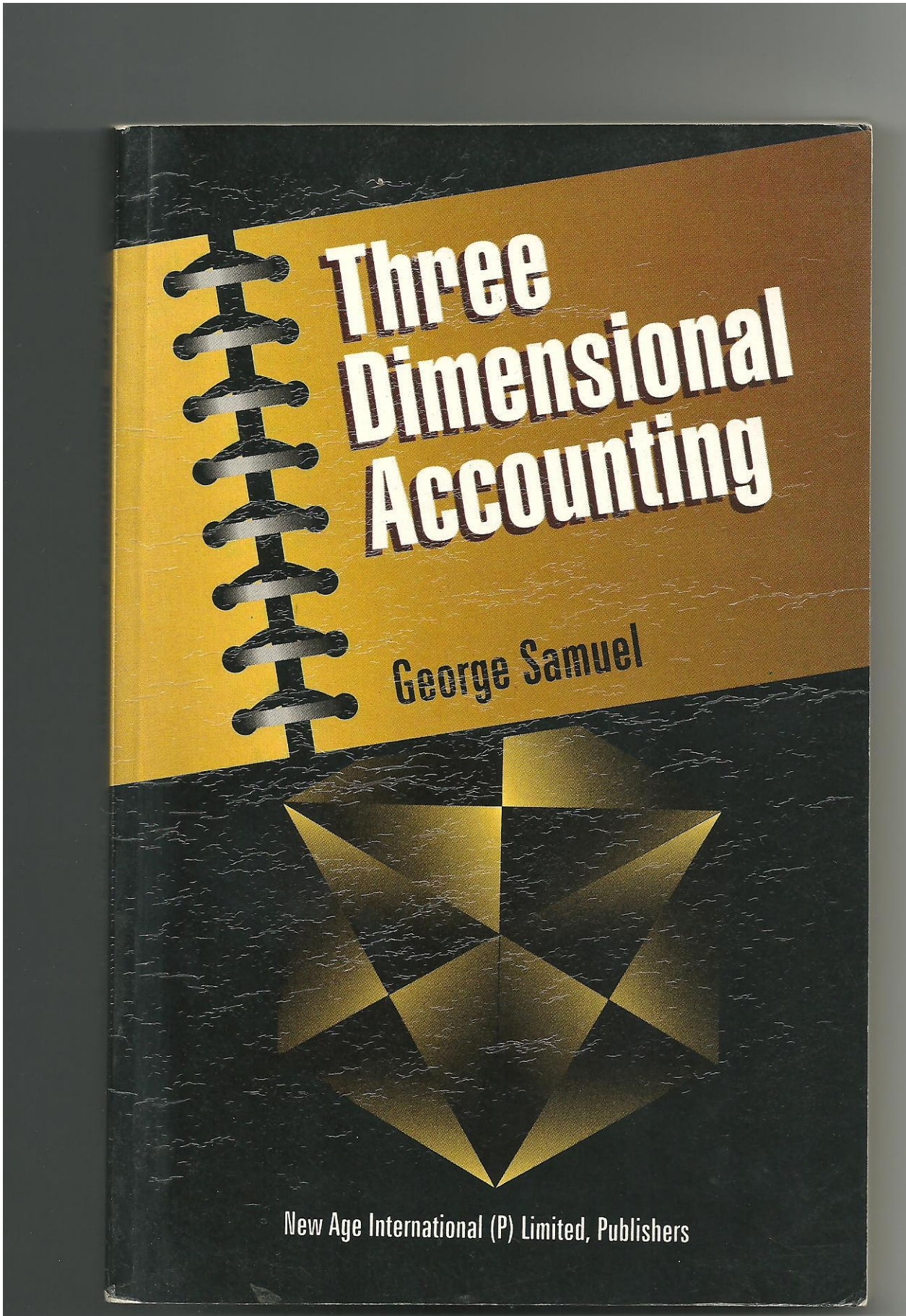
Three Dimensional Accounting
George Samuel
New Age International (P) Limited, Publishers

THREE DIMENSIONAL **ACCOUNTING**

By

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About the First Edition

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This Book is dedicated to my

Parents

Shri K.G. Samuel

and

Smt. Ammini Samuel

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FOREWORD

The system of book keeping which is today universally known and employed in the business accounting is that which recognizes the dual aspects of financial transactions. It is true that this principle of dual nature of a transaction is absolutely fundamental and as much a reality as the fact that every coin must have two sides. But with the changing business requirements, the accounting system has now to be a part of the affairs of the business world and of the economic system to facilitate managerial process. This requires a multiple need based accounting which can facilitate managerial process of control. That is what has been attempted in Three Dimensional Accounting System.

In this book the author has indicated such enlarged scope of accounting. Inquisitively he probes into the dimensions of financial transactions and points to the dimension which is left out in double entry book keeping. He further explains how the accounting can be accomplished three dimensionally and how this can bring an improvement in recording and reporting of business transactions so as to give faster and meaningful financial data without much further processing. This can be of great value to management in budget making, costing, profitability reporting, preparation of fund flow statements, etc.

Here a conceptual framework of three dimensional accounting has been perceived to communicate inter-related ideas that explain various aspects of accounting – both in practice and methodology by a number of examples of financial transactions that comes across in running a business.

Three Dimensional Accounting may not be a totally new accounting principle, but it will provoke a thinking in readers of the book that there is also a distinct way of looking at accounting transaction. The three dimensional method records the transaction in a more logical manner

and automatically establishes a link between the transaction and effects which is the ultimate purpose of accounting. Ledger becomes more informative and avoids multiplicity of accounts according to different transaction type.

The book is thus unique in three distinct ways. First it is the first known effort of applying accounting system which goes beyond the traditional dual system of accounting. Secondly, though developed in the context of the changing use of accounting data, the methodology used here is capable of application to all types of financial transactions. Thirdly, unlike all other accounting books, it is a product of one individual's creative perseverance without any earlier work taken as a base.

I am sure the methods and principles developed by the author will prove interesting not only to academicians and accounting experts, but also accountants working in business and they will venture to utilise this new knowledge for their competitive advantage and help in making managerial decision making more effective.

B.R. Shah
Cost Accountant &
Formerly Central
Council Member of ICWAI

PREFACE

Every financial transaction has a dual effect, equal in magnitude and opposite in directions; the directions are referred as debit and credit in accounting. When both the effects are recorded, accounting is said to be complete and follow the double-entry book-keeping system.

Are transactions distinct from its effects? The answer is an emphatic yes; an analysis will reveal this. For example, 'loan availed' is a transaction distinct from the ledger accounts affected namely the Bank A/c. and the Lender's A/c. and so is the case of the transaction 'loan repaid' which is distinct from its effects. This implies that for every financial transaction or event, there are three dimensions, the causal event and the dual effects.

Next comes the question, whether all the three dimensions are considered in existing double-entry systems. Closely observing the practices followed, it can be seen that when the effects are recorded, the transaction is left out and when the transaction is recorded one of the effects is ignored. All the three aspects or dimensions of the transaction are important information and an accounting system sans the three dimensional recording will be only partly complete.

Accounting has evolved, within the framework of double-entry principle, and it could also adjust to the needs of computerized accounting environment. The usefulness of the double-entry system is manifested beyond doubt during all the years of its practice. Needless to say, it is far superior to the single-entry accounting or a combination of single-entry and double-entry systems.

Any system is best in the absence of an alternate. But when a choice is possible between double-entry accounting system and a Three Dimensional Accounting, we shall not arbitrarily consider the existing system as superior in all accounting situations irrespective of whether the organization is small or a big one, a manufacturing or a trading concern or whether the same is a small professional firm or a giant service provider. There may be yet another possibility of a combination of systems where Three Dimensional Accounting is selectively employed.

The existence of three dimensions for each financial transaction is a reality and not merely a hypothesis and the Three Dimensional Accounting or shortly TDA recognizes these dimensions in evolving the accounting principles and to record and report the same. In this book, starting with a brief critical discussion of the existing accounting systems (Part-I), the scheme of operation of TDA is sufficiently manifested in Part-II and in Part-III.

Undoubtedly, this work is just a beginning and may not answer all the doubts that might encounter a curious reader, who in turn can contribute greatly in developing further the concept of TDA.

George Samuel

PART – 1 EXISTING ACCOUNTING SYSTEMS

Existing Accounting Systems, whether it be Financial Accounting or Cost Accounting Systems or an Integrated Accounting System – the dual aspect concept in recording transactions is followed.

The equilibrium resulting out of dual-entry does not comprise only of Assets & Liabilities but also Transactions and for some transactions the transaction is altogether avoided for recording. Three Dimensional Accounting takes root in this incompleteness of Double-Entry Accounting System.

Business entity will be in equilibrium at all points of time, Value of Assets equaling the value of Liabilities. Transactions happening to a business entity are by itself neither Assets nor Liabilities; they are distinct and are causes to effect changes in equilibrium.

For example the transaction PURCHASE involves dual effects on an entity – an increase in Inventory (ASSET) and a corresponding increase in Creditors (LIABILITY) complementing each other to create new business equilibrium. Double-Entry Accounting fails to account all the three aspects of transaction – *the transaction itself and dual effects.*

CHAPTER – IV

INTRODUCTION TO THREE DIMENSIONAL ACCOUNTING

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CHAPTER-IV

INTRODUCTION TO THREE DIMENSIONAL ACCOUNTING

4.0 BUSINESS ENTITY & FINANCIAL EQUILIBRIUM

One of the fundamental accounting concept is the 'business entity concept'. According to this concept, for accounting, a business entity is distinct from its' owners. So at the start of a business, when the owner or owners contribute money, it is accounted as a liability of the business to the owners. When a liability is created by the business it is accounting only one aspect of the transaction, i.e. contribution by owners. The other aspect of the transaction is that the business owns now an asset item which is either a cash or a bank balance.

To illustrate this point, suppose that the owners, in order to start a business, contributed Rs. 1 lakh by depositing the amount in a bank account opened in the name of the business. Now if the business is considered as a separate entity, the effect of this transaction will be:

i) Business owns Rs. 1 lakh in the form of bank balance;
ii) Business owes Rs. 1 lakh to the owners of the business.

In accounting, the above two effects are recorded as representing diametrically opposite items for the business entity, one representing an asset and the other a liability and to distinguish different types of assets and liabilities there are different account heads or names. Again asset values are shown as a debit (shortly Dr.) and liabilities are shown as a credit (shortly Cr.) amount. In the above case, after the initial transaction, the balance position will be shown as:

i)	Capital A/c.	Cr.	Rs. 1,00,000,
ii)	Bank A/c.	Dr.	Rs. 1,00,000.

It is the effect of the initial transaction, which resulted in a debit balance and a credit balance. Not only for the financial transactions stated above, but for other financial transactions also, the rule holds true that transactions creates a dual effect, one debit effect and the other credit effect. This fact is recognised for accounting and is the basic principle underlying the double-entry system of accounting.

Again it can be observed that in the above case, since the transaction is accounted correctly, the amount of debit item is exactly equal to the amount of the credit item. This feature can be referred as financial equilibrium of a business entity.

Now, the owners are not sitting idle, they may be thinking on how to go further with the money they have invested; some are exhilarated at the future prospects and some may be despondent. These are also transactions of the owners with the business they have just floated, but these transactions do not involve any financial dealings unlike the initial transaction of contribution of

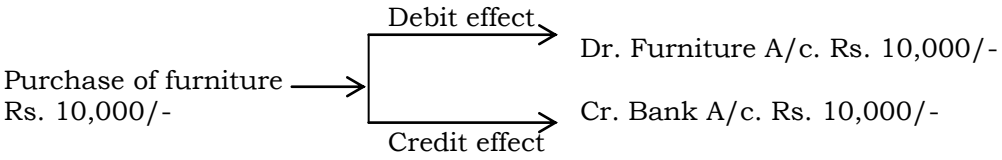
their money. Such transactions are non-financial transactions in the sense that although such transactions may have an effect on the future prospects of the business entity, cannot be quantified in financial or money terms. For accounting only financial transactions are considered and this is the principle underlying the 'money measurement concept' of accounting.

Contribution of Rs. 1 lakh by the owners was just a start, the business unit cannot remain static. For doing business, it enters into various transactions, some non-financial and others are financial transactions. Accounting deals with financial transactions only, but some of the non-financial transactions are used in analysis and reporting.

After the first transaction, the financial equilibrium of the business is:

Assets = liabilities = Rs. 1 lakh.

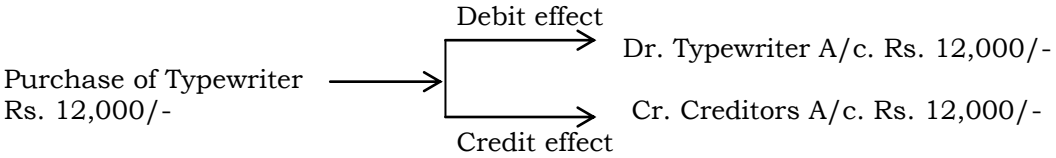
This equilibrium is valid only till a new financial transaction is entered into and recorded. Suppose the business unit purchased furniture worth Rs. 10,000/- and payment was made by cheque. Effects of this transaction will be:



An asset item is increased (furniture of Rs. 10,000/-) and another asset item viz. Bank balance is reduced. The asset that constitute the initial financial equilibrium is changed, but the value of total assets and liability remained the same. The new financial equilibrium is:

Assets = liabilities = Rs. 1 lakh.

Now supposing that the business entered into another financial transaction of purchase of typewriter for Rs. 12,000/- on credit terms; the effects will be:



In this case an asset item is increased and the other effect is to increase a liability item namely creditors (the account of the supplier of the typewriter). After this transaction, the total value of assets and liabilities is changed and the new financial equilibrium is:

Assets = liabilities = Rs. 1,12,000/-.

Although the existing financial equilibrium is changed when a new financial transaction is entered into, each change brings forth a new financial equilibrium.

Now, the business entity is engaging itself in more transactions. They have purchased goods worth Rs. 50,000/- on cash terms and spent another Rs. 20,000/- for various expenses. The effect of the purchase of goods is to increase an asset viz. Stock for Rs. 50,000/- and to reduce the value of bank balance by an equal amount of Rs. 50,000/-. The second transaction of spending Rs. 20,000/- was in fact the total of various spending transactions taken as a single transaction for discussion here. What are the effects of this transaction? One of the effect is to reduce the value of the asset item viz. Bank account; the other effect depends upon the purpose for which the spending is made. There can be two possible outcome of this spending:

i) creating value addition to the goods dealt with by the entity
   OR
ii) spending of an abnormal item of expense or a non-value adding item.

In the first case, the effect is to increase the value of the asset item which is stock here and in the second case, the effect is a charge on the profit that will be earned or an addition to a probable loss.

Retained profit, *defacto*, is a liability of the business to its' owners. Similarly, accumulated loss is a reduction in the existing liability of the business to its' owners.

The transactions hitherto discussed are:

i)	Contribution by owners	- Rs.1,00,000/-
ii)	Furniture purchased	- Rs. 10,000/-
iii)	Typewriter purchased	- Rs. 12,000/-
iv)	Goods purchased for sale	- Rs. 50,000/-
v)	Expenses paid	- Rs. 20,000/-

After these transactions, the financial equilibrium of the entity is:

Assets = liabilities = Rs. 1,12,000/- and consists of:

	Assets (Rs.)	Liabilities (Rs.)
Capital A/c.	-	1,00,000/-
Creditors A/c.	-	12,000/-
Furniture A/c.	10,000/-	-
Typewriter A/c.	12,000/-	-
Stock of goods	50,000/-	-
Value addition of goods	20,000/-	-
Bank A/c.	20,000/-	-
	1,12,000/-	1,12,000/-

The effects of a transaction can be referred as debit effect and credit effect as shown earlier, and the effects are equal in magnitude and opposite in direction. The direction of a debit effect is either to increase value of an asset or to reduce the value of a liability and the direction of a credit effect is either to increase the value of a liability item or to reduce the value of an asset item.

The five financial transactions that has happened in the business have values as stated above against each transaction type. The transactions are not

its' effects; they are distinct and are the causes of effects. Again, it can be seen that effects have directions (denoted by debit and credit) but the transaction do not have any.

The financial equilibrium of the business, after giving effects of the transactions, consists of seven types of assets or liabilities. These items pertain to either a real asset item or a personal account. In our case, the first two items of liability are personal accounts and the last five items are real asset items. The value addition of goods is also considered as a real asset because the spending was meant to add value to the goods brought at Rs. 50,000/- and it is assumed that the spending has in fact added value to the stock. Although in real situation the number of items which constitute the financial equilibrium of a business entity will be much more than seven items of the above case, it can be seen that the items always pertain to either a real asset or a personal account.

The business scenario with respect to financial transactions is briefly discussed. There are three dimensions to each transaction, the CAUSAL EVENT and the DUAL EFFECTS. Knowing the extent of these dimensions will be helpful to the management and the owners. An accountant works in such an environment; his task is to record and report the three dimensions. How shall he or she record? Double-entry accounting, as the name suggests, takes care of only two of the dimensions although for some transactions the three dimensions are known. The three dimensional accounting seeks to answer the three dimensional recording.

