

MANAGEMENT INFORMATION SYSTEMS (MIS)  
SUPPORT FOR COFFEE SHOP MANAGEMENT: A CASE  
STUDY OF A COFFEE SHOP IN DHAKA CITY

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# **DEDICATION**

To all the restaurant owners who believe that using MIS support for coffee shop management will bring about positive change in the food industry.

# ABSTRACT

The thesis paper has been made on the attempt to *use the information of a coffee shop to use them as indicators to the growth and stability* of the coffee shop especially of 'Chayer Cup and Juice House'.

The research focuses on the effective practice of financial aspect. This research is limited to Chayer Cup and Juice House', because the overall objective of this research is to examine the Sales, Purchase, Inventory of 'Chayer Cup and Juice House'.

# Table of Contents

<b>SL No.</b>		<b>Page No.</b>
	APPROVAL	
	DECLARATION	
	ACKNOWLEDGEMENTS	i
	DEDICATION	ii
	ABSTRACT	iii
<b>CHAPTER 1</b>		
<b>INTRODUCTION</b>		
1.1	Background of the Study	1
1.2	Problem Statement	1
1.3	Research Objectives	2
1.4	Scope of the Research	2
1.5	Significance of the Research	2
1.6	Methodology	3
1.7	Limitations	3
1.8	Sources of Data	4
<b>CHAPTER 2</b>		
<b>IMPROVEMENT OF ORGANIZATION USING MIS</b>		
2.1	Sales Process	5
2.2	Purchase Process	5
2.3	Inventory Process	5

## **CHAPTER 3**

### **PURCHASE AND PROCUREMENT OPTIMIZATION USING MIS**

3.1	Sales	7
3.2	Purchase (or Purchase to Sales Ratio- PSR)	8
3.3	Limitations of purchase to sales ratio	10
3.4	Inventory	11

## **CHAPTER 4**

### **CONCLUSION**

Conclusions	13
Recommendations	14

<b>REFERENCES</b>	<b>15</b>
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# CHAPTER 1

Introduction

The researchers attempt to investigate and *use the financial information of a Coffee Shop to use them as indicators to the growth and stability of the Coffee Shop* especially of ‘Chayer Cup and Juice House’. This chapter consists of 6 sections. First section represents background of the study. Second section focuses on problem statement. Third section focuses on research objectives. Fourth section focuses on Scope of the research. Fifth section focuses on significance of the research. Finally last section provides the sources of data.

## **1.1 BACKGROUND OF THE STUDY**

Financial indicators represent the most crucial aspects of the organization. All the information such as sales, purchases, inventory, sold items, waste to output ratio, etc. can be used to analyze the financial condition of the organization. Reviewing and evaluating the employed resources in an organization can be very useful in finding answers to the overall activities of the organization.

## **1.2 PROBLEM STATEMENT**

The employed resources e.g., capital and human labor, etc. are generating output for the organization. The employed resources and the output of those resources can serve as the unanswered questions to one of the most vital questions in business, “How is the business going?” “What is the condition of sales?” “Are we purchasing too much?” “Are there too much ingredients in the inventory?”



### **1.3 RESEARCH OBJECTIVES**

- To apply MIS concepts and tools to analyze sales data of the organization for improvement.
- To apply MIS concepts and tools to optimize purchases and procurements of the organization; and
- To apply MIS concepts and tools to optimize the inventory management of the organization

### **1.4 SCOPE OF THE RESEARCH**

In this paper, the scope of work has been around the information gathered from ‘Chayer Cup and Juice House’. This shop has provided primary information of sales, purchase, inventory, etc. from its database. Such information is vital for understanding the overall financial aspect of the organization.

### **1.5 SIGNIFICANCE OF THE RESEARCH**

This thesis paper will provide information about the key financial indicators such as sales, purchase, inventory, etc. about the organization. By using these information, the management will be able to take better decisions regarding each

financial activities based on the indicators. The study is important because organizations rely heavily on financial indicators and when the organizations use their data more effectively and efficiently, there is high possibility that the management will be able to take better decisions.

