 44,500 = 12,600 €

Variance per unit = variance / difference in sales = 12,600 / (15500-11500)

= 12,600/ 4000

= 3.15 €

Variable operational sales and administrative cost per unit = 3.15 €

Variable operational sales and administrative costs in February = variable operational sales per unit x total February sales = 3.15 x 11500 = 36,225 €

Variable Cost of Goods Sold (COGS) = beginning inventory costs + Production cost – end inventory cost = 0 + (4.424 x 12500) – (4.424 x (12500 – 11500)) =

= 0 + 55,300-4424 = 50,876 €

Total variable cost = COGS + Total variable operating costs = 36,225 € + 50,876 € = 87,101€

Variable Gross Profit= Sales – Total Variable Cost = 253,000 € - 87,025 € = 165,899 €

Fixed Production Cost in February

Fixed production overhead = 28,600 €

Fixed Operational (selling and administrative) Costs in February

Total selling and administrative costs in February (Operational costs) = 44,500

Variable selling and administrative costs in February = 36,225

Fixed selling and administrative costs (operational costs) in February = 44,500-36,225

= 8,275 €

Total Fixed Costs in February

Total fixed costs in February = fixed production costs in February + total selling and administrative costs in February = 28,600 + 8,275 = 36,875 €

Total Variable Income in February = variable gross profit – total fixed costs = 161,475 - 36,875 = 129,024 €

February-Variable Costing Method (Summary)

Sales	11,500 x 22	253,000 €
(-) COGS	0 + (4.424 x 12500) – (4.424 x (12500 – 11500))= 0 + 55,300– 4,424	(-) 50,876 €
(-) Variable Operational Cost	3.15 x 11500	(-)36,225 €
Variable Gross Profit		165,899 €
(-) Total Fixed Costs		(-) 36,875 €
Operating Income		129,024 €

Variable Method Costing in March

Total sales = Produced units x selling price per unit = 15,500 x 22 = 341,000 €

Variable Production Costs in March

Total variable production cost = Direct materials cost + Direct labour costs + variable production overhead = 33,250 + 22,000 + 8,500 = 63,750 €

Variable production cost per unit = total variable production cost / produced units =

= 63,750/14,500 = 4.4 €

Variable cost of goods sold = variable beginning inventory cost + variable production cost – variable ending inventory cost

Variable beginning inventory cost = variable cost per unit x beginning inventory

= 4.4 x (12,500 – 11,500) = 4.4 x 1000 = 4400 €

Variable production cost = variable cost per unit x produced number = 14500 x 4.4 = 63,750 €

Ending inventory variable cost = ending inventory x variable unit cost = (sales – (beginning inventory + production)) x variable unit cost = (15,500 – (14500 + 1000)) x 4.4 = 0

COGS = 4,400 + 63,750 – 0 = 68,150 €

Operation (Administrative) Costs in March

Total selling and administrative costs in February = 44,500 €

Total selling and administrative costs in March = 57,100 €

Variance = 57,100 – 44,500 = 12,600 €

Variance per unit = variance / difference in sales = 12,600 / (15500-11500)

= 12,600/ 4000 = 3.15 €

Variable operational sales and administrative cost per unit = 3.15 €

Variable operational sales and administrative cost in March = variable operational sales per unit x total March sales = 3.15 x 15500 = 48,825 €

Total Variable Costs = total variable production cost + total variable operational cost

= 68,150 €+ 48,825 €= 116,975 €

Variable Gross Profit = total sales – total variable cost = 341,000 €-116,975 €= 224,025 €

Fixed Production Costs in March

Fixed production overhead = 28,600 €

Fixed Operational (selling and administrative) Costs in March

Total selling and administrative costs in March (Operational costs) = 57,100 €

Variable selling and administrative costs in March = 48,825 €

Fixed selling and administrative costs (operational costs) in March= 57,100 – 48,825 = 8,275 €

Total Fixed Costs in March

Total fixed costs in March = fixed production costs in March + total selling and administrative costs in March = 28,600 + 8,275 = 36,875 €

Total Variable Income in March= Gross profit – total fixed costs = 224,025- 36,875 = 187,150 €

March-Variable Costing Method (Summary)

Sales	15,500 x 22	341,000 €
(-) COGS	4,400 + 63,750 – 0	(-) 68,150 €
(-) Variable Operational Cost	3.15 x 15500	(-) 48,825 €
Variable Gross Profit		224,025 €
(-) Total Fixed Costs	28,600 + 8,275	(-) 36,875 €
Operating Income		187,150 €

Reconciliation of Profit

Total Income Summary for Both Methods

Costing Method	February	March
Absorption	130,454 €	185,720 €
Variable	129,024 €	187,150 €