4.1 THREE DIMENSIONAL ACCOUNTING – BASIC CONCEPTS

In the preceding section we have discussed the basic financial features of a business entity. These are:

1. THE STATIC TRUTH:

   An entity consists of assets and liabilities and at any point of time, the total value of assets will be exactly equal to the total value of liabilities. This phenomenon is referred as Financial Equilibrium of a business entity. The financial equilibrium is portrayed in Figure 4.1 (1).

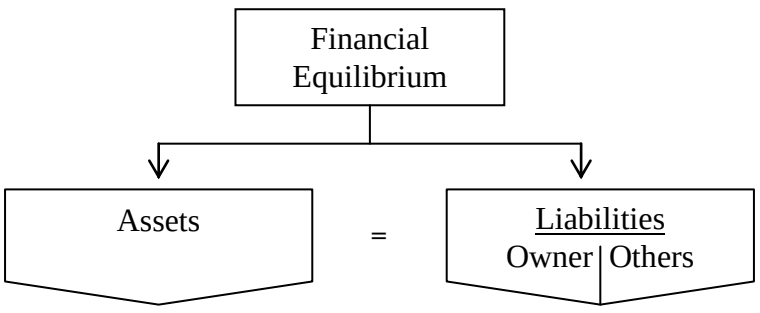


Figure 4.1(1): Financial equilibrium of an entity

2. THE DYNAMIC TRUTH:

Each financial transaction has a dual effect on the asset and/or liability items of an entity; the magnitude of the effects are same as that of the transaction, but the directions are different. After each financial transaction, either the existing financial equilibrium is restored or a new financial equilibrium is resulted.

The inter-relation between the transaction and financial equilibrium of a business entity can be portrayed as in Figure 4.1 (2).

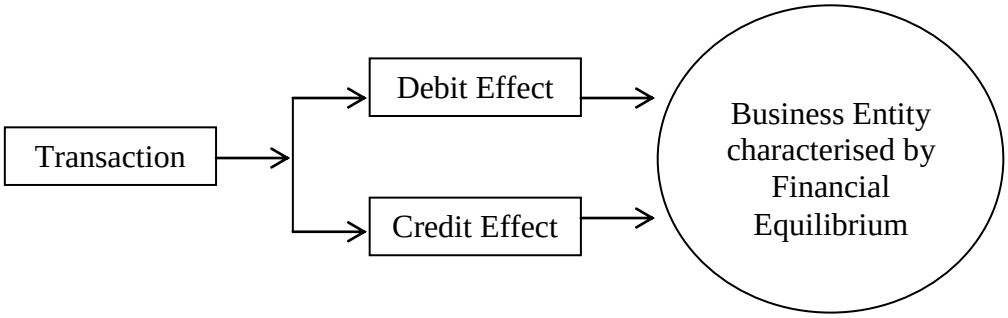


Figure 4.1 (2): Transaction vis-à-vis financial equilibrium

The transaction and its' dual effects constitute the three dimensions of the Three Dimensional Accounting or shortly TDA.

How shall we accomplish the three dimensional accounting? Let us refer back to Chapter-I, where the sequential steps in double-entry accounting were stated as:

With few exceptions, we could observe that none of the dimensions were accounted in the first two steps and in the posting step, the two dimensions were accounted. We could also observe that the transactions posted were not always the real effects on the business entity.

In three dimensional accounting, what we need is:

i) accounting the third dimension not recorded in the double-entry accounting system, and

ii) accounting the transactions distinctly of the real effects.

At this point, one may encounter with many constraints. Out of the constraints, there may be hopes as well. Following are few points that emerge:

i) Number of transactions are large and a transaction-wise recording in the subsidiary books may not be practical.

ii) Do we need too lengthy a list of transactions or else what shall constitute an ideal list?

iii) Does there exist any relationship between the transactions or group of transactions and its effects?

iv) In case of an event-effect relationship, will this be of any use in making the posting task easier?

v) How do the three dimensional accounting adjust to the computerised accounting, which is the prevailing practice?

vi) Will the three dimensional accounting have advantages over the double-entry accounting systems?

A host of other points also may arise. We shall not at this stage diverge, nevertheless, may answer in brief the points noted above.

i) We may have to summarise the transactions recorded in subsidiary books.

ii) The list of transactions can be according to the specific needs of an organisation.

iii) By classifying the transactions in specific groups, an event-effect relationship can be established. Of course, there are few exceptions to this one-to-one relationship, which may require specific processing.

iv) Where an event-effect relationship exists, the recording and posting tasks will be easier; it is so especially in computerised environment.

v) By creating a transaction master and relating the transaction with pre-defined effects, the TDA will be easier in computerised environment.

vi) TDA have definite advantages over the existing systems. The advantages are elsewhere discussed.

THERE ARE THREE DIMENSIONS TO EACH FINANCIAL TRANSACTION, THE CAUSAL EVENT AND THE DUAL EFFECTS. THIS IS A BASIC TRUTH AND TDA RECOGNISES THE THREE DIMENSIONS IN EVOLVING THE ACCOUNTING PRINCIPLES AND TO RECORD AND REPORT THE SAME.

4.2 SUMMARY

i. For accounting, a business is considered as an entity distinct from its owners. This principle is called the business entity concept of accounting.

ii. A business entity consists of various assets and liabilities that are expressed in financial terms. Assets represent what the entity owns and liabilities represent what the entity owes.

iii. Assets are represented by debit balances and liabilities are represented by credit balances. At any point of time, the value of total assets will be equal to the value of total liabilities. This is a static truth with respect to any entity and is referred as financial equilibrium.

iv. A business entity is not static, there is dynamism as well that it engages in transactions. Transactions may be financial or non-financial.

v. Each financial transaction causes a double effect on business entity. The effects are equal in magnitude and opposite in directions; the directions are the debit effect and the credit effect.

vi. A debit effect increases the value of an asset or reduces the value of a liability. Conversely, a credit effect increases the value of a liability item or reduces the value of an asset item.

vii. After each transaction, a new financial equilibrium whereby the total value of assets equal to the total value of liabilities is reached.

viii. The transaction and its' dual effects constitute the three dimensions of TDA.

ix. The accounting steps of TDA are documenting, recording, summarising and posting.

x. TDA has definite advantages over the existing accounting systems.

4.3 REVIEW QUESTIONS

1. Explain the following terms:

   - Business entity concept
   - Financial equilibrium.

2. The financial equilibrium of a trading concern as at 1.1.1999 is represented as:

   Assets = Liabilities = Rs. 7,86,000

   Show the real effects of the following transactions that happened on 2.1.1999:

Credit sale	- Rs. 32,500
Value of goods sold	- Rs. 23,300
Sales expenses	- Rs. 1,000
Collection from debtors	- Rs. 37,200
Cash discount given to debtors	- Rs. 400
Payment to creditors	- Rs. 48,600
Purchases for sale	- Rs. 16,500

   Work out the new financial equilibrium as at the close of 2.1.1999.

3. For each of the transactions stated in question 2, state the dimension that will be left out in existing financial accounting system.

4. Explain briefly the basic concepts of TDA. How does TDA differs from the integrated accounting system?

5. State the sequential steps of traditional accounting. What do you suggest to summarise the transactions in TDA?

6. Name few financial transactions where there exist a definite event-effects relationship.

CHAPTER V

THREE DIMENSIONAL ACCOUNTING

CHAPTER CONTENTS

CHAPTER-V

THREE DIMENSIONAL ACCOUNTING

5.0 INTRODUCTION

An introduction to TDA was made in the preceding Chapter. The discussion therein focussed on the basic characteristic features of a business entity. A business is a collection of assets and liabilities and those assets and liabilities capable of expression in financial terms constitute the financial equilibrium of the business. This is the static truth with respect to any business. The dynamic aspect is the financial transactions or events happening in the business and the resultant effects of events. Every transactions has a dual effect on the existing financial equilibrium of the business and the dual effect is complementary to restore financial equilibrium although it may not be of the same magnitude as before the incidence of the transaction. These are the basic characteristics of a business entity and are abound in conceptual clarity.

Now analysing the different possible transactions that can happen in a business entity, it can be observed that the transactions are distinct from its effects. Analysing further it can be seen that there exist some definite relationship between the transaction type and the type of asset and liability items affected by the transaction. An accountant's task is to record the transactions and its effects and when an automatic link is established between the transaction and its effects, especially in computerised accounting, accountants' task will be to record only the transaction.

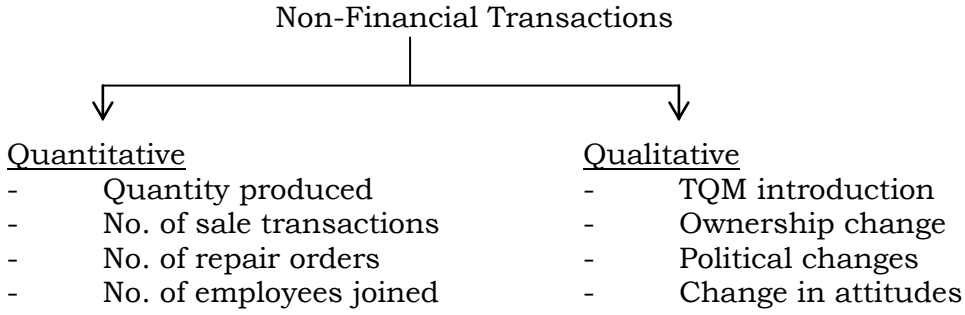
In the following sections, the scheme of operation of TDA is discussed.

5.1 TRANSACTIONS & CLASSIFICATIONS

Transactions are events happening in an entity. Transactions may be of different types and nature; in figure 5.1, different transaction types are shown.

FINANCIAL & NON-FINANCIAL TRANSACTIONS

In the broadest sense, transactions may be either financial or non-financial. Financial transactions are those capable of expression in monetary terms and non-financial transactions are those which are not financial transactions. Again, non-financial transactions may be either quantitative or qualitative. Few examples of quantitative and qualitative transactions are given below:



While for basic accounting only financial transactions are considered, the use of quantitative (non-financial) transaction facilitates the analysis of accounting data and enhance the usefulness of reports and in cost and management accounting, quantitative transactions are extensively used in conjunction with the financial transactions and results. On the other hand, qualitative transactions or events are the background information for explaining the financial and quantitative events and also for decision-making. The usefulness of non-financial transactions are not the subject of discussion here and so further discussion thereon is avoided. Financial transactions are the starting point in accounting. In this book, financial transactions are often referred as only transaction without the prefix and unless otherwise specifically stated, references to transaction shall mean financial transactions.

In Figure 5.1(1), financial transactions are sub-divided into external and internal transactions.

EXTERNAL TRANSACTIONS

External transactions mean those transactions the entity enters with its stake-holders namely suppliers of materials, labour and other services, customers, owners, etc. All external transactions involve a payment or receipt of money immediately on accounting or after a lapse of time. When immediate payment is made, the transaction can be referred as a cash transaction and when payment is made only after a lapse of time of the initial transaction, the transaction is referred as a credit transaction. Again external transactions are classified into purchase, sale, payments, receipts and recoveries; purchase transaction is further sub-divided into materials, labour and expenses.

INTERNAL TRANSACTIONS

Internal transactions do not involve any dealing with the stake-holders or outsiders of the entity and are sub-classified into utilisation, absorption, proration and other transactions. The first three types of transactions were discussed in chapter II and shown in figure 2.1 of that chapter. Other transactions are those internal transactions which do not pertain to utilisation, absorption or proration. Rectification of errors is an example of other internal transaction.

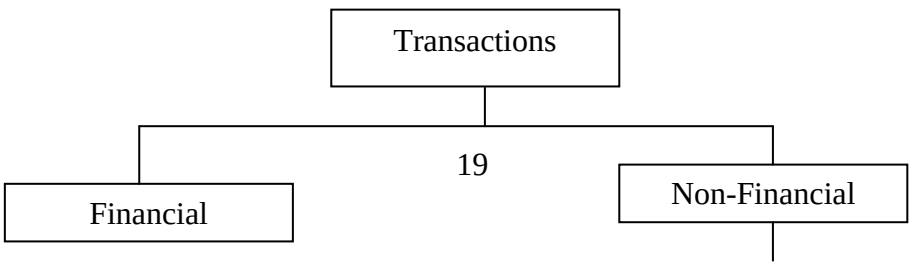


Fig. 5.1(1): Types of Transactions

WHAT SHALL CONSTITUTE A TRANSACTION?

It may be noted that figure 5.1(1) is not exhaustive enough to include all classifications of transactions; it is only indicative. For instance, the transaction 'Purchase' (or pooling) is terminally sub-divided into material, labour and expenses whereas the nature-wise classification is also a very useful classification in accounting. Similarly the standing order-wise classification is also not shown in the figure as a sub-category of 'utilisation'.

Transactions can be further sub-divided into minute details. For example purchase of materials can be sub-divided into different types of materials like raw materials, spares, consumables etc. and each type can further be sub-divided to have item-wise material purchase transaction. Is such a lengthy list of transactions needed? If not, what shall constitute an ideal list? Having a scope ranging between a simple broadest classification to a detailed classification, it is difficult to make a general definition of the term 'transaction'. The specific needs of an organisation should be given due consideration while listing the transactions for accounting. Accordingly, a simple definition is attempted here:

> 'Transactions are financial events scheduled according to the specific needs of an organisation'.

DIMENSIONS OF A TRANSACTION

Double-entry system of accounting involves the accounting of two dimensions and the dimensions are the ledger accounts involved. So a transaction can be accounted if the ledger accounts involved are opened in books. There was a leeway in the use of accounts that any combination of accounts could be used in giving the dual effects of a transaction. Three dimensional accounting does not however seem to be so simplistic that for accounting a financial event, the event or transaction along with the dual effects must be available in the schedule of transactions and effects. As against the two dimensions of double-entry system, there are three dimensions in TDA and each transaction should confirm to the pre-determined schedule of three dimensions.

CONSIDERATIONS WHILE MAKING SCHEDULE OF TRANSACTIONS

There may be very many financial events or transactions. The transactions must be pre-decided which task is a delicate one. Too much lengthy a list of transactions may be unnecessary and burdensome and too few transactions may not serve the purpose for which it is intended. The list must be practical and at the same time purposeful. Materiality and frequency of incidence of the transaction are two considerations in deciding the inclusion or otherwise of a transaction in the list. Few more considerations are noted below which must be duly taken care of while deciding on the list of transactions:

i) TRANSATIONS ARE NOT LEDGER ACCOUNTS

Transactions are distinct from ledger accounts. For example, advance paid is a transaction which has the effect of a debit entry to a party's account. If the transaction is shown only as advance, it is quite probable that advance paid and advance refunded both find inclusion in the transaction named 'advance'. Both payment and refund are separate transaction and hence shall be distinctly listed.

ii) TRANSACTION SHALL BE SUGGESTIVE OF EFFECTS

As far as practicable, the ledger accounts effected must be implied from the names of transactions. This rule facilitates the reconciliation of ledger accounts from the transaction totals during a period and the ledger balance at the beginning of a period. Further in computerised accounting environment, this facilities an automatic posting to the ledger accounts without entering the main account code. There are certain exceptions to this one-to-one relationship between the transactions and the ledger accounts; the same are discussed elsewhere in this chapter, as to how a posting relationship can be established.

iii) MEANINGFUL ITEMS BE INCLUDED

By including meaningful profit and loss items in the list, the extent of such transactions are bought to the notice of all concerned. Such transactions include wastage, shortage, excesses, idle capacity cost, idle labour cost, variances, etc.

iv) CONTRA ENTRIES CONSIST OF TRANSACTIONS

There are certain transactions like cheque bounced, cheques re-deposited, cheque encashed etc. which are either ignored for accounting or treated as contra entries in existing system; as a result the extent of these transactions are not easily known. While preparing the list, care should be taken to include such items.

v) NULL EFFECTUAL TRANSACTIONS

There may be some transactions, which do not have any accounting effect and presently ignored for accounting. Examples are normal wastage in process, dealer commission etc.

To illustrate this point, let us consider a simple sale transaction. A company sells milk powder through a network of dealers. The maximum retail price (MRP) is fixed at Rs. 130 per kg. of milk powder and the dealers get a commission of 10% on MRP. When 10 kgs. of milk powder is sold, the transactions are:

Sale price – 10 kg. of M.P. @ Rs. 117		- Rs. 1170
Dealer commission @ 10% on MRP		- Rs. 130
	MRP	- Rs. 1300

=======

In the accounting books of the company the dealer commission of Rs. 130 will not appear as an expense because there is no direct payment of commission. The same is included in the MRP and when the dealer sells milk powder @ Rs. 130 a kg. he gets the commission.

In a broad sense dealer commission also is an expense item of the company and accounting cannot be complete without incorporating this also in books. In the existing double-entry system, accounting dealer commission implies opening an expense account as well as an income account so that dual-aspect or double-entry is complete. However in TDA, the transactions are distinct of its effects and there can be null-effectual transactions also. Dealer commission is a null-effectual transaction and can be easily booked and reported.

