# COMPARATIVE ANALYSIS OF INVENTORY MANAGEMENT

(Study of DDC and Sitaram Gokul Milk Pvt. Ltd.)

#### **A THESIS**

## Submitted by:

## Jay Prakash Yadav

Central Department of Management (T.U.)

Campus Roll No.: 294/065

T.U. Registration No.: 7-2-12-500-2002

T.U. Exam Roll No.:- 280069 (2<sup>nd</sup> Year)

Submitted to:
Office of the Dean
Faculty of Management
Tribhuvan University

In partial fulfillment of the requirements for the degree of Masters of Business Studies (MBS)

Kathmandu, Nepal October, 2012

## RECOMMENDATION

This is to certify that the thesis

Submitted by:

## Jay Prakash Yadav

#### Entitled:

# "COMPARATIVE ANALYSIS OF INVENTORY MANAGEMENT" (Study of DDC and Sitaram Gokul Milk Pvt. Ltd.)

has been prepared as approved by this Department in the prescribed format of the faculty of management. This thesis is forwarded for examination.

Prof. Dr. Upendra Koirala	Prof. Dr. Bal Krishna Shrestha
(Thesis Supervisor)	(Head of Research Department)
Ass. Prof. Ajaya Prasad Dhakal	
(Head of Department)	
Date:	

### **VIVA-VOCE SHEET**

We have conducted the Viva-voce Examination of the Thesis presented

# By **Jay Prakash Yadav**

#### Entitled:

# "COMPARATIVE ANALYSIS OF INVENTORY MANAGEMENT" (Study of DDC and Sitaram Gokul Milk Pvt. Ltd.)

And found the thesis to be the original work of the student and written according to the prescribed format. We recommend the thesis to be accepted as partial fulfillment of the requirements for the degree of Master of Business Studies (MBS)

## **Viva-Voce Committee**

Head, Research Department	
Member (Thesis Supervisor)	
Member (External Expert)	
Member (Central Department of Management)	

#### **DECLARATION**

I hereby declare that the thesis report entitled Comparative Analysis of Inventory Management (Study of DDC and Sitaram Gokul Milk Pvt. Ltd.) submitted to Office of the Dean, Faculty of Management, Tribhuvan University, is my original work done in the form of partial fulfillment of the requirement for the degree of Master of Business Studies (MBS) under the supervision of Prof. Dr. Upendra Koirala of Central Department of Management, Tribhuvan University, Nepal.

.....

Jay Prakash Yadav

Central Department of Management

Roll No.: 294/065/067

T.U. Regd. No.: 7-2-12-500-2002

Symbol No.: 280069

### **ACKNOWLEDGEMENT**

This piece of research work has been prepared especially for the partial fulfillment of MBS course under Tribhuvan University of Nepal. This thesis has come in the shape not by the role effort of me but by the contribution of many individuals and institutions. I take this opportunity to acknowledge those contributing hands. This thesis has aimed to analyze comparative inventory management of DDC and SGML.

First of all, I would like to extend my deep sense of profound gratitude to Prof. Dr. Upendra Koirala, Central Department of Management, for making constant supervision and guiding me with regular inspiration, encouragement and insightful suggestion throughout the study. I would like to acknowledge his valuable instructions, suggestion, guidance and strong cooperation in completing this study.

I would also like to express my sincere gratitude to Ass. Prof. Ajaya Prasad Dhakal, Head of Department, Prof. Bal Krishna Shrestha, Head of Research Department and all other members of Central Department of Management, especially, staffs, librarians who supported as well as inspired me to complete this thesis.

Hearty acknowledgement is deserved to DDC and SGML as well as Mr. Bhola Maharjan, for his valuable support in computer typing. Similarly, I would like to express my gratitude to my friends Pradip Yadav, Ajay Kumar, Guru, Tribhuvan, Asmita and all my family members who helped me directly or indirectly to complete this thesis.

## **TABLE OF CONTENTS**

Title		Page No.
Reco	mmendation	
Viva-	-Voce Sheet	
Ackn	owledgements	
Decle	aration	
Table	e of Contents	
List o	of Tables	
	of Figures	
Abbr	reviations	
СНА	APTER - I: INTRODUCTION	1
1.1	General Background of the Study	1
	1.1.1 Introduction of Dairy Development Corporation	3
	1.1.2 Introduction of Sitaram Gokul Milk Pvt. Ltd.	4
1.2	Statement of the Problem	5
1.3	Objectives of the Study	6
1.4	Significance of the Study	7
1.5	Limitations of the Study	7
1.6	Organizations of the Study	8
СНА	APTER - II: REVIEW OF LITERATURE	10
2.1	Meaning of Inventory Management	10
2.2	Types of Inventory	13
	2.2.1 Raw Materials	14
	2.2.2 Work-in-Process	14
	2.2.3 Finished Products	15
	2.2.4 Supplies, Stores and Spares	16
2.3	Objectives of the Inventory Management	16
	2.3.1 The Business Motive	16
	2.3.2 The Preventive Motive	16
	2.3.3 The Speculative Motive	17