February

Absorption total income = 130,454 €

Variable total income = 129,024 €

Difference = 130,454 €– 129,024 = 1,430 €

Fixed manufacturing (production) cost per unit = fixed production overhead/capacity

= 28,600/20000 = 1.43€

Beginning inventory = 0

Ending inventory = 1000

The difference in fixed production cost = fixed manufacturing cost of ending inventory – fixed manufacturing cost of beginning inventory = 1.43 x 1000 – 1.43 x 0 = 1,430 €

Absorption total income – Variable total income = fixed absorption manufacturing cost of ending inventory – fixed absorption manufacturing cost of beginning inventory = 1,430 €

March

Absorption total income = 185,720 €

Variable total income = 187,150 €

Difference = 185,750 €-187,150 €= (1430) €

Fixed manufacturing (production) cost per unit = fixed production overhead/capacity

= 28,600/20000 = 1.43€

Beginning inventory = 1000

Ending inventory = 0

The difference in fixed production cost = fixed manufacturing cost of ending inventory – fixed manufacturing cost of beginning inventory = 1.43 x 0 – 1.43 x 1000 = (1,430) €

Absorption total income – Variable total income = fixed absorption manufacturing cost of ending inventory – fixed absorption manufacturing cost of beginning inventory = (1,430) €

Absorption Costing Method

Introduction

Any company needs to understand the costs of manufacturing products. While assigning manufacturing costs to products may seem simple, this is more complicated for companies that produce a wide range of products. The Absorption costing is the method used to value product inventory in these cases, as it allows for the full costs of producing a single product unit to be determined. This method is also the only one that is compliant with U.S. Generally Accepted Accounting Principles (GAAP). Although companies may use other product-costing methods for internal analyses, absorption costing is required to produce GAAP-compliant financial statements in public and private companies. (Abby Jenkins, 2023, *What Is Absorption Costing? Definition, Tips and Examples*).

Definition

Absorption costing, called Full Costing, is a managerial accounting method that assigns all production costs to individual output units. It includes direct costs like raw materials and direct labour and indirect costs such as overhead expenses (e.g., rent, utilities, and insurance). By including all costs related to production, absorption costing offers a comprehensive understanding of the total expenses associated with manufacturing a particular product. (Alicia Tuovila, 2024, *Absorption Costing Explained, With Pros and Cons and Example)*

Types of Absorption Costing

Full absorption costing

This cost category includes all manufacturing expenses, both fixed (e.g., rent, salaries) and variable (e.g., utilities, raw materials). In absorption costing, total expenses are spread across total units manufactured to determine cost per unit, helping inform pricing and production decisions. (*Absorption Costing: Pros and Cons*, n.d.)

Partial absorption costing

In accounting, not all costs are factored into the cost of each unit produced. Some fixed assets are excluded and considered part of fixed overhead costs, expensed in the period they are incurred. This is crucial for accurately assessing the production costs and understanding financial implications. (*Absorption Costing: Pros and Cons*, n.d.)

Advantages of Absorption Costing

Absorption costing is a comprehensive method of calculating total production costs, considering variable and fixed overhead costs. It accurately represents the cost of bringing a product to market and is beneficial for financial accounting. Compared to variable costing, absorption costing can lead to lower cost of sales and higher revenues, particularly when inventory levels are increasing. It is also advantageous for valuing inventory and computing the cost of goods sold for smaller businesses. However, it may not be ideal for monitoring output and profitability or for management decisions and future planning due to the inclusion of both fixed and variable manufacturing costs. (Rashid Javed, 2024, *Advantages and disadvantages of absorption costing*)

Disadvantages of Absorption Costing

Absorption costing includes fixed manufacturing overhead in the unit product cost, regardless of the output produced. It can make a company's performance appear more favourable and is unsuitable for cost-volume-profit analysis. The method can complicate profit calculations and is unsuitable for management decisions, planning actions, or accurately monitoring output and profitability performance. It can also lead to creative accounting and mislead the economic decisions of stakeholders. (Rashid Javed, 2024, *Advantages and disadvantages of absorption costing*)

Variable Costing Method

Introduction

Variable costing is a method used in managerial and cost accounting that only considers variable manufacturing costs as part of the product cost of production. This means that fixed manufacturing overhead costs are not included in the product cost. This approach differs from absorption costing, where fixed manufacturing overhead costs are allocated to the products produced. By focusing only on the costs directly associated with producing goods, variable costing offers a clear and specific insight into the cost structure of a company's products. This makes it a valuable tool for internal decision-making and evaluating the performance of different products or product lines.