Such transactions can be included in TDA without any compromise to the double-entry principle. Both the debit and credit will go to one particular ledger account, the result is, dual-effects are nullified retaining unaffected the magnitude of the transaction. Alternatively such transactions can be considered as null effectual without being posted to ledger accounts.

vi) POOLING & UTILISATION TRANSACTIONS

For transactions pertaining to costs, there can be many classifications. One classification is according to the nature of expenses and another classification is according to the standing orders or activities where activity based costing is in vogue. The former classification is suitable at the initial accounting stage (pooling stage) and later is appropriate for the utilisation stage. Both the types can be incorporated in the three dimensional accounting system. So at the initial stage of booking, expenses entered according to the nature of expenses are pooled in an account styled 'EXPENSE IN PROCESS ACCOUNT' and at the utilisation stage, indirect costs are identified with standing orders or activities and booked to the functional COST IN PROCESS ACCOUNTS or other affected accounts.

vii) NON-RECURRING TRANSACTIONS

There may be few non-recurring transactions not desired for inclusion in the list as a distinct transaction. In order that such transactions are accommodated, transactions named 'miscellaneous transactions' be included under the main transaction groups. By the very nature of these transactions, they are exceptions to the general rules of transactions and their effects may not be pre-definable. Exceptions must, however, be appropriately considered for reconciliations and reporting purposes.

TRANSACTIONS LISTED IN APPENDIX-1

A list of transactions and their effects is given in Appendix-1 and in Appendix-2, notes on few transactions are given. The list is only illustrative and may be representative of the transactions that normally take place in small or medium size manufacturing organisations. In complex and large business

houses the number of different transactions may be much more than the transactions scheduled in the list. Again, there are various special types of transactions, for example, those pertaining to consignment accounts, hire purchase, branch accounts, royalty accounts, etc. which are not included in Appendix-1. These are dealt with in Chapter VII. The transactions and the accounts affected may be different, however the principles remain the same and are valid for such special types of business transactions as well.

The classification of transactions made in Appendix-1 pertaining to materials, labour and expenses are arranged in two sequential steps to mean the purchase or pooling and then the utilisation or issue from the pool. Transactions pertaining to payments, receipts and recoveries are grouped together under the main heading 'Other transactions'.

From the name of a transaction, it is implied whether a transaction is internal or external. For listing and for codification of transactions separating the transactions into external and internal is not felt to be a necessity and so the same is not done while arranging the items in Appendix-1.

External transaction may be either a cash transaction or a credit transaction. This classification is also avoided in the Appendix. The reason is not far to seek. The result will be a lengthy list of transaction and not felt to be a necessity as the classification is a natural outcome at the initial recording stage. If a transaction is entered in cash/bank book, the transaction is a cash transaction and when the transaction is entered in other transaction books the transaction is a credit transaction. For example, when a purchase transaction is entered in cash book, a cash purchase is implied. While preparing a statement of transactions during a period the amounts against cash and non-cash can be shown in separate columns (refer Note 1 of Appendix-2).

MISCELLANEOUS TRANSACTIONS

TDA demands the existence of a transaction in the schedule of transactions unlike the double-entry system where this is not a prerequisite of accounting. While most of the financial events that are possible can be accommodated in the schedule or list of transactions, there may still be a small fraction of the total number of transactions which may not be convenient to be listed as distinct transactions. Such transactions can be accounted as Miscellaneous transaction as stated earlier in para (vii). Since the number of transactions accounted during a period as Miscellaneous transactions will only be few, these transactions, if so desired, can be subjected to greater scrutiny. So by knowing the nature and extent of all the transactions that has happened during a period, TDA ensures that undesirable transactions are not easily perpetuated.

Exercise 5.1

Sober & Co. maintains its accounts three dimensionally. Following are the magnitudes of few of its transactions during a period. In which category do you place each of these transactions. Here cash means bank transactions as well.

	Cash (Rs.)	Non-Cash (Rs.)	Total (Rs.)
Purchase for stock	5,000	1,36,000	1,41,000
Travelling expenses	3,000	-	3,000
Direct materials issued	-	21,000	21,000
Material issued – Repairs to plant	-	1,700	1,700
Material shortage	-	50	50
Labour cost – Repairs to plant	-	2,600	2,600
Donations	200	-	200
Normal production waste	-	400	400
Sale of fixed assets	5,000	-	5,000
Fixed assets sold (book value)	-	4,000	4,000
Payment to creditors	34,000	-	34,000
Collection from debtors	39,000	-	39,000
TDS deducted	-	300	300
Factory O/H absorbed to jobs	-	7,000	7,000
Total	86,200	73,050	1,59,250

Answer

Transaction	Amt. (Rs.)	Category Tracing
a) Purchase for stock (Cash)	5,000	External → Cash → Purchase → Materials
b) Purchase for stock (Non-cash)	1,36,000	External → Credit → Purchase → Materials
c) Travelling expenses (cash)	3,000	External → Cash → Purchase → Expenses
d) Direct materials issued (NC)	21,000	Internal → Utilisation → Materials
e) Mat. issued – Repairs to plant (NC)	1,700	Internal → Utilisation → Materials
f) Material shortage (NC)	50	Internal → Utilisation → Materials
g) Labour cost – Repairs to plant (NC)	2,600	Internal → Utilisation → Labour
h) Donations (C)	200	External → Cash → Purchase → Expenses
i) Normal production waste (NC)	400	Internal → Proration
j) Sale of fixed assets (C)	5,000	External → Cash → Sale → Other Sales
k) Book value of fixed assets sold (NC)	4,000	Internal → Others
l) Payment to creditors (C)	34,000	External→ Cash→Payments
m) Collection from debtors (C)	39,000	External → Cash → Receipts
n) TDS deducted (NC)	300	External → Credit → Recoveries
o) Factory overhead absorbed to jobs (NC)	7,000	Internal → Absorption
	1,59,250	

Note: A non-cash transaction need not necessarily be a credit transaction. It can either be a credit transaction or an internal transaction as shown in Figure 5.1 (2).

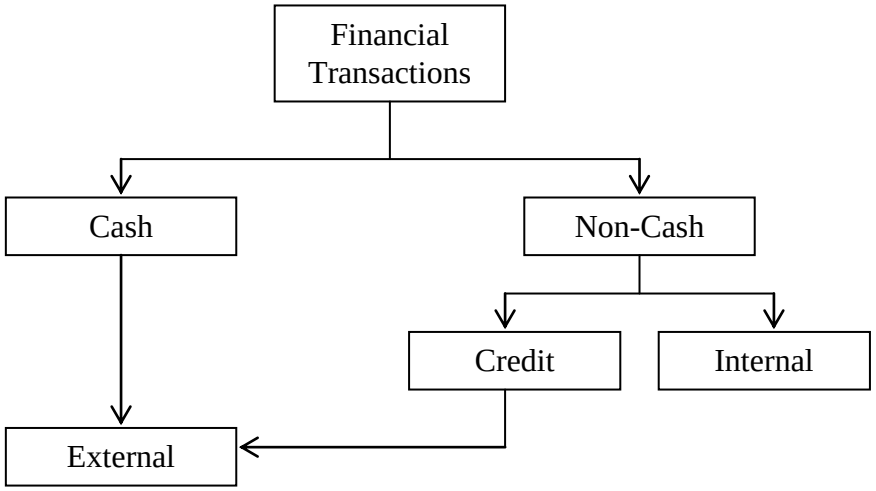


Figure-5.1 (2): Status of Cash and non-cash transaction

5.1.1 TRANSACTIONS VS. EFFECTS

The simple fact that the transactions or financial events are the motive force of a business to cause changes in the financial equilibrium of the entity and that accounting systems shall spring from this basic fact is the philosophy of Three Dimensional Accounting. Deviations from the basic facts are justified only if such deviations brings substantial saving in effort and/or cost.

Transaction affects the existing financial equilibrium of an entity consisting of various asset and liability items. If a one-to-one relation exist between the transactions and the accounts effected, posting will be easy and in computerised environment the posting will be automatic without any additional input. The relationship is examined below with respect to different transaction types:

i) TRANSACTIONS AFFECTING CASH/BANK ACCOUNTS

For many of the transactions it is not apparent from its' name whether cash/cheque is paid/received or whether the transaction is a credit transaction. However, at the recording stage by identifying the book of original entry, the distinction is known. So when `purchase for stock' is entered in cash/bank book, it implies that the purchase was for cash and the same transaction when entered in purchase book it implies a credit purchase for stock.

A pictorial representation of cash transactions (cash includes bank) and effects is given in Figure 5.1.1 (1). For any organisation, cash transactions constitute a major chunk of the total transactions. So if the event-effect relationship is certain for the cash transaction, we have resolved the automatic posting of transactions to a great extent.

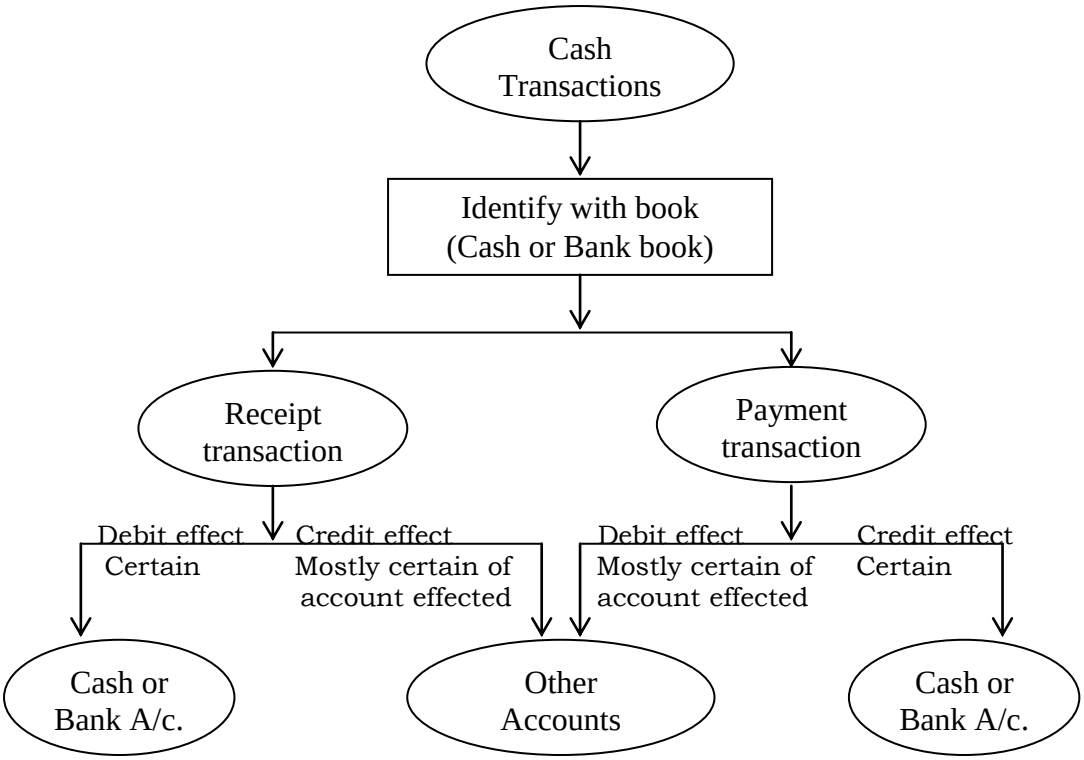
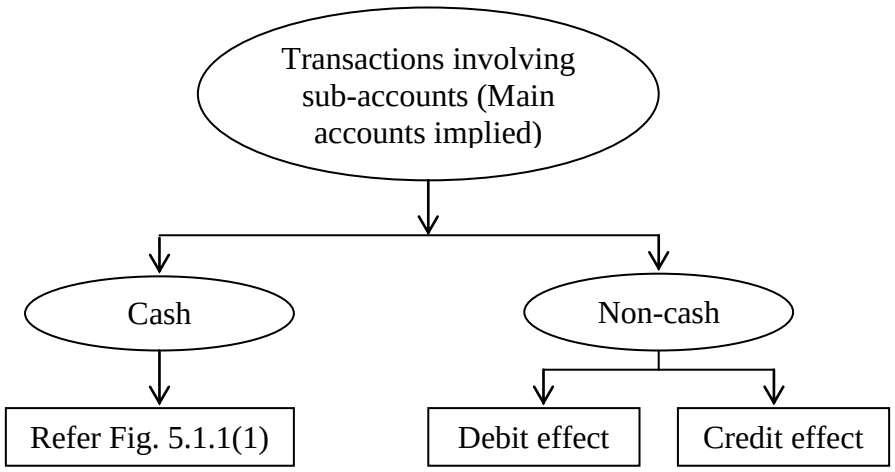


Figure 5.1.1 (1) : Cash transactions and effects on Ledger Accounts.

ii) TRANSACTIONS INVOLVING SUB-ACCOUNTS

For many transactions, the main account to which the effect will be posted is implied, but the sub-account is not so implied. Few examples of such transactions are issues –- direct materials, advance paid, payment to creditors, purchase –- for stock etc. For example, when advance is paid one of the effect is to debit the miscellaneous party account, but this account may consist of various sub-accounts of employees and other parties. So although the main account is implied, the sub-account of the particular employee is not evident from the transaction's name. So whenever sub-accounts are involved, the transaction and sub-account number shall be input.

A pictorial representation of this situation is made in Figure 5.1.1 (2).



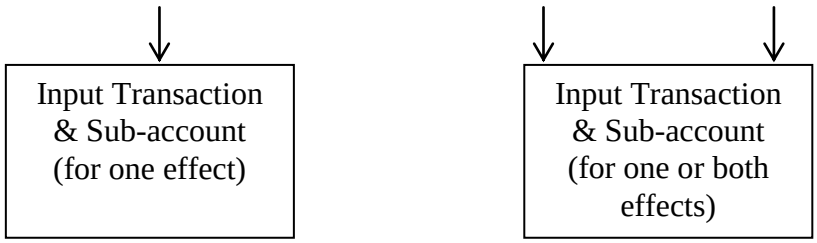


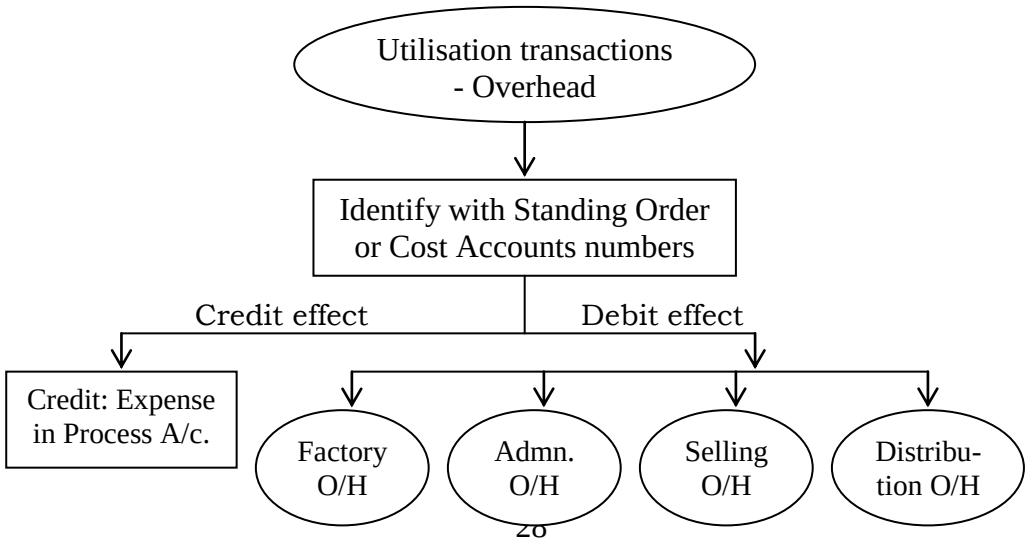
Figure 5.1.1 (2) : Transactions involving sub-accounts and effects

iii) TRANSACTIONS OF OVERHEAD ITEMS

Such transactions are issues-indirect materials, indirect labour cost and items of indirect expenses. The effect of each of the stated transaction can be to the debit of any of the four or five overhead cost-in-process accounts depending upon the purpose for which the transaction has taken place. For example, when some indirect materials are issued from stores, the transaction is 'issues -– indirect materials'. The issue may be for factory in which case the debit will go to the Factory Cost in Process Account, or else the debit will go to either Administration Cost in Process account or S & D Cost in Process Account or R&D Cost in Process Account. Note that overhead accounts are termed here as Cost in Process Accounts; the logic is discussed at a later stage. Normally such transactions are accounted along with cost centre number and/or standing order number. If cost centre or standing order number is known the debit effect is implied. So one of the methods of giving effects to overhead transactions is by identifying either the C.C. number or the S.O. number.