## **1.6 METHODOLOGY**

The researcher with the permission of the Chayer Cup and Juice House' authority, had worked as a voluntary employee to see the overall business process, the key financial indicators, e.g, sales, purchase, inventory. The researcher had the opportunity to work with the management, the regular staffs. The researcher also had got the real life customer experience of the shop which helped to get better understanding of the shop.

## **1.7 LIMITATIONS**

In spite of giving best efforts, the thesis paper is not free of limitations. There are limitations of time, availability and accuracy of data. As the shop has been just operating for few months, there is also less transactions and volume of sales is also small. There is further scope of future thesis to be done on a future date.

## **1.8 SOURCES OF DATA**

The sources of data used in this thesis are from the primary data of ‘Chayer Cup and Juice House’. The authority of the shop understood the importance of the thesis and agreed to provide information and required access for obtaining data.

# CHAPTER 2

Improvement of Organization using  
Management Information Systems  
(MIS)

In this chapter, we will focus on the 3 main processes of the organization, namely- Sales Process, Purchase Process and Inventory Process.

## **2.1 SALES PROCESS**

The sales process of the shop is still done manually. Pen, paper and clipboard are used to keep the sales record. Sales record shows some primary but important information such- as no. of order served, item no., quantity of the items, price of the items, discounts (if any). The summary of sales are recorded on daily basis.

## **2.2 PURCHASE PROCESS**

Purchase is done on the basis of requirements in a written form. The requirements arise from the daily requirements, inventory, and expectations about sales, and organization's promotional campaign to promote some special items. Purchase process is also done manually and the records of purchase are maintained in a notebook on daily basis.

## **2.3 INVENTORY PROCESS**

Inventory starts from the purchase and the storing of goods. Inventory management is important as regular availability of ingredients and materials are necessary for

the smooth and seamless functionality of the organization. The inventories are stored in fridge and other storing facilities within the shop.

# CHAPTER 3

Purchase and Procurement  
Optimization using Management  
Information Systems (MIS)

In this chapter, we will show how the primary information of 'Chayer Cup and Juice House' regarding sales, purchase and inventory can be used in effective management decisions.

### **3.1 SALES**

Sales play vital role in the use of Management Information System (MIS). Sales can be used as the primary information source for getting many information. Daily direct sales report will contain the summary of the important features in generating report to the management.

To use the information in efficient manner, we can categorize the information with the following features:

1. Total Sales
2. No. of Total Customers served
3. Best items across categories (e.g., Tea, Coffee, Lassi, Juices)
4. Sales during different business hours (e.g., 11.00 a.m.- 01.00 p.m.; 01.00 p.m. – 06.00 p.m.; 06.00 p.m. – 10.30 p.m.)
5. Total Discounts (if any)
6. Least Sold Items



### 3.2 PURCHASE (OR PURCHASE TO SALES RATIO- PSR)

Purchase is another important measurement for vital decision making. The management regularly monitors the purchase of the restaurant very closely. The restaurant being a profit making organization, one way for measuring gross profit is to see the daily purchase to sales ratio (then adding overhead expenses later to determine the actual profit or loss). Likewise, we can calculate this ratio for every month or on any given period of time. The restaurants tend to maximize their sales (or synonymously profit) with using the minimum amount of purchase/raw materials. The restaurant with lower purchase to sales ratio is said to be performing better. Higher purchase to sales ratio may suggest that there is waste of products or there are lots of unsold items in the inventory stock. This purchase to sales ratio can be used within the organizations on/for any given time; across the organizations also.

As a rule of thumb,

1. In Coffee Shops, purchase is 30% (at best), overhead cost is 30% and profit margin is 40%.

Although this doesn't provide us the best outcome of decisions but it can help in the following ways:

2. Improving Inventory Management by giving us insight about which ingredients to buy or which ingredients not to buy

Example: Let us assume, we have 2 scenarios under considerations.