It's important to note that while variable costing is useful for internal purposes, it cannot be used for external financial reporting according to accounting standards such as Generally Accepted Accounting Principles (GAAP) and International Financial Reporting Standards (IFRS). This is because variable costing does not adhere to the matching principle, a fundamental accounting concept dictating that expenses should be matched with the revenues they help generate. Therefore, absorption costing, which allocates variable and fixed manufacturing overhead to products, is typically used for external financial reporting. (The CFI Team, n.d., *Variable Costing)*

Definition

Variable costing, or direct costing, is an accounting method that treats all fixed manufacturing costs as period costs to be charged to expense in the period incurred. Under variable costing, only variable manufacturing costs are considered as product costs. This approach is based on the reasoning that the company would incur fixed manufacturing costs whether the plant is in production or idle. Therefore, these costs do not directly contribute to the production of goods. (*Managerial Accounting*, n.d.)

Advantages of Variable Costing

Variable costing is an important tool for internal financial planning and evaluation. It provides valuable data on variable costs and helps make accurate estimates for sales, production levels, and costs. Cost-volume-profit analysis is simplified using variable costing, making it essential

for determining the number of sales needed to cover costs and generate a profit. Additionally, it benefits segmented reporting and allows for better control over expenses. (The Indeed Editorial Team, 2022, *Guide: variable costing pros and cons (and how it's done)*)

Disadvantages of Variable Costing

Financial statements prepared using variable costing may not comply with GAAP and may be rejected by auditors. Tax laws in many countries require businesses to use absorption costing, making variable costing financial statements unacceptable to tax authorities. Variable costing does not allocate fixed manufacturing overhead costs to product units, which impairs the accuracy of matching production costs with revenues. Additionally, absorption costing is commonly used to evaluate executive efficiency, rendering operating results from variable costing systems irrelevant in this context. (Rashid Javed, 2024, *Advantages and disadvantages of variable costing*)

Ways to Improve the Accounting System

1) Open separate business accounts. Create distinct bank accounts for your business and personal finances to simplify tax processes and keep your records organized.
2) Choose the right software. Assess your business needs, such as report generation, invoicing, and tax form preparation, and then select accounting software that offers these features.
3) Record every transaction. Keep receipts for all transactions and reconcile your accounts using monthly bank and credit card statements to maintain a robust accounting system.
4) Select a suitable accounting method. To improve your accounting system, choose the right method for your business.
5) Manage your data. Utilize cloud accounting to back up your data, and consider scanning paper documents to create digital backups.
6) Handle invoicing efficiently. Automate your invoicing process to reduce errors and save time on accounting tasks.
7) Manage accounts payable and receivable. Timely managing your accounts payable helps maintain your reputation and avoid late fees and interests.

8) Reporting sales tax. Be aware of changing rates, exemptions, holidays, and varying regulations across tax jurisdictions. Use reliable tax accounting software to track sales taxes and ensure compliance.

In conclusion, a well-structured accounting system is essential for successful business operations. By segregating business and personal accounts and choosing the right software and accounting method, you can ensure your business's financial health and pave the way for sustainable growth. (The PercentChase Page, 2023, *How to Develop and Improve Accounting Systems*)

Importance of Managing Accounting in Manufacturing

Managerial accounting plays a pivotal role in business management in general and in manufacturing companies as business firms by providing crucial financial information to guide the success of an organization. Let's explore its significance in detail:

1. Planning and Budgeting: Through in-depth analysis of historical financial data and forecasting future trends, managerial accounting helps develop realistic and attainable budgets that align with the company's objectives. These budgets serve as a roadmap, directing resource allocation and ensuring departmental alignment toward common goals.

2. Evaluating Business Performance: Managerial accounting uses performance reports like variance analysis to identify areas of strength and weakness. Understanding these key performance indicators enables proactive measures to enhance operational efficiency.

3. Cost Analysis: Classifying costs into fixed and variable components assists in making well-informed pricing and production volume decisions. A comprehensive understanding of costs empowers companies to maintain competitiveness while ensuring profitability.

4. Decision-making: Managerial accounting provides data-driven insights that reduce uncertainty and minimize risks. In addition to assessing the profitability of new product lines, it supports evaluating investment opportunities and decisions related to in-house production or outsourcing. Accurate financial information enables informed choices for the company's success.

5. Accountability and Responsibility: Performance evaluation metrics enhance awareness of individual contributions, motivating employees to meet or exceed targets. Cultivating an accountability culture fosters ownership and teamwork, propelling the company toward its

strategic objectives. (Swetha Kumaraswamy, 2023, *Managerial Accounting: Meaning, Importance, Types & Techniques*).

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