In the above example, we considered 'Issues – Indirect materials' as the transaction. This is a broad classification of transaction. Instead of this classification, if we consider the standing order numbers as the utilisation transaction, it will be possible to establish the identity between the transactions and the effects because standing order numbers are identifiable with the functions.

The process of establishing an event-effect relationship of overhead transactions is shown in Figure 5.1.1 (3).



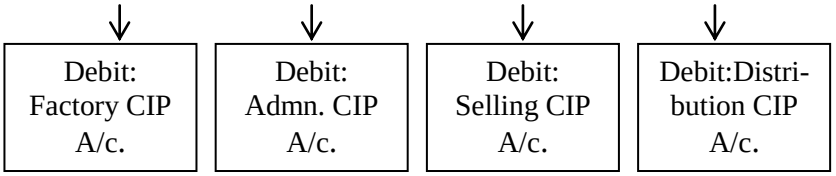


Figure 5.1.1 (3): Utilisation transactions of overhead and effects

iv) ONE-TO-MANY SUB-ACCOUNTS

There are situations when the effect of a transaction need to be given to more than one sub-account. Take for instance, the case of capitalisation done at the end of a period. The entry will be:

Capitalisation of fixed assets → Dr. Fixed Asset concerned
Capitalisation of fixed assets → Cr. CWIP A/c.

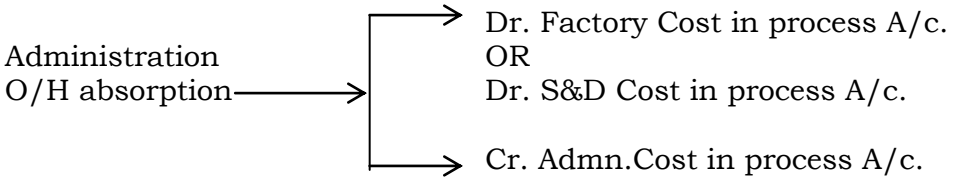
Both the effects of the transaction are known and there exists a one-to-one relationship between the transaction and main account as above. However, the capitalisation may be of different items of fixed assets or different sub-accounts of the main account – Fixed asset account. For example, the total amount of capitalisation, say Rs. 7,00,000/- may pertain to:

Machinery	-	Rs. 4,00,000/-
Electrical equipment	-	Rs. 1,50,000/-
Fixtures	-	Rs. 1,00,000/-
Office equipment	-	Rs. 50,000/-
Total	-	Rs. 7,00,000/-

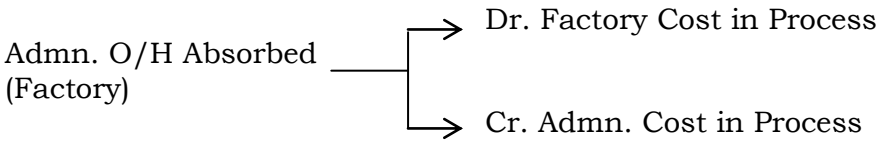
Such situations do not however pose any hindrance to TDA. One voucher shall accommodate many sub-accounts and in the transaction book, against one transaction, provision for writing many sub-accounts shall exist.

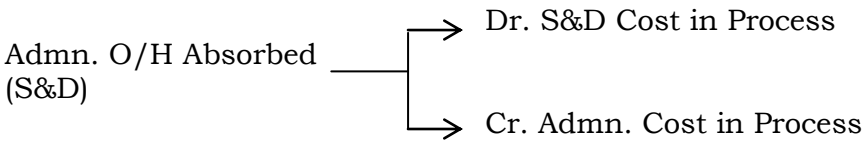
v) TRANSACTIONS WITH MULTIPLE OPTIONS

For some transactions, there may be multiple options with respect to it's treatment or giving effects. One example is the treatment of administration overhead, which may be treated differently by different organisations depending upon the perceived suitability of a particular treatment or the management preference of an option over others. So at the absorption stage of administration overhead, some may prefer to apportion the amount between the production function and the selling function, whereas in another entity, the preferred treatment may be to consider the entire administrative overhead as a charge to the Profit & Loss A/c. of the period. Where apportionment is made among production and selling functions, with respect to the debit effect, the transaction has two options as shown below:



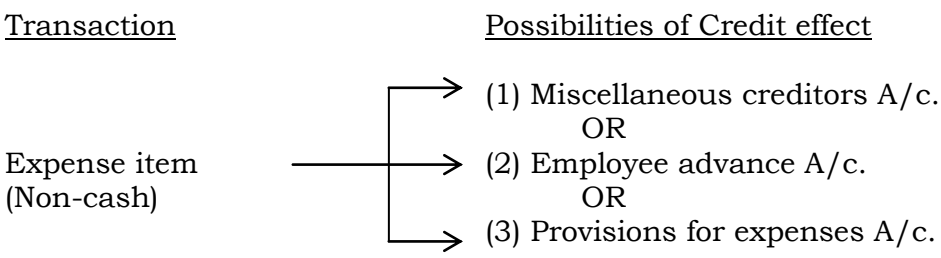
Here one transaction has two options and each option, in fact, is a distinct transaction. The system shall take care of such exceptional situations and in this particular case each option may be treated as a distinct transaction as shown below, or alternatively, the transaction may be treated as a transaction with multiple options.





vi) NON-CASH TRANSACTIONS WITH MULTIPLE EFFECTS

In case of some of the non-cash transactions, one of the effect may not be pre-determinable with certainty. This means for such instances, there will be no one-to-one relationship between the transaction and the effects. For example, when an expense transaction (non-cash) is accounted, one of the effect i.e. the debit effect is to the expense-in-process account; with respect to the credit effect, there can be more than one possibility as shown below:



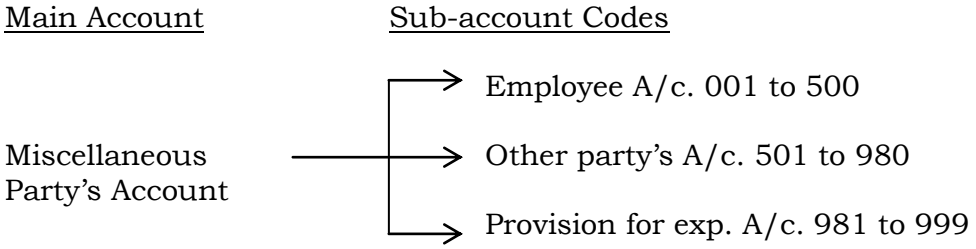
The first possibility happens when the expense is incurred on credit terms, the second possibility is a case where the expense amount is adjusted against the advance taken by an employee and the third possibility happens when provisions are made for an expense item at the end of an accounting period. In this situation an automatic posting of the transaction cannot take place; the relationship between the transaction and the credit effect is one-to-three options. To convert the situation into a one-to-one relationship either of the two actions are needed.

a) split the transaction into three as in (v)
b) combine the three credit effects into one.

The first course of action involves splitting of each expense transaction (non-cash) into three which method may not be impossible, but does not seem to be a rational approach considering the substantial increase in the input effort that might result by such an approach. The second course of action is not only practical but also results in lesser efforts without in any way impairing the effectiveness of the accounting system. The method is briefly discussed below:

In the existing system, it is common to observe transaction-wise classification of ledger accounts. For example, in case of advances to employees, depending upon the nature of advance, separate ledger accounts and within the main ledger accounts, employee-wise sub-accounts are maintained. So one can find travelling advance account to record employee-wise advances given for travelling, miscellaneous advance account to record employee-wise advances given for meeting miscellaneous expenses and salary advance account to record employee-wise salary advances given. In this way the transactions are distinguished in ledger accounts because otherwise the transaction is not reflected in ledger accounts.

The principles of TDA are different with respect to the transactions and ledger recording; transactions are recorded separately and in ledgers also the name of the transaction is written. When the accounting is practiced in this way, the need for separate ledger accounts for different transactions may not serve any useful purpose. So if the three accounts stated above as possibilities of the expense (non-cash) transaction are combined in one account namely Miscellaneous Party's Account, there seem to be no difficulty with respect to the operation or information needs. The coding of sub-accounts can be arranged in such a way that codes of employees and other parties are distinctly given as illustrated in the chart below:



A further discussion on this aspect is made in Section 5.4 which may be referred. When this scheme is operational, the main account to which the credit effect of a non-cash expense transaction is posted is known and the input requirement will be only the sub-account code.

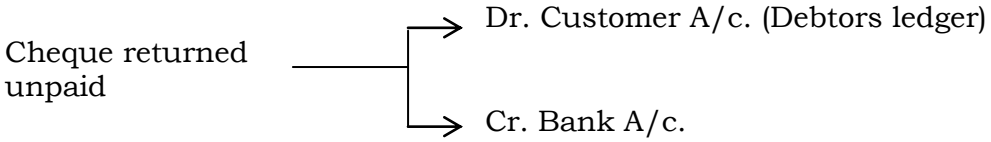
5.1.2 EXCEPTIONS TO AUTOMATIC POSTING

Automatic posting of the transaction is one of the main features of TDA. This is possible by incorporating a large number of transactions in the list, thereby establishing a definite event-effect relationship. A meticulous study of the business environment and likely transactions be made at the initial TDA development stage so that all transactions are decided and listed. Thereafter,

the procedures of accounting are to be laid down in a manual in unambiguous terms. Even with all precautions and care, some of the transactions might be left out and so the coding scheme shall be made flexible enough to incorporate such transactions at a later stage.

Few of the transactions may be non-recurring in nature; it may be preferable that such transactions are not listed as distinct transactions; instead such transactions be better accommodated in system as 'miscellaneous transactions'. There is no one-to-one relationship and each transaction entered through miscellaneous transaction need to be treated differently for giving effects, for reconciliation and for reporting purposes.

There can be another type of exception to the automatic posting. For example, consider the case of the following transaction:



The debit effect of this transaction is to the customer's account in the debtors ledger. Usually it is so, but need not be the case at all times. An organisation might have accepted a cheque from a miscellaneous party and the dishonour of the cheque can happen, in which case the debit effect will be to the Miscellaneous Party's Account in the miscellaneous ledger. The default debit effect of the transaction no longer holds true; the same need to be modified in exceptional situations. The system shall provide for such exceptions. Further whenever the ledgers are reconciled vis-à-vis the transactions, the transactions need to be split into more than one so as to reflect the real truth. In the above case, the amount of the cheque returned unpaid need to be separately shown for the two types of parties namely the customer and the miscellaneous party. However for few other reports, such separation of the transaction may not serve any useful purpose.

Exceptions are realities although the incidence of such exceptions may be extreme rarities. And when procedures are laid down clearly in dealing with the exceptions, there will not be any system hindrances.

ALTHOUGH A DEFINITE EVENT-EFFECT RELATIONSHIP IS A DESIRABLE SITUATION, THIS NEED NOT BE CONSTRUED AS A RIGID PRE-REQUISITE OF TDA.

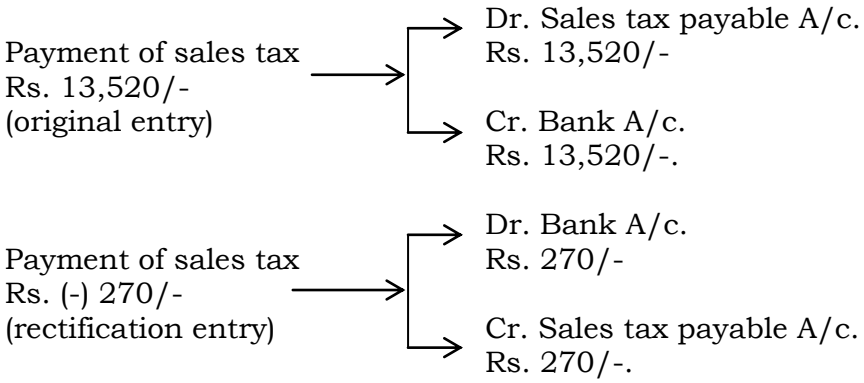
5.1.3 NEGATIVE TRANSACTIONS

Knowledge of the magnitude of each transaction is helpful, however care should be taken to ensure that the list is not added *ad infinitum* lest the system is inconvenient. Few transactions can be avoided from listing distinctly by the use of minus entries against a transaction.

For example, suppose that sales tax payment was made by cheque for Rs. 13,250/-. But the entry made in books against the transaction 'payment of sales tax' was for Rs. 13,520/-. This implies an excess entry for Rs. 270/- and the repeating of the mistake while posting the ledger accounts. Now, a

rectification of the error is to be carried out. One may like to add a transaction in the list named 'Rectification to transaction'. But the rectification can be for any of the already existing transaction. By the name rectification, the erred transaction will not be known and by inclusion of rectification transaction the one-to-one relationship already existing in the system is lost. The one-to-one relationship is possible by including rectification transaction for every transaction which method is devoid of any sense. The right answer to the situation seems to be a minus entry. An entry can be made against the transaction 'payment of sales tax' for Rs. (-) 270/- by doing so the rectification is carried out. Conversely for an error of short entry of transaction amount, the rectification will be by a plus entry for the amount erred against the transaction.

The minus entry will have the effect of reversing the original effect of the transaction. The effects of the above referred transactions are:

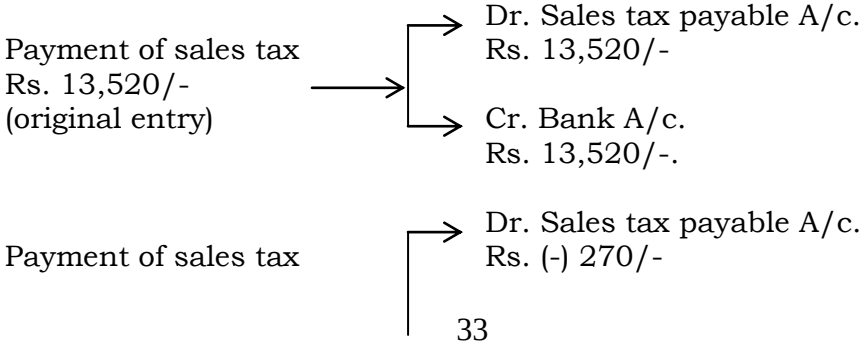


Given below is a summary of the above two entries with respect to the transaction total vis-à-vis the debit and credit totals of the accounts effected.

Transaction Total: Payment of Sales tax Rs. 13,250/- (Net):

Ledger Accounts	Dr. Total (Rs.)	Cr. Total (Rs.)
Sales tax payable A/c.	13,520/-	270/-
Bank A/c.	270/-	13,520/-
Total	13,790/-	13,790/-

By following this methodology, an automatic check between the transaction and debit/credit totals of accounts is lost. Here an alternative method is suggested. When a minus entry is posted, the sign shall not be changed and the effect shall be given to the same side where original effects was made. The method is shown below with the same example:



Rs. (-) 270/- ⟶

⟶ Cr. Bank A/c.
Rs. (-) 270/-.

The effects of the above entries will be:

Ledger Accounts	Dr. Total (Rs.)	Cr. Total (Rs.)
Sales tax payable A/c.	13,250/-	-
Bank A/c.	-	13,250/-
Total	13,250/-	13,250/-

The check between the transaction total and the debit/credit total is not disturbed in the later method.

There are some transactions, the nature and effects of which are diametrically opposite to an original transaction or event. Sales returns, purchase returns, material returns etc. are examples of such transactions. Some of these transactions may be very rare and so may not be desirable for inclusion as separate transactions in the list. Accounting of such transactions can be done by considering them as a minus entry to the original transaction like:

- Sales return as minus entry to sales,
- Purchase return as minus entry to purchases, and
- Material return as minus entry to material issues.

5.1.4 TRANSACTION TOTALS vs. LEDGER BALANCES

Transactions are the prime movers of ledger accounts, and without transactions the balance of ledger accounts will remain unchanged. The magnitude of the transaction determines the magnitude of change in ledger balances. Again there is a one-to-one relationship (except in very few case stated in 5.1.1 which can be resolved easily) between the transaction and the main ledger accounts. These relationships can be made use of in checking the accuracy of postings made vis-à-vis the transactions.

The relationship between the transactions and the effects can be established and checked at three levels:

i) Broadest level -- All Ledger accounts' total (debit totals & credit totals) vs. transaction totals.

-- Financial equilibrium of the ledger balances.

ii) Ledger level -- One Ledger accounts' total vs. selective transactions' total.

iii) Accounts level --Main account balances vs. Selective transactions' total.

These are briefly discussed below:

i) BROADEST LEVEL RELATIONSHIP

Three methods are discussed here:

a) The magnitude of each transaction is equal to the magnitude of both the debit effect and the credit effect. Therefore the total of all the transactions during a period will be equal to the debit total as well as the credit total of that period. The relationship is shown in figure 5.1.4 (1).