**Scenario- 1:**

For a given business day, the coffee shop purchases ingredients of tk. 4000 and the sales of that exact day is tk. 5000. So, the purchase to sales ratio is 80 %.

$$\text{Purchase to Sales Ratio (PSR)} = (\text{Purchase of a given time} / \text{Sales of a given time}) * 100\% = (4000/5000) * 100\% = 80\%$$

This gives us the following rough ideas:

3. The coffee shop is generating 20% gross profit. If we add overhead expenses and other associated costs, then we can determine the actual profit of the restaurant.

**Scenario- 2:**

For a given business day, the coffee shop purchases ingredients of tk. 4000 (the exact same amount mentioned in Scenario-1) and the sales of that exact day is tk. 8000. So, the purchase to sales ratio is 50 %.

$$\text{Purchase to Sales Ratio (PSR)} = (\text{Purchase of a given time} / \text{Sales of a given time}) * 100\% = (4000/8000) * 100\% = 50\%$$

This gives us the following rough ideas:

4. The coffee shop is generating 50% gross profit. If we add overhead expenses and other associated costs, then we can determine the actual profit of the restaurant.

Our analysis of the above mentioned 2 scenarios within the organization gives us an important information about the coffee shop. In scenario- 1 and 2, the PSR is 80% and 50% respectively. So, in Scenario- 2, the coffee shop is performing relatively well under the consideration of Purchase to Sales Ratio (PSR).

### **3.3 LIMITATIONS OF PURCHASE TO SALES RATIO (PSR)**

1. The items of a coffee shop are produced using all the ingredients from the inventory. In calculating SPR, we can exactly determine on the timing of purchase. The Purchase to Sales Ratio (PSR), shows better results for relatively longer time period. Example: The Purchase to Sales Ratio (PSR) of a whole week or month can give better insight and information to the restaurant management.
2. In calculating net profit/loss, the Purchase to Sales Ratio (PSR) can't be used alone. We need to add overhead expenses and other associated costs.

### 3.4 INVENTORY

Inventory is an important part in restaurant business. The ingredients of items should be incorporated in inventory management.

While managing inventory, we will focus more in 2 aspects:

1. We should ensure availability of the ingredients which are used in preparing the top/trending items in the restaurant.

Example: Suppose, Juices which use Lemon are selling well in the Coffee Shop. In this case, we should ensure that Lemon along with other items are available in the shop pantry.

2. We should clear out the inventory of those ingredients which items are yielding less desired outcomes for the restaurant.

Example: Suppose, Ripe mangoes is a trendy item in the hot winter when it is also available in the market. Other than summer, the management should not store ripe mangoes in its inventory.

One way of clearing out inventory is by providing offers to the customers. The offers should obtain the followings:

1. It should be used in successful clearance of less used ingredients.
2. It should generate limited profit for the restaurant.
3. The restaurant must not suffer loss while providing the offers.

# CHAPTER 4

Conclusion

## CONCLUSION

The thesis paper can be useful for analyzing the sales trend and improving the sales condition with the support of MIS. From the total sales, we can subdivide the sales pattern and trend. With the help of total customers served and best items across categories, the lesser selling items can be identified. When the coffee shop authority identifies the best selling items and lesser selling items, the Purchase to Sales Ratio (PSR) can be minimized. The lesser Purchase to Sales Ratio suggests that the coffee shop is able to efficiently purchase and procure the required items and ingredients. Similarly, the identification of items' performances and efficient purchase and procurement process can help the authority to optimize its inventory. Inventory management is very important for the shop. If there is stuck up of inventories, the shop will substantially lose its stability and become vulnerable to outside threats. This thesis altogether tries to show the different dynamics of sales, purchases and procurement, inventory.

## **RECOMMENDATION**

While working with the ‘Chayer Cup and Juice House’, it has been found that the shop is doing fairly well in handling orders and serving the items to the customers. The real life experience of the owner has helped the management to great extent. It is strongly recommended to the ‘Chayer Cup and Juice Shop’ authority that it should store its data and information digitally as soon as possible.



## REFERENCES

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3. Inventory/ Stock Details Book of 'Chayer Cup and Juice House'.