2.4	Need and Importance of Inventory Management		17
2.5	Cost	Associated with Inventory	18
	2.5.1	Carrying Cost	18
	2.5.2	Ordering Cost/Setup Cost	21
	2.5.3	Stock-Out Costs	21
2.6	Inven	tory System	22
2.7	Techniques of Inventory Control		24
	2.7.1	Economic Order Quantity (EOQ)	24
	2.7.2	ABC Analysis	27
	2.7.3	System of Ordering: When to Order?	30
	2.7.4	Stock Level Subsystem	31
	2.7.5	Just in Time System (JIT)	33
	2.7.6	Out - Sourcing	34
2.8	Cost Basis of Inventory Valuation		34
	2.8.1	Actual Cost Method	35
	2.8.2	Weighted Average Price Method	35
	2.8.3	First in First out Method (FIFO)	35
	2.8.4	Last in First out Method (LIFO)	36
	2.8.5	Base Stock Method	36
	2.8.6	Standard Cost Method	37
2.9	Inven	tory Models	37
	2.9.1	Replenishment Model	37
	2.9.2	Inventory Model with Uncertainty	38
	2.9.3	Periodic Review System	39
2.10	Comp	arison of the Periodic and Perpetual Inventory System	39
2.11	Unpu	blished Thesis	40
2.12	Resea	rch Gap	48
CHA	PTER -	III: RESEARCH METHODOLOGY	49
3.1	Introd	luction	49
3.2	Research Design		49

APPI	ENDICES	
BIBL	JOGRAPHY	99
5.3	Recommendations	97
5.2	Conclusion	96
5.1	Summary	95
	OMMENDATIONS	95
	PTER - V: SUMMARY, CONCLUSION AND	a -
4.6	Major Findings	93
	4.5.5 Inventory Turnover Ratio	90
	4.5.4 Inventory of Profit Ratio	89
	4.5.3 Inventory of Sales Ratio	86
	4.5.2 Inventory to Current Assets Ratio	85
	4.5.1 Inventory of Total Fixed Assets Ratio	82
4.5	Ratio Analysis	81
4.4	Re-order Point of Milk in DDC and SGML	78
	4.3.1 Calculation of Economic Order Quantity (EOQ)	59
4.3	Economic Order Quantity (EOQ) MODEL	58
4.2	Trends Analysis of Inventory	
4.1	Sales Trend Analysis	55
CHAI	PTER - IV: PRESENTATION AND ANALYSIS OF DATA	55
3.6	Research Question	54
3.5	Tools Used for Analysis	51
3.4	Data Collection Method	50
3.3	Sources of Data	50

## LIST OF TABLES

Table 4.1:	Annual Sales of DDC and SGML	55
Table 4.2:	Analysis of Average Inventory of DDC and SGML	57
Table 4.3:	Calculation of EOQ of DDC	61
Table 4.4:	Calculation of EOQ of SGML	62
Table 4.5:	Calculation of EOQ of DDC	64
Table 4.6:	Calculation of EOQ of SGML	66
Table 4.7:	Calculation of EOQ of DDC	67
Table 4.8:	Calculation of EOQ of SGML	69
Table 4.9:	Calculation of EOQ of DDC	71
Table 4.10:	Calculation of EOQ of SGML	72
Table 4.11:	Calculation of EOQ of DDC	74
Table 4.12:	Calculation of EOQ of SGML	76
Table 4.13:	Findings of EOQ of DDC and SGML	77
Table 4.14:	Calculation of Re-order Point of DDC	79
Table 4.15:	Calculation of Re-order Point of SGML	80
Table 4.16:	Calculation of Inventory to Total Fixed Assets Ratio of	
	DDC	83
Table 4.17:	Calculation of Inventory to Total Fixed Assets Ratio of	
	SGML	84
Table 4.18:	Calculation of Inventory to Total Current Assets Ratio	
	of DDC	85
Table 4.19:	Calculation of Inventory to Current Assets Ratio of	
	SGML	86
Table 4.20:	Calculation of Inventory to Sales Ratio of DDC	87
Table 4.21:	Calculation of Inventory to Sales Ratio of SGML	88
Table 4.22:	Calculation of Inventory to Profit Ratio of DDC	89
Table 4.23:	Calculation of Inventory to Profit Ratio of SGML	90
Table 4.24:	Calculation of Inventory Turnover Ratio of DDC	91
Table 4.25:	Calculation of Inventory Turnover Ratio of SGML	92

## LIST OF FIGURES

Figure 4.1:	Annual Sales Trend of DDC and SGML	56
Figure 4.2:	Graphical Presentation of Average Inventory of DDC &	
	SGML	58
Figure 4.3:	Graphical Presentation of EOQ of DDC and SGML	78
Figure 4.4:	Graphical Presentation of Re-order Point	79
Figure 4.5:	Graphical Presentation of Re-order Point	80
Figure 4.6:	Graphical Presentation of Inventory to Total Assets	
	Ratio of DDC	83
Figure 4.7:	Graphical Presentation of Inventory to Total Assets	
	Ratio of SGML	84
Figure 4.8:	Graphical Presentation of Inventory to Sales Ratio of	
	DDC	87
Figure 4.9:	Graphical Presentation of Inventory to Sales Ratio of	
	SGML	88

#### **ABBREVIATIONS**

A - Annual requirements

ABC - Always Better Control

AD - Anno Domini

BOD - Board of Director

BS - Bikram Sambat

C - Carrying Cost Per Liters Per Year

CC - Children Center

DDC - Dairy Development Corporation

EOQ - Economic Order Quantity

FC - Fixed Cost

FY - Fiscal Year

GM - General Manager

HACCP - Hazard Analysis Critical Control Points

IBID - Ibiden (The Same Place)

i.e. - That is

NG - Nepal Government

O - Ordering Cost Per Order

P - Page

P/L A/C - Profit and Loss Account

PEs - Public Enterprises

Pvt. Ltd. - Private Limited

ROL - Re-order Level

ROP - Re-order Point

SGML - Sitaram Gokul Milk Limited