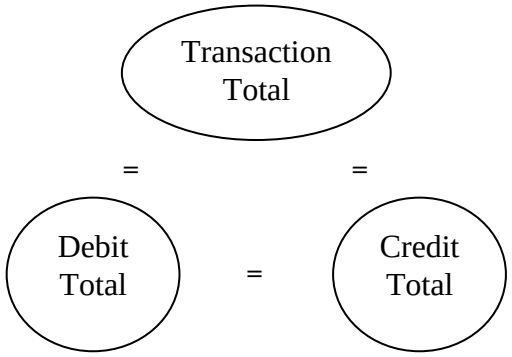
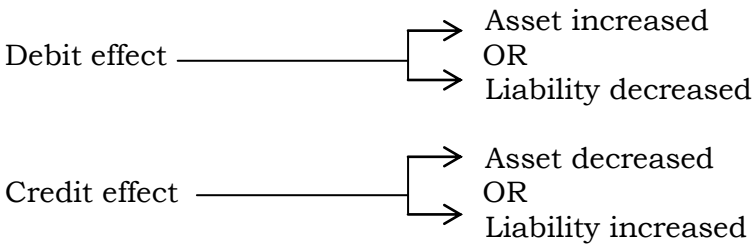


Figure 5.1.4(1): Arithmetic relationship of transaction and effects

b) As in the case of trial balance of double-entry accounting systems, at any date, the total of balances of ledger accounts having debit balances will be equal to the total of balances of ledger accounts having credit balances. This is the financial equilibrium referred earlier and can be used to check the accuracy of postings in ledger.

c) There is yet another method to check the accuracy. Although the agreement of trial balances can be considered as reasonable evidence of accuracy in posting, particularly so in computerised accounting, the possibility of a compensating error in posting cannot be ruled out. The method stated below will serve as an additional check, especially in the initial years of system development.

For each transaction, there is a debit effect and a credit effect. Debit effect is possible in two ways and the credit effect also is possible in two ways; they are:



So when debit and credit happens simultaneously, as in the case of each transaction, there can be four distinct possibilities. They are:

a) Asset increased (Dr.) & Asset decreased (Cr.)

b) Asset increased (Dr.) & Liability increased (Cr.)

c) Liability decreased (Dr.) & Asset decreased (Cr.)

d) Liability decreased (Dr.) & Liability increased (Cr.)

When the transaction totals are known separately for cash and non-cash transactions (cash means bank also), the effect of each transaction with respect to the above four possibilities are also known. Accordingly, the transaction magnitudes can be grouped under these possibilities.

The opening ledger balances at the beginning of a period is known and the transactions of a period are grouped under the four possibilities. Once this is done, the closing balances of ledger accounts can be worked out. For example, let the opening balance at the beginning of a period be assumed as Rs. 7,50,000/- (both the credit balances total and debit balances total, obviously, will be equal) and the transaction totals under the four possibilities during a period be assumed as follows:

Possibility	(a)	Rs. 3,37,000/-
-do-	(b)	Rs. 83,000/-
-do-	(c)	Rs. 69,000/-
-do-	(d)	Rs. 12,000/-.

Now, the closing balance at the end of the period can be derived as shown below:

	Dr. (Rs.)	Cr. (Rs.)
Opening balance	7,50,000/-	7,50,000/-
Possibility :		
a) Asset (+) Asset (-)	No effect	No effect
b) Asset (+) Liability (+)	+ 83,000/-	+ 83,000/-
c) Liability (-) Asset (-)	(-) 69,000/-	(-) 69,000/-
d) Liability(-) Liability(+)	No effect	No effect
Net effect during the period	+ 14,000/-	+ 14,000/-
Closing balance	7,64,000/-	7,64,000/-

At the end of the period concerned, both the debit balances and the credit balances should be equal to Rs. 7,64,000/-. If any difference is noted, errors in posting is implied; the error may be either wrong posting or omissions in posting.

In the above calculation, increase in assets (asset +) is assumed to increase the debit balance which may not be true in all situations. For example bank account is considered as an asset item, it need not necessarily have debit balance; a bank cash credit account will show credit balance. When a payment is made from such a CC account, the maxim asset (+) and asset (-) will not hold valid. The problem will not

happen if an account is always treated as asset or liability for this working, irrespective of the balance. In the case of a bank CC account the same can be treated as an asset item with minus debit balance.

There may be yet another difficulty with the above method of ensuring accuracy. The method will work if each and every transaction can be classified as belonging to either of the possible effects stated above. The effects, although known for most of the transactions or almost all transactions, the existence of a single exceptional transaction can vitiate the correctness of the above method. So utmost care should be taken to consider all exceptional situations and to incorporate the effects of such exceptions for this exercise.

ii) LEDGER LEVEL RELATIONSHIP

When the trial balance does not tally or when the relationship as stated in (i) is found not existing, errors are implied and the errors are required to be located. This can be attempted at the ledger level.

The effects of the transactions are known with respect to the ledgers effected when cash and non-cash classification is available and when it is so, the reconciliation of different ledgers can be easily done. With this step, errors, if any, is located at the ledger level.

Ledger level reconciliation also leads to control of activities or transactions that has taken place in a ledger. To illustrate this point a reconciliation statement of creditors ledger is shown below with the use of hypothetical figures:

Creditors Ledger reconciliation – December, 1998

	Rs.		Rs.
Opening Balance: 1.12.1998		Cr.	3,50,000/-
Add:			
Purchases - for stock	4,20,000/-		
Purchases – direct for jobs	20,000/-		
Purchases – direct for cap.jobs	50,000/-		4,90,000/-

Sub-totals			8,40,000/-
Less:			
Payment to creditors	5,30,000/-		
Purchase returns	30,000/-		5,60,000/-
			--- Closing
Balance: 31.12.1998		Cr.	2,80,000/-
			=========

An insight into the various activities of creditors account is obtained and when the transactions are compared with the corresponding figures as per purchase budget and cash budget, the deviations are known. In TDA, the need of having ledger control account is obviated and the transactions relevant to a particular ledger when arranged constitute the ledger control account.

For all other ledgers also, the reconciliation can be carried out easily.

iii) ACCOUNTS LEVEL RELATIONSHIP:

At the main accounts level also, the one-to-one relationship exists between the transaction and effects. So if errors are not located at the ledger level then account level reconciliation can be carried out. Some of the ledgers are the main account itself. For example, creditors ledger, debtors ledger, stock ledger etc. are the main accounts with many sub-accounts of suppliers, customers, stock items etc. So in the case of these ledgers, accounts level reconciliation is complete at the second level. But there may be some other ledgers which consists of many distinct main accounts. For example, Miscellaneous ledger may consist of:

Miscellaneous party account,
Loan account, and
Investment account

and in CIP ledger, the different accounts may be:

Factory CIP A/c.
S&D CIP A/c., and
Admn. CIP A/c.

Accounts level reconciliation is also possible in TDA and the statement will be a meaningful report with respect to the ledger account reconciled.

5.2 DOCUMENT OF TRANSACTION

Voucher is the basic document of evidence of a transaction. In existing accounting systems, different types of vouchers are in use. It may be more convenient to have different types. The basic considerations that favour the use of different vouchers are given below:

i) A different voucher format may be suitable for some frequently recurring transactions like sales, purchase, payment, receipt etc.; specific needs are taken care of.

ii) If vouchers are classified according to the transaction books, it facilitates recording, checking, filing etc.

iii) There are certain transactions which involves giving a copy of the document to an outsider. Sales invoice and cash receipts are

examples. Such documents must suit the requirements, both legal and of the customers.

SPECIFIC & GENERAL PURPOSE VOUCHERS

Certain types of vouchers can be stated as specific vouchers in the sense that the transaction and it's dual effects are implied from it's name. For example, sales invoice is meant to document only the credit sale and both the effects of credit sale (main accounts affected) are known. At the other extreme is the journal voucher which is a general purpose voucher because the journal voucher takes care of documentation of all transactions which are not specifically standardised. Between these two extremes, there are many other voucher types which are not specific with respect to all the three dimensions and can be said to be partly specific. Examples of such vouchers are receipt voucher, material requisition note, cash payment voucher, etc.

TRADITIONAL VOUCHER vs. TDA VOUCHER

Depending upon the type of voucher, the particulars that are to be incorporated in the voucher format differ. In a typical traditional voucher, the data written therein include:

Account name: _____
Account code: _____
Sub. code/C.C. code/S.O. code: _____
Description of transaction: _____
Amount: Dr./Cr. Rs. _____

In case of entries in Journal vouchers both the debit account and the credit account are required to be written and in case of other vouchers one of the effect is normally implied. For instance for all cash payments made through cash payment vouchers one effect is to the credit of cash account.

In Three Dimensional Accounting the voucher entries corresponding to the above data will be:

Transaction name: _____
Transaction code: _____
Sub. code/C.C. code/S.O. code: _____
Amount: Rs. _____

Comparing the two, it can be seen that one entry is saved in TDA. Again account name and code is substituted by transaction name and transaction code and so even if a specific voucher is not designed for some transaction, the transaction is known from this method followed in TDA. So the question arises whether some of the specific vouchers presently in use like material return note, stores adjustment voucher, etc. can be avoided and all material issue transaction be documented in one voucher type. Similarly, one may ask whether purchase voucher should accommodate only the credit purchases for stock or whether other transactions like purchases –- direct for jobs, purchases –- direct for capital jobs, purchase returns, purchase adjustments

etc. should also be accommodated in purchase voucher. Logically, yes, since the transaction name captured in the voucher distinguishes different transactions. Practically also it is not only feasible but also more convenient.

Different organisations may have different specific needs with respect to the vouchers and here a suggestive list is not intended. While designing the different voucher types, the three basic considerations given in the beginning of this section should be kept in mind.

5.3 TRANSACTION BOOKS

Transaction book is the record of transaction. Depending upon the volume and needs of different organisations, there can be one or many number and types of transaction books. The discussions and classifications made here are of general nature and may not be suitable ditto in all situations. The rules are not rigid; changes to suit the specific need can be made without deviating from the basic principles of TDA.

CONSIDERATIONS OF HAVING DIFFERENT BOOKS

In TDA, transactions are captured and are the basis for posting to ledgers. So, logically with one transaction book, the accounting purposes could be accomplished. However, maintaining different transaction books may be convenient for other reasons. It will be useful to keep in mind the following points while designing the requirements of transaction books:

i) Volume consideration: If the volume of a transaction is large, it may be convenient to record such transaction in a separate transaction book. Posting to ledger accounts will be easier.

e.g.: Purchases, Sales

ii) Information requirements: The information desired from some transactions are different from other transactions. Specific information needs can be extended conveniently in columns if such transactions are separately recorded.

e.g.: Material issues

iii) Division of work and responsibility: Different transactions and their recording may be the responsibility of different departments/persons. Maintenance of different transaction book facilities division of work and responsibility.

e.g.: Purchase book, Sale book

iv) Cash and Bank Book: It is desirable that cash and bank is not burdened with other transactions. As far as practicable such other transactions be recorded in other transaction books.

e.g.: Tax deducted at source.

CLASSIFICATION OF BOOKS

A classification of different transaction books is shown in figure 5.3. A transaction book may either be a special purpose transaction book or a general purpose one. In the figure, seven special purpose transaction books and two general purpose transaction books are shown. Cash and bank book is arbitrarily placed under general purpose transaction book although it possesses the characteristics of both the special and general purpose transaction books. Seven transaction books are briefly discussed in the sub-sections 1 to 7.

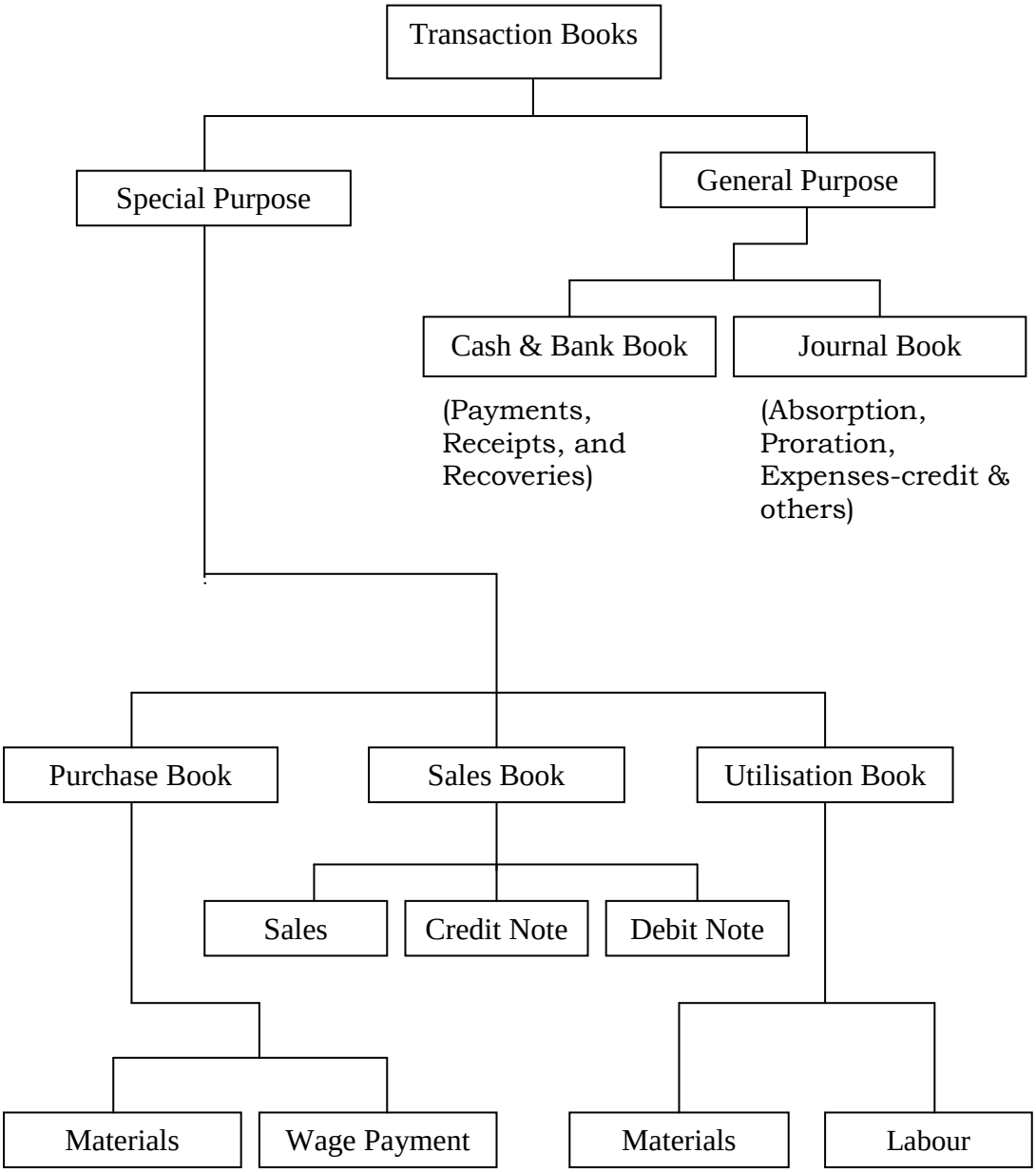


Fig. 5.3: A classification of different transaction books

5.3.1 MATERIAL PURCHASE BOOK

A format of material purchase book is shown in figure 5.3.1.

Voucher No. & Date	Transaction Code	Supplier	Bill No. & Date	Amount (Rs.)	Ledger Codes	
					Party A/c.	Asset A/c

Fig. 5.3.1: Material Purchase Book

In existing accounting system only one type of transaction is recorded in the special purpose subsidiary books. So in purchase book, the practice is to record only the credit purchases. If other transactions are entered in purchase book, there will not be any identity for the transaction entered therein. In TDA, purchase book can mean the same thing, i.e. to record only credit purchases. But what about the purchase related transactions like purchase returns, purchase adjustments etc.? Isn't it convenient and useful to record these transactions as well in purchase book? Transaction names and codes are given to all such transactions. So by including a column for transaction code in the purchase book, purchase related transactions also can be accommodated. Such transactions are listed against A 1.1 to A 1.7 (except A 1.5) in Appendix-1.

At the end of a period, say monthly, a transaction-wise summary be made to know the total against each transaction. Alternatively the amount column be sub-divided to accommodate the different purchase related transactions. Some of the purchase related transaction might be appearing in cash/bank book summary also. Combining the transactions in both books, a correct statement of purchases and related transactions will be obtained.

It should be noted that transactions have a magnitude, but do not have a direction; the effects have directions. So the magnitudes of purchase and purchase returns both will be positive amounts.

5.3.2 WAGE PAYMENT BOOK

Customarily, wage payment book (payroll or salary sheet or wage sheet) is written in multi-columnar style against each employee. TDA does not conflict with the customary form and so the same format can be used. However, while posting from the wage payment book, some of the transactions, if so desired, be combined. A format for wage payment book is given in figure 5.3.2.

Emp.name Token no. Dep. code	Salary & Wages						Deductions						Net Amt.
	Basic	DA	Conv.	Shift Allow.	HRA	Total	PF	ESI	TDS	Ptax	Soc.	Total	
Total													

Fig. 5.3.2: Format of Wage Payment Book.

After the writing of wage payment book for a wage period, the column totals provide the basis for ledger posting. The transactions are input or captured, as the case may be, and the ledger accounts are implied for each transaction.

Sometimes, it may become necessary to make few wage payments before the wage period. This means entering all the wage and deduction transactions in the cash book. It is desirable that unnecessary transactions are avoided in cash book. While making such payments the transaction 'wage payment' be used to debit the net amount of payment to salary payable account and to credit the same in cash account. Such transactions can be conveniently included in wage payment book later on when the book is written so that wages and deduction transactions are considered for accounting. Care, however, should be taken to avoid duplicate payments.

5.3.3 SALES BOOK

Invoice normally contains multiple transactions like sales, discount, sales tax, additional sales tax, etc. Obviously, all these items should be distinctly shown in the sales book. A sales book may resemble the form shown in figure 5.3.3.

Inv. No. & Date	Customer Name	Customer Code	Sales	Discount	Sales Tax	Addl. Sales Tax	Total

Fig. 5.3.3: Format of Sales Book

Here posting of the transactions except the posting of total amount to customers accounts can be deferred till the end of a period say the end of a fortnight or month. Customer accounts cannot be kept pending for posting and need to be updated on a daily basis. Again, the posting to the customers account should be for the total amount which consists of the various transactions. Posting to customer account following the principles of TDA means accounting four transaction for each invoice. This would be

cumbersome involving large volume of transactions. However, the situation can be avoided by following the procedure suggested in Note 21 of Appendix-2. On a day-to-day basis customer account may be posted by involving a transient transaction 'Sales Total'; the posting shall be as follows:

Sales Total → Dr. Customer A/c. (Debtors Ledger)
Sales Total → Cr. Sales Total A/c. (Debtors Ledger)

At the end of a period selected, other transactions be posted in totals as follows:

Sales → Dr. Sales Total A/c.
Sales → Cr. Sales P & L A/c.

Discount → Dr. S&D Cost in Process A/c.
Discount → Cr. Sales Total A/c.

Sales Tax → Dr. Sales Total A/c.
Sales Tax → Cr. Sales Tax Payable A/c.

Additional Sales Tax → Dr. Sales Total A/c.
Additional Sales Tax → Cr. A.S.T. Payable A/c.

After the periodical posting sale total account balance will be nil.

Cash sales also involves multiple entries. This will result multiple entries in cash book for each cash sale invoice or cash memo. This situation, if so desired, be avoided by entering cash sales also in sale book. A cash sale account is opened as a customer account in Debtors Ledger and all cash sales are posted to the debit of this account. For receipt of cash for the cash sale, the following entry be passed:

Receipt from Debtors → Dr. Cash account
Receipt from Debtors → Cr. Cash Sale Account (Debtors Ledger)

The next question is whether it will be convenient to accommodate the sales return transaction in sale book as in the case of purchase return transactions suggested for inclusion in purchase book. There seem to be no difficulty in accommodating the sales return also in the sale book. This can be accomplished by dividing the sales column into two viz. sales and sales return. Again, sales return involves the same number of transactions as sales and for obvious reason, the effects of sales return transactions are diametrically opposite to the effects of transactions pertaining to sales. So apart from splitting the sale column into two, it is necessary to know the amounts of related transactions like discount, sales tax etc. distinctly for sales and sales return, in order that posting of effects is made correctly. One need not split the columns of related transactions, the posting needs are taken care of if minus entries are entered against the related transactions of sales returns.

5.3.4 MATERIAL ISSUE BOOK

A format of material issue book (or material utilisation book) is shown in figure 5.3.4.

Vr.No. & Date	Dept./ Cost Centre	Transa-ction & Code	Job No./ Cap. Order No.	L/F	Stores Items & Code	L/F	Extent			Remarks
							Qty.	Rate	Amt. (Rs.)	

Fig. 5.3.4: Material Issue Book

The difference of the above format with the existing books is the addition of a column for inclusion of transaction name and/or transaction code. With the inclusion of transaction name/code, the above book can be used for all material issue related transactions like material returns, issues to other units, material shortages and material excesses. Material transfers, if any, from one job to other also can be accommodated without any difficulty; against one material transfer transaction, two entries be made one for debiting a job number and the second entry for crediting the job number from where the transfer is made.

5.3.5 LABOUR UTILISATION BOOK

A format of labour utilisation book is shown in figure 5.3.5.

Dept/ Cost Centre	Job Card/ Time Card No.	Transa-ction & Code	Job No./ Cap. Order No.	Extent			L/F	Remarks
				Hrs.	Rate	Amount		
					Total			

Fig. 5.3.5: Labour utilisation book

Accounting of labour utilisation starts from the analysis of job cards or time cards; the accounting may be weekly or fortnightly as per the convenience. Each job card/time card may contain more than one transaction and therefore use of the above format implies more than one row or entries against each card.

Posting to the ledger accounts for each entry may be cumbersome. So a transaction-wise summary for a convenient period may be made for posting to the ledger accounts.

5.3.6 CASH AND BANK BOOK

A cash book format is given in figure 5.3.6.

Vr. No. & Date	Transa-ction & Code	Description/ Party's Bill No. & date	L/F	Amount (Rs.)			Extension of transactions				
				Dr.	Cr.	Balance	1	2	3	4	5

Fig. 5.3.6: Cash Book

Bank book is similar to cash book except that in description column cheque number may also be added. It is desirable that posting of some of the transactions, like transaction involving giving effects to party's account, be made immediately on entry in cash book, other transactions may be deferred for periodic posting on fortnightly or monthly basis as convenient in particular situations. Frequently recurring transactions may be extended to facilitate periodic batch posting.

Type of transactions entered through cash book and bank book are payments (including expenses), receipts and recoveries like TDS while effecting payments.

5.3.7 JOURNAL BOOK

Journal book is a general purpose book and many transaction types like proration, absorption, non-specialised credit transactions, expense utilisations and other transactions are entered therein. As effects are implied from the transaction name/code, the ledger accounts need not be written in the journal book. A format for journal book is shown in figure 5.3.7.

Vr. No. & Date	Transactions Name	Transaction Code	Cost Centre Code	Amount	L/F		Remarks
					Dr.	Cr.	

Fig. 5.3.7: Journal Book

5.3.8 TRANSACTION STATEMENTS

We have discussed few special purpose and two general purpose transaction books. The special purpose books accommodate only one type of transaction or few related transaction types. Because of this feature, one can design the columns of a special purpose transaction book in such a way that the desired information of the transactions entered therein are available in the standardised format. Such is not the case of transactions recorded in general purpose books namely cash and bank book and the journal book; the transaction types are varied and many. One set of common columns cannot cater the information requirements with respect to the different transaction types entered in general purpose books. Again going through the list of transactions recorded through the general purpose books, one can find that for bulk of the transactions, the columns of the general purpose book are sufficient and that the additional information requirements are only with respect to few transaction types.

Let us consider the following transactions:

- Cheque returned unpaid
- Tax deducted at source
- Advance paid
- T.T. received from branches
- Bad debts written off.

These are few of the transactions recorded in general purpose books for which management would desire to have information in addition to those available in the standardised columns of cash/bank book or the journal book.

The information requirement differs from transaction to transaction. For example, with respect to the first of the transactions referred above the management may like to have a customer-wise statement of cheque returned unpaid during a period with other particulars as sales turnover, bank guarantee or other security available etc. Similarly for the second transaction, the operational level personnel may like to have a chronological statement of TDS stating therein, against each instance of tax deduction, the bill number, date, amount paid, TDS deducted, TDS certificate number and date etc. The information required for the first transaction is different from the information required for the second transaction. Similarly for the other transactions also the information requirements are different.

The general purpose transaction books will not be able to accommodate all the specific information needs of different transactions. The only way seems to be preparation of separate statements of those transactions for which the additional information are desired. The transaction statement can be prepared at the time of transaction entry in books. In computerised accounting this involves the input of additional information and/or linking the transaction with other database in the system. The task is very simple that either there will be no additional effort or the additional effort will be very less.

Transactions constitute the pivot of Three Dimensional Accounting and transaction recording opens up wide scope to have useful information. The ease with which the information are generated in TDA will not be the case in double-entry systems, as ledger accounts' recording is dominant there.

5.4 LEDGER ACCOUNTS

In integrated accounting, ledgers consisted of real accounts, personal accounts and nominal accounts. But in TDA, ledgers represent the business entity in financial terms and *ipso facto* consist of accounts of only assets and liabilities of the entity. The ledger accounts are classified into real accounts and personal accounts; the basis of this classification is shown in figure 5.4(1).

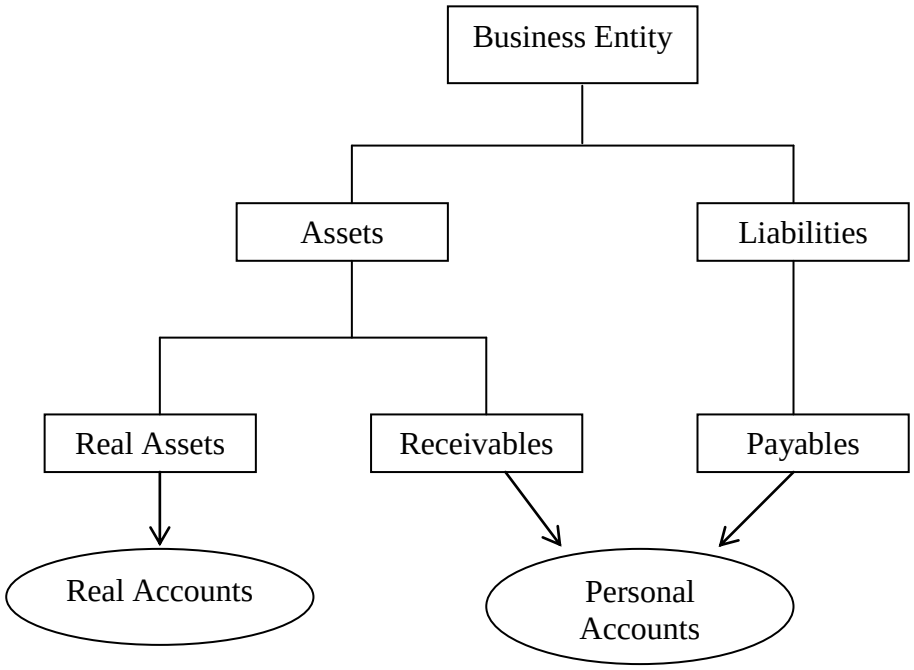


Fig. 5.4(1): Classification of ledger accounts

Asset of an entity consists of real assets like stock, fixed asset, cash, bank etc. and receivables like debtors etc. Bank balance is considered here as a real asset although it possesses the characteristic of a receivable also. All liability items are payables. Personal accounts consists of accounts of receivables and payables and real accounts consists of accounts of real assets.

For accounting conveniences various ledgers are maintained and they can be dichotomized as shown below:

Real Accounts Ledger	Personal Accounts Ledger
Stores Ledger	Debtors Ledger
WIP Ledger	Creditors Ledger
CIP Ledger	Miscellaneous Ledger
Finished Goods Ledger	
Fixed Assets Ledger	
Cash & Bank Book.	

Nominal ledger accounts are not maintained in TDA. As a result, the number of ledger accounts will be lesser in TDA compared to the existing systems of accounting.

DO WE NEED TRANSACTION-WISE PERSONAL ACCOUNTS?

The practice followed in the existing accounting systems is to open different personal ledger accounts according to the nature of transactions. This is to know separately the effects of different transactions entered into by the entity. According to this practice, for a single party, there can be more than one ledger account if different transactions are entered into with the party. In the existing systems, unless the transaction-wise classification is made, the extent of each transaction types entered into with the party will not be easily available and in such circumstances the maintenance of different personal accounts is justified. In TDA, the accounting practices are different and the information needs with respect to the different transactions are taken care of by separating the transactions and writing the transaction name in ledger accounts. So there seem to be no compulsions in maintaining transaction-wise personal ledger accounts. The discussion on this aspect was already made in section 5.1.1 (sub-heading – vi) where all party accounts are suggested to be combined in 'Miscellaneous Party Account'.

WHAT SHALL BE AN IDEAL GROUPING OF PERSONAL ACCOUNTS?

Now, another question to be decided is whether party accounts pertaining to receivables be separated from the party accounts pertaining to payables. In balance sheet the extent of receivables and payables need to be shown separately; the former represents an asset item and the later a liability item. Balance sheet is a one time requirement during an accounting period, at the end of a month or an year. If the requirement of balance sheet is the only criteria, there seem to be no need in maintaining separate personal accounts for receivables and payables; the balance sheet need can be accomplished by separating, whenever needed, the personal accounts having debit balances and those having credit balances.

At one extreme, the option is to treat all personal accounts including creditors, debtors, miscellaneous current receivables and payables, loan accounts etc. in one ledger and at the other extreme, the option is to treat all personal accounts separately for each transaction types like salary advance, miscellaneous advance, travelling advance, creditors for expenses, creditors for purchases, debtors for sale, debtors for advance, loan paid, loan received, transaction with owners etc. Either of the options does not suit and the ideal

choice seems to be a compromise between the extremes and such an arrangement is suggested below:

i) Creditors (of purchases) and debtors (of sale) accounts shall be separately maintained.

ii) Party accounts representing current transactions shall be preferably kept separate from party accounts representing long term transactions like loan accounts.

iii) There need not be separate accounts one to represent miscellaneous receivables and the other to represent miscellaneous payables.

iv) Both employees and non-employees accounts can be maintained within the same main account, however the sub-account codes be distinctly earmarked as shown in Section 5.1.1.

In Appendix-1, many transactions are suggested for posting to Miscellaneous Party Account. Such transactions pertain to the recovery and/or payment of TDS, PF, Society, Prof. Tax etc. The main account can be Miscellaneous Party Account within which, there can be sub-accounts namely TDS Payable A/c., PF Payable A/c, Society A/c., Prof. Tax Payable A/c. etc. The rules need not be considered as rigid, and depending upon the specific needs, an organisation can choose to have one or more main ledger accounts.

PROFIT AND LOSS ARE PARTY ACCOUNTS

Business is recognised as a separate entity or an artificial person for accounting. Therefore retained profit is a liability of the business to its owners. When profit is a liability, naturally, accumulated loss is a receivable of the business from its' owners. Similar is the treatment of deferred revenue expenditure which is a receivable (asset item) of the business till they are recovered from the profit. The concept and treatment of these items are not new and in existing systems also, the items are treated the same way.

COST IN PROCESS (CIP) IS AN ASSET ITEM

An expense transaction may be either a direct cost or an indirect cost. Direct costs are identifiable with a particular job at the point of incidence of such cost and therefore are booked to the job's account in work in progress ledger. For indirect costs, such direct identification with jobs are not possible at the point of incidence. This does not mean that they are not meant for increasing the value of jobs. All costs, direct and indirect, adds value to existing or future goods (at least from business unit's point of view if not from customer's angle) and if it does not add value it is a loss item. So like direct costs, indirect costs also add value although the particular job to which the value is added is not known at the point of incidence of indirect cost. Therefore it would be more

appropriate to treat indirect cost as cost in process (CIP) and treat it at par with the work in progress (WIP) till such time they are absorbed to the products or treated as a loss item. While treating so, there will be conceptual clarity on the ledger accounts.

LEDGER FORMAT

Ledger account shall be as per the format shown in figure 5.4(2).

Vr. No. & Date	Transaction	TBF	Amount (Rs.)			Remarks
			Dr.	Cr.	Balance	

Fig. 5.4 (2): Format of Ledger

Note: TBF stands for Transaction Book Folio number.

It can be seen that this ledger format is not exactly same as the ledger format presently in use. The existing practice is to write in a particular column the ledger account to which opposite effect is given and sometimes to add therein the description of the transaction. In TDA, only the transaction name need to be written and since the transaction is explicitly stated, the ledger account will be more meaningful.

In Appendix-1, against each ledger account, the relevant ledger in which the account belongs is given in brackets.

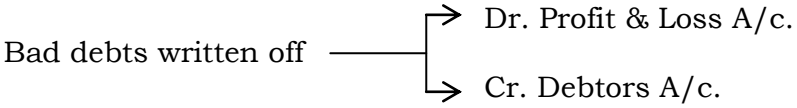
5.4.1 LEDGER POSTING RULES

In financial accounting, posting to ledger accounts is governed by three rules which pertains to personal accounts, real accounts and nominal accounts. Three dimensional accounting does not have any nominal ledger accounts and therefore the rule relating to the posting in nominal accounts does not arise. Looking at the transactions and effects given in Appendix-1, it can be observed that rules of posting in financial accounts applicable for personal and real accounts, barring few exceptions, are equally valid for TDA. The rules are:

Debit: Receiver of benefit	Credit: Giver of benefit
Debit: What comes in	Credit: What goes out.

The first rule is applicable for personal accounts and the second rule pertains to real accounts.

It may be noted that in TDA, Profit & Loss Account is regarded as a personal account and a credit balance in this account implies a liability of the business entity to the owners. Difficulty however arises when applying the principles of posting to some of the personal accounts. Let us take the case of a transaction 'Bad debts written off', the effects of the transaction are:



Here both the accounts effected are personal accounts. Hence the first rule of posting namely 'Debit the receiver of benefit and credit the giver of benefit' must hold true. Here the Profit & loss A/c. is the owner's account and as per the rule a debit to this account should mean that the owners are the receivers of a benefit which seem to be a false statement.

Similar is the case when we consider the rule vis-à-vis the credit effect given to the Debtors A/c. For debtors account to get a credit, it must have given a benefit which does not seem to fit exactly in the above transaction.

So one can find exceptions, nevertheless, the rules hold good for most of the transactions.

We have not discussed an important aspect, whether posting to ledger accounts be done for each transaction or whether few of the transaction types can be clubbed together to ease the posting function. TDA context is different from that of double-entry accounting that different transactions are distinctly recorded and summarised. One has to decide the posting methodology in this context. This is briefly discussed below separately for different types of ledger accounts.

i) PERSONAL ACCOUNTS: These are accounts of the entity with persons. Both the parties namely the entity and the person concerned would like to know each individual transaction that caused a balance or nil balance. So for personal accounts we may think as undesirable to combine the transactions for posting convenience. Again a personal account may be either a receivable or a payable account. The balances of these accounts are to be promptly dealt with. The financial transactions with persons need be posted immediately on recording; a periodical posting does not seem to be a prudent practice.

   The above consideration may be true where manual accounting is involved. Will the same logic be applicable where accounting is computerised? Need not be. The data processing, storage and reporting methodology in computers differs from that of manual accounting and the question has to be dealt with keeping this in mind.

ii) STOCK ACCOUNTS: By stock accounts is meant here, the value accounting of the following broad categories of stock:

   - Materials
   - Work-in-progress
   - Finished goods.

   Stock accounting practices may differ from organisation to organisation depending upon the convenience and preference of a practice over

others. Our task is to decide on the desirability of periodical posting from a summary of stock transaction. In arriving at the best course of action, a prescriptive approach may not be suitable; one has to decide considering the peculiarities of a particular unit. Transaction-wise posting may be convenient for one unit, whereas periodical posting from a summary may be suitable for another unit. Again it may be so that for materials, posting may be suitable for each transaction of material items, for WIP and Finished Goods, posting from a summary may be a more convenient practice.

iii) TRANSIENT ASSET ACCOUNTS: Let us consider the following accounts:

- Wages cost-in-process A/c.
- Expense-in-process A/c.
- Cost-in-process A/c. – Factory
- Cost-in-process A/c. – Admn.
- Cost-in-process A/c. – R&D
- Cost-in-process A/c. – S&D.

These accounts are few in number, but one can notice that a large number of transactions are posted to these accounts.

These accounts are transient in nature and the purpose is to facilitate allocation, apportionment and absorption. The balance, if any, in these accounts represent the cost not dealt with or recovered. The transactions affecting these accounts are known and so even if a transaction-wise posting is not done in these facilitating accounts there will be no inconvenience.

The transactions which affect the ledger accounts are diagrammed in Figure 5.4.1(1) to 5.4.1(3).

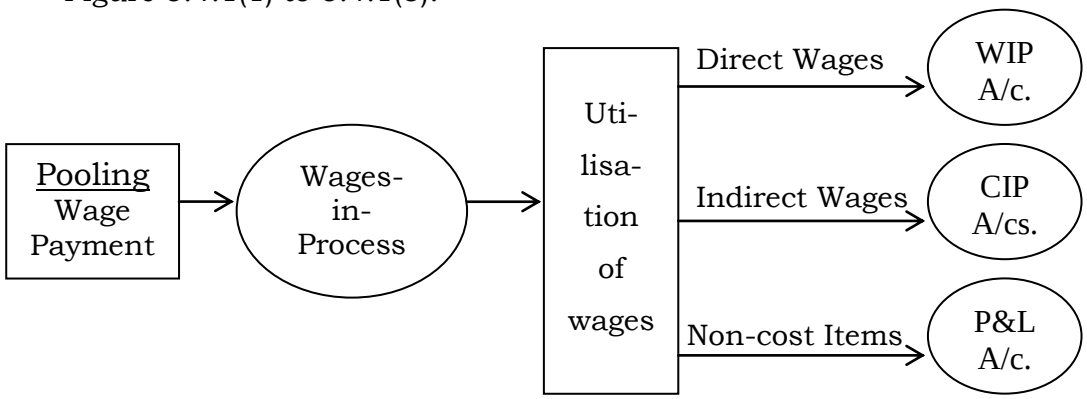


Figure 5.4.1(1) : Transactions in Wages-in-process A/c.

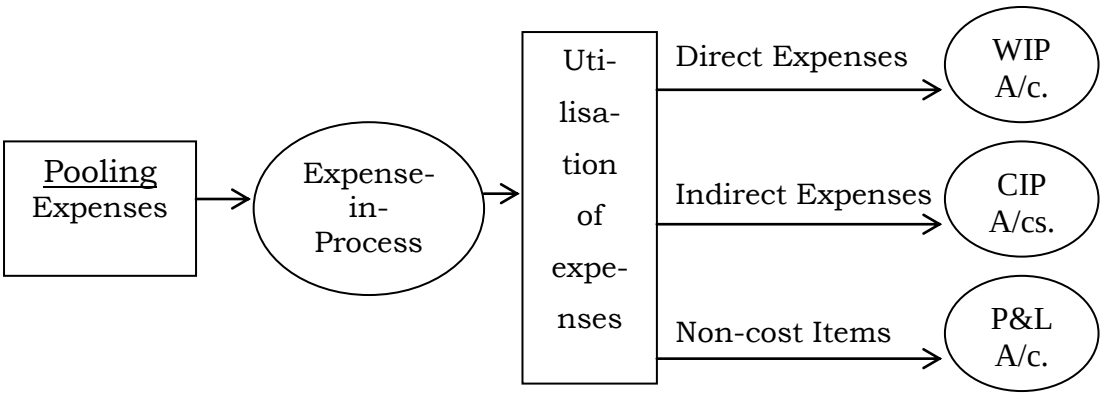


Figure 5.4.1(2) : Transactions in Expense-in-process A/c.

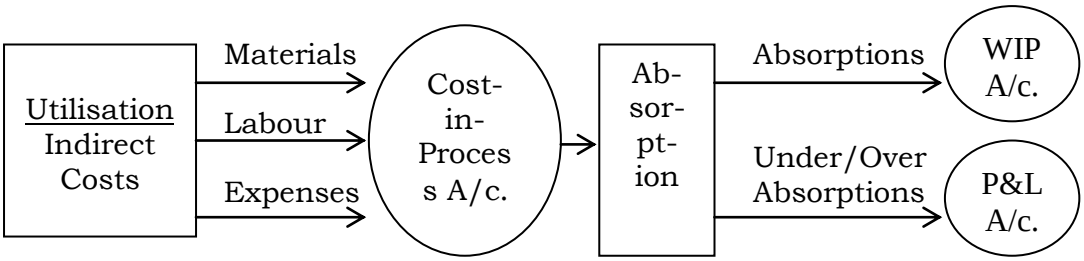


Figure 5.4.1(3): Transactions in Factory Cost-in-Process Account

It may be noted that with respect to the other functional Cost-in-Process accounts (Administration, S&D and R&D) the ledger accounts effected are different for absorption transaction.

The broad group of transactions posted to the transient accounts are:

Pooling transactions:

Wage payment
Expense transactions

Utilisation transactions:

Direct wages
Indirect wages
Direct expenses
Indirect expenses
Indirect materials
Non-cost items

Absorption transactions:

Absorption
Under absorption
Over absorption.

For posting to the transient accounts, it will be sufficient if posting is made on a monthly basis and the same is for total amounts against the above broad group of transactions. This is because, detailed information nature-wise, standing order-wise etc. of transactions are already available in the summary of TDA system.

iv) PROFIT AND LOSS A/C.: Profit and Loss A/c. is a special type of account. It is the residual account resultant of the operations carried out by the entity. If transaction-wise posting is made to profit and loss account, the account will appear as a meaningful report. However, the posting need not be from each transaction recorded in subsidiary books; the posting need be only from a summary of transactions prepared for a month. The transactions that are posted to this account include:

- Sales
- Factory cost of goods sold
- S&D cost recovery
- Under/over absorbed overhead
- Other income
- Non-cost transactions
- Abnormal items
- Appropriations of profit.

The Profit & Loss Account in the ledger need not be very detailed and it will be sufficient if the above noted broad items are available there. This is because one can have a detailed Profit & Loss report from the summary of transactions available in TDA system; a detailed discussion on this aspect is given in Chapter-VI.

5.5 TRANSACTION ACCOUNTING

In existing system, accounting involves three sequential steps namely documenting, recording and posting. This was discussed in Chapter II. In TDA, accounting involves four steps; the steps and the sequence are as depicted in Figure 5.5.

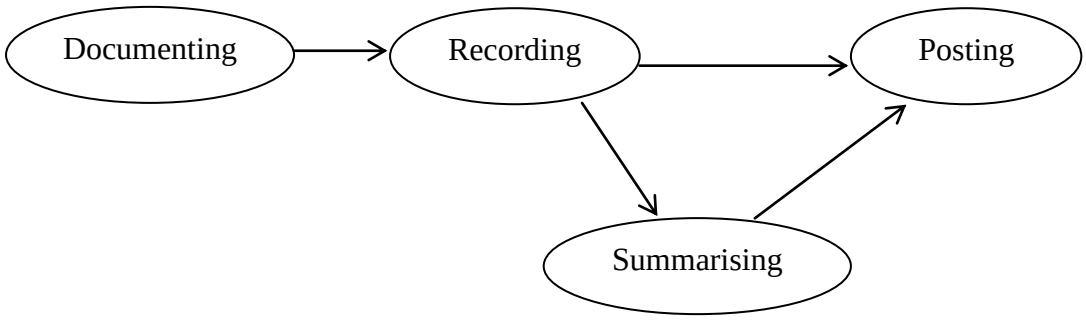


Figure 5.5: Transaction accounting in TDA.

In posting step two of the dimensions are accounted and in recording step one of the dimensions, the causal event or the transaction itself, is accounted. The difficulty however is that the recording (in subsidiary books) is in

chronological order. This will not suffice for TDA; what is required is a summary of transactions during a period to constitute as the record of the first dimension of TDA. Therefore one more step 'summarising' is added to the three steps of the existing accounting systems.

Wherever sub-accounts are involved posting may be needed for each transaction. But this may not be the case for many of the transactions like expenses, where one of the effects can be deferred till the end of a month or such other convenient period and the posting can be for the total amount against each transaction or a group of transactions if the effects are to the same ledger account.

Summarising involves preparing a transaction-wise summary statement for a given period. The summary statement shall contain, against each transaction, the magnitude or amount separately for cash and non-cash transaction.

There are different methods of preparation of summary; again the methods may differ among manual and computerised environment. In computer, it may be the system configuration which decides the method. In manual accounting, one method may be, by using a calculator to add the transaction-wise figures in the subsidiary books. Another method can be to extent frequently occurring transactions in distinct columns and add up individual items of the less frequent transaction. Yet another method is to write in a register the date, voucher number and amount (in cash and non-cash columns) separately for each transaction and then to prepare a summary therefrom of all transactions. Whatever be the method employed in preparation of summary, the total of summary during a period shall tally with the total amount of transactions in the subsidiary books.

5.6 SUMMARY

1) A business entity is characterised by financial equilibrium, which means at any point of time, the value of its assets will be equal to the value of its liabilities. This is referred as the static truth.

2) There is a dynamic truth as well; it is related to the transaction and its effects. Each transaction has a dual effect on the financial equilibrium. After each transaction the constituents of the financial equilibrium readjust itself to constitute a new financial equilibrium of the same or of a different magnitude.

3) The transaction or the causal event together with the dual effects are the three dimensions of TDA.

4) Transactions may be broadly financial or non-financial. For accounting only financial transactions are considered; a classification of transactions is shown in Figure 5.1(1).

5) Transactions are defined as financial events scheduled according to the specific needs of an organisation. Organisation needs may be

different; the transactions suitable in one organisation may not be suitable ditto for another organisation.

6) Few considerations while deciding on the list of transactions are given in Section 5.1. Transactions are distinct from ledger accounts. A list of transactions is given in Appendix-1 and in Appendix-2, few explanatory notes are given.

7) Each transaction has a dual effects and there exist normally a definite one-to-one relationship between the transaction and its effects. These are examined in Section 5.1.1.

8) In some cases, the relationship between the transaction and its effects is one-to-many. The accounting treatments in such situations are suggested in Section 5.1.1.

9) There may be exceptions to the rule of automatic postings as stated in 5.1.2. This is another case of one-to-many relationship; a different treatment is stated in that section.

10) Transactions are sans directions (debit or credit). But at times, the magnitude of a transaction may be a negative figure. The situation is explained with an illustration in Section 5.1.3.

11) The relationship between the transaction and effects can be made use of in checking the accuracy of posting of transactions to ledger accounts. A three-level checking is explained in Section 5.1.4.

12) In TDA also, a voucher is the basic document of evidence of a transaction. The ledger account name and code observed in a typical traditional voucher will be replaced by the transaction name and code.

13) Transaction books are the record of original entry in TDA. In Section 5.3 and its sub-sections various transaction books are shown. Transaction book may be special or general purpose ones. The format of transaction books differ from that of traditional subsidiary books.

14) Transactions are predominantly recorded in the general purpose transaction books. This helps in preparation of many transaction statements for which the requirement of additional information is either input or taken from the already existing data base.

15) In TDA, the ledger accounts are maintained only for assets and liabilities of the entity, in other words, the constituents of the financial equilibrium of the entity. An account may either be a real account or a personal account. Costs are also assets although transient in nature. They are termed 'Expense-in-Process' or 'Cost-in-Process' similar to 'Work-in-Process'.

16) In TDA, the transactions are distinct from ledger accounts. Therefore personal ledger accounts need not be maintained separately for each transactions like salary advance, travelling advance, miscellaneous advance etc.

17) In ledger accounts, the transaction name is written instead of the existing system practice of writing the ledger account of opposite effect.

18) Transaction effecting personal accounts are to be posted for each individual transactions. Such a posting practice need not be made for other accounts. A large number of transactions can be posted from the monthly summary. So posting task is easier in TDA.

19) Transaction accounting involves documenting, recording, summarising and posting. In summarising, a summary is prepared periodically, say monthly. The summary constitutes one of the dimensions of TDA and facilitates periodical posting of totals.

20) There are two rules of posting to ledger accounts as noted below:

Personal accounts – Dr. Receiver of benefit Cr. Giver of benefit.

Real accounts – Dr. What comes in Cr. What goes out

Few exceptions to this rules can also be observed.

5.7 REVIEW QUESTIONS

1. With the help of few examples, discuss the use of non-financial transactions in decision making.

2. Prepare a list of internal transactions of a manufacturing concern you are familiar with and classify them under different groups.

3. How does an event-effect relationship helps the accounting task?

4. Given below are few transactions. Show the effects. Discuss how do you establish a one-to-one relationship in case the same does not exist.

   1) Furniture purchased.
   2) Salary advance paid
   3) Depreciation provided
   4) Direct expenses
   5) Wage payment
   6) Abnormal idle time
   7) Cheque encashed for expenses
   8) Sales tax on sales collected
   9) Under-absorbed overhead
   10) Loan repaid
   11) Purchase for capital job
   12) Audit fee paid.

5. Explain the concept of negative transactions.

6. Briefly explain how the accuracy of posting to ledgers is verified.

7. What are the considerations in selecting the vouchers for different transactions?

8. Distinguish between specific and general purpose vouchers.

9. What are the fields to be incorporated in a TDA voucher? Compare this with the voucher used in traditional accounting.

10. Name the different transaction books.

11. Distinguish between posting and summarising.

12. Explain the meaning of transaction statement. Name few which would provide useful information.

13. In TDA, the ledger consists of only personal and real accounts. How then are expenses accounted?

14. State the considerations while preparing the transaction list of an organisation.

CHAPTER VI

THREE DIMENSIONAL REPORTING

CHAPTER CONTENTS

3. Profit & Loss Report – Absorption Stage
4. Profit & Loss Report – Proration Stage

6.2 BALANCE SHEET

6.3 RATIO ANALYSIS

6.4 CASH FLOW & FUND FLOW STATEMENT

6.5 ADVANTAGES OF TDA

6.6 SUMMARY

6.7 REVIEW QUESTIONS

CHAPTER-VI

THREE DIMENSIONAL REPORTING

6.0 INTRODUCTION

In three dimensional accounting, we have:

i) transactions with magnitude during a period, and
ii) integrated ledger accounts inscribed with transaction name.

So reporting assumes wider dimensions than the existing accounting systems where the transaction accounting is only with respect to nominal accounts. In figure 6.0, a graphical representation of the types of reports and its source is made.

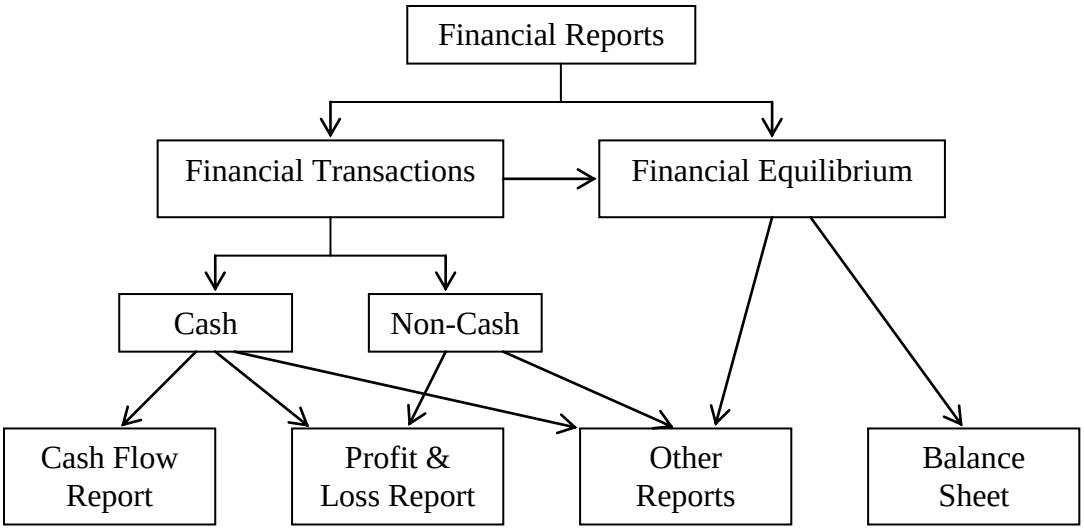


Figure 6.0: Financial Reports and Its Source

These reports are separately dealt with in this chapter.

6.1 PROFIT & LOSS REPORT

Profit or loss is the result of the activities carried out by an entity during a period. This is true irrespective of the accounting system practiced. As shown in figure 6.1, preparation of profit and loss report involves the matching of revenues generated during a period with that of expenses incurred during that period.

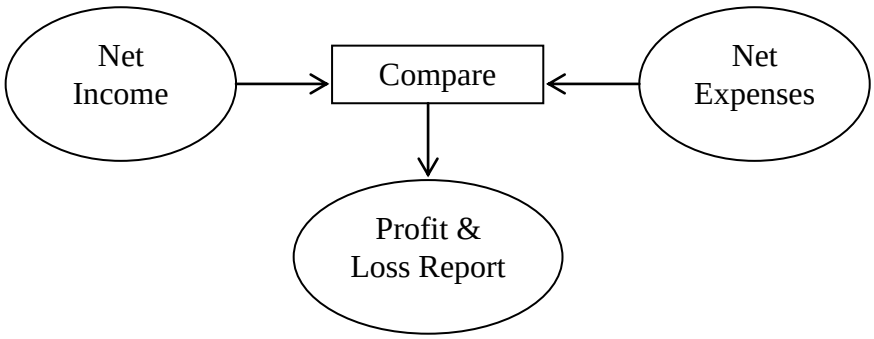


Figure 6.1: Process of Preparation of Profit & Loss Report

Profit & loss report relates to a period; financial transactions also pertain to a period. So although it appears that for preparation of profit & loss report we need only to consider the transactions or summary of the transactions during the period, it is not so. We are constrained by the fact that income and expense transactions recorded during a period need not be the real income or expense of that period. This is because:

> "Business is a continuous affair; it does not ordinarily commence and end in a period considered for profit & loss report preparation. So transactions may overlap the period under consideration. That is, income and expense transactions accounted during a period may pertain to an earlier or a later period. The reverse may also happen that the transactions accounted during an earlier or a later period may pertain to the period under consideration. So adjustments may be needed to match the income generated during a period with that of expenses incurred to generate that income (matching principle in accounting)."

Given below is a list of mismatch items and the adjustments needed so that income and expenses are comparable.

	ITEMS	ADJUSTMENTS
i)	Income generated from Opening stock	Deduct from income the value of opening WIP & Finished goods
ii)	Income generated by Closing stock	Add to income the value of closing WIP & Finished goods
iii)	Provisions for expenses	Refer note: 39 of Appendix-II
iv)	Prepaid expenses	Refer note: 13 of Appendix-II
v)	Income accrued	Refer note: 40 of Appendix-II
vi)	Income received in advance	Refer note: 23 of Appendix-II.

In Appendix-1, the transactions pertaining to expenses are categorized into pooling (pooling includes purchases and payments) and utilisation and costing transactions are categorised into absorption and proration. As the magnitudes of each transaction are available in TDA, if so desired, four profit and loss reports can be generated, one report for each stage of expenses. Briefly, the four reports are discussed in the following sections.

6.1.1 PROFIT & LOSS REPORT – POOLING STAGE

This is the first stage of recording expense transactions. The transaction for the three elements of costs will be:

Materials - Purchases

Labour - Nature-wise wage classification like basic, allowances, contributions to fund, bonus etc.

Expenses - Nature of expenses like depreciation, interest, insurance, repairs, communication, travelling, audit etc.

The Profit & Loss report prepared from the pooling stage transactions will be similar to the traditional profit & loss account as per financial accounts in a non-integral system environment. Sale and expense transactions are known and the stock values (opening and closing stock of material, work-in progress and finished goods) are available in ledger accounts. From these data, profit and loss report can be prepared for external reporting. A graphical representation of the process is as per figure 6.1.1.

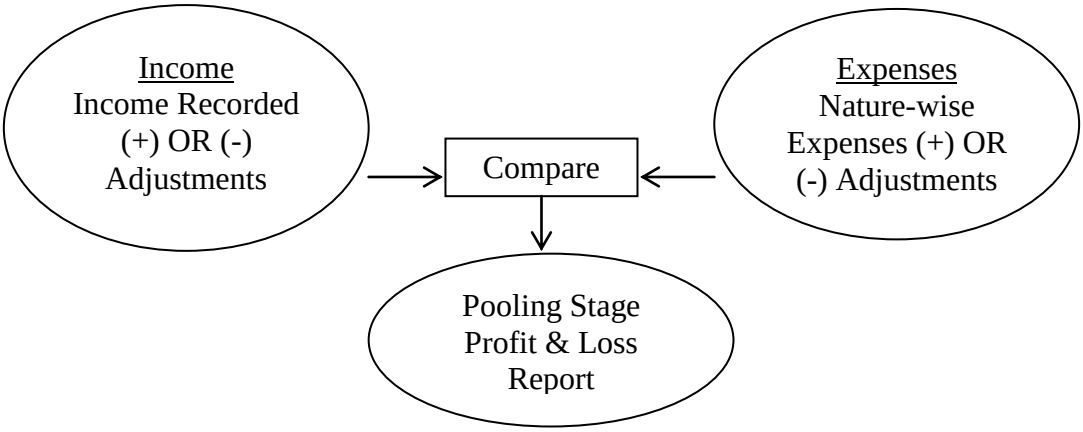


Figure 6.1.1: Preparation of Pooling Stage Profit & Loss Report

6.1.2 PROFIT & LOSS REPORT - UTILISATION STAGE

The transactions at the pooling stage are the expenses classified according to its nature. At the utilisation stage, the expense transactions are re-classified. Direct costs are booked direct to the jobs, but indirect costs identified according to standing order numbers are booked to the functional and transient asset accounts. The transactions for indirect cost at the utilisation stage are the standing order numbers and where activity based costing system is practiced, the transactions can be the activities of the entity.

When accounting is done pursuant to this classification, profit and loss report prepared for the utilisation stage will depict the spending standing order or activity-wise and the report will be very useful for internal reporting and control. Refer figure 6.1.2.

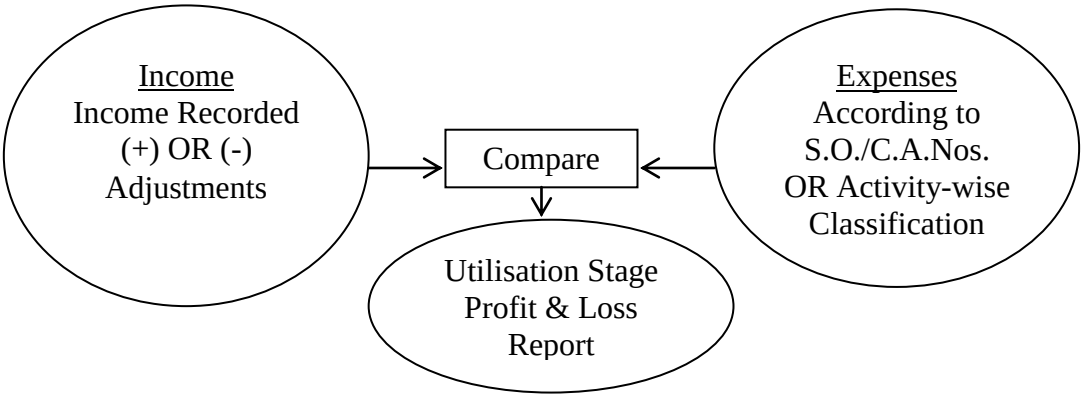


Figure 6.1.2: Preparation of Utilisation Stage Profit & Loss Report

Here also income means the gross income generated, i.e. sales plus increase/[decrease] in stock of work-in-progress and finished goods and this income is compared with the expense transactions relating to utilisation, as listed in A2, B2 and C2 of Appendix-1. The transactions listed therein is only a broad classification where cost is classified between direct, indirect and few others. The classification given therein may be suitable for ledger posting and for management control. When the extent of these transactions for a period are compared with an earlier period or with the budget, the report provides a basis for management reporting and control. However, for operational control or control at the shop level, the utilisation level report with the broad classification of transactions as per the list may not be sufficient, the classification needs to be further expanded to include standing orders or activities to suit the operational level requirements.

Now cost centre wise reports showing the utilisation of cost according to different jobs & standing order numbers or activity numbers can be generated. These information along with other information with respect to production, past period performances, and standards provide the necessary impetus for operational controls.

Exercise 6.1.2

Given below is a summary of pooling and utilisation transactions of Z Co. for the month of April 1998. Prepare Profit & Loss Reports separately for the two stages of transactions.

Transaction name		Amount (Rs.)			Remarks
		Cash & Bank	Non-Cash	Total	
1	Material purchase	8,100	60,220	68,320	Includes material

					returns
2	Direct material issues & returns	-	45,100	45,100	
3	Material issues – capital order	-	5,900	5,900	
4	Issues to sub-store	-	12,300	12,300	Utilisation from the sub-store is accounted
5	Indirect materials – Factory	-	18,430	18,430	S.O. No. wise classification
6	Indirect materials – Selling & Admn.	-	3,000	3,000	C.A. No. wise classification
7	Material shortages	-	800	800	
8	Salary & wages	38,200	7,200	45,400	Nature-wise classification
9	Labour cost – direct	-	21,370	21,370	
10	Labour cost – Indirect (Factory)	-	11,480	11,480	S.O. No. wise classification
11	Labour cost – Selling & Admn.	-	9,000	9,000	C.A. No. wise classification
12	Idle time	-	750	750	Direct and normal
13	Idle time – abnormal	-	2,800	2,800	
14	Depreciation provided	-	29,900	29,900	
15	Insurance paid	4,500	-	4,500	
16	Prepaid insurance	9,200	-	9,200	
17	Interest	16,000	-	16,000	
18	Expenses	45,000	4,400	49,400	Nature-wise classification
19	Indirect expenses – factory	-	65,800	65,800	S.A. No. wise classification
20	Indirect expenses – Selling & Admn.	-	34,000	34,000	C.A. No. wise classification
21	Prepaid expenses	3,800	-	3,800	
22	Entertainment expenses	4,000	-	4,000	
23	Sales	2,800	2,38,200	2,41,000	
24	Other income	2,000	-	2,000	
25	Income received in advance	1,500	-	1,500	Not included in income
26	Non-cost items	-	4,000	4,000	Entertainment expense

Other data given are:

	Value (in Rs.)	
	1.4.1998	30.4.1998
Work in progress	57,320	53,500
Finished goods	1,31,900	1,24,950
Material	60,950	56,040

Answer

1. Pooling Stage Profit & Loss Report

Particulars		Amount (Rs.)	Amount (Rs.)
A	Income		
	Sales	2,41,000	
	Other income	2,000	
		2,43,000	
	Add: Closing stock of WIP & FG	1,78,450	

		4,21,450	
	Less: Opening stock of WIP & FG	1,89,220	
	Income (A)	2,32,230	2,32,230
B	Expenses		
	a) Materials		
	Opening stock	60,950	
	Add: Purchases	68,320	
	Sub-total	1,29,270	
	Less: Issues – Capital order	5,900	
	Less: Closing stock	56,040	67,330
	b) Salary & wages		45,400
	c) Expenses		
	Depreciation	29,900	
	Insurance	4,500	
	Interest	16,000	
	Expenses	49,400	
	Entertainment expenses	4,000	
		1,03,800	1,03,800
	Total Expenses (B)		2,16,530
	Profit (A) – (B)		15,700

2. Utilisation Stage Profit & Loss Report

Particulars		Amount (Rs.)	Amount (Rs.)
A	Income		
	Sales	2,41,000	
	Other income	2,000	
		2,43,000	
	Add: Closing stock of WIP & FG	1,78,450	
		4,21,450	
	Less: Opening stock of WIP & FG	1,89,220	
	Income (A)	2,32,230	2,32,230
B	Expenses		
	a) Direct Cost		
	Direct materials	45,100	
	Direct labour	21,370	
	Idle time	750	
	Sub-total	67,220	67,220
	b) Indirect Cost		
	Indirect materials - factory	18,430	
	Indirect materials – Selling & Admn.	3,000	
	Material shortage	800	
	Indirect labour – factory	11,480	
	Indirect labour – Selling & Admn.	9,000	
	Idle time – abnormal	2,800	
	Indirect expenses – factory	65,800	
	Indirect expenses – Selling & Admn.	34,000	
	Entertainment expenses	4,000	
	Sub-total	1,49,310	1,49,310
	Total Expenses (B)		2,16,530

	Profit (A) – (B)		15,700

Note:

1) Profit as per pooling stage report is same as the profit as per utilisation stage report. This is because all the expenses at the pooling stage are analysed and accounted for utilisation stage also.

2) The transaction stated in the exercise are only broad headings; these headings consist of nature-wise and standing order-wise classification respectively in the pooling and utilisation stages. Appendix-I and II be referred for more details.

6.1.3 PROFIT & LOSS REPORT -ABSORPTION STAGE

Absorption, *de facto*, is the ultimate utilisation accounting of indirect cost or overheads. In the second stage of accounting (utilisation) indirect costs are pooled together in few accounts to facilitate subsequent absorption of the costs to the final output of the entity. The pooling accounts stated in this book are:

Factory cost-in-process
Administration cost-in-process
S&D cost-in-process, and
R&D cost-in-process.

This classification is only illustrative and may need modification to suit the specific needs of an organisation. In case of activity based costing system, the activities may cut across the functional divisions and so a functional classification may not be expedient; the appropriate classification may be according to the different activity pools. Whatever be the classification, it shall help in choosing an appropriate base so that the subsequent absorption will result in the most approximate costing of the jobs or services of the entity.

Profit and loss report of the second stage will only reveal a partial truth of utilisation of resources. The utilisation of direct cost was complete because these costs were identified with the final output. However, for indirect costs, at utilisation stage, the costs were not identified with the final output but only could be pooled together in transient cost-in-process accounts. From these transient accounts when the costs are absorbed to jobs or services or charged to the profit generated, one can say that the utilisation accounting is complete.

The transactions pertaining to absorption can be many; an illustrative list is as per E1 of Appendix-1. Here also the list can be expanded to include meaningful information. For instance, the transaction viz. 'under-absorbed factory overhead' can be split into three distinct transactions namely,

Capacity variance,
Efficiency variance, and
Expenditure variance.

It can be seen that the extent of transactions are brought within the ambit of main accounting without opening different ledger accounts for the transactions.

Profit and loss report can be prepared for the third stage also incorporating the transactions at absorption stage which was absent in the profit and loss report at the second stage.

The report of the third stage as a separate profit and loss report may not be a necessity, but when the reports at the first stage to fourth stage are consolidated and re-arranged in conjunction with other financial and non-financial (quantitative and qualitative) transactions and effects, it will provide useful reports for controls and future decision making.

Exercise 6.1.3

Following further details of Z Co. of exercise 6.1.2 are available:

Budgeted production - 80% of capacity
Actual production - 75% of capacity.

Indirect cost of factory during April 1998 are:

	Budget (Rs.)	Actual (Rs.)
Variable factory overhead	16,000	15,800
Fixed factory overhead	70,000	79,910
Total	86,000	95,710

There is no deviation between actual sales and budgeted sales and Selling and Administration are considered as normal and pertaining to the period under consideration.

Calculate the different overhead variances and prepare a Profit & Loss Report of the absorption stage.

Answer

1. Calculation of Overhead Variances

	Budget (Rs.) at 80%	Budget (Rs.) at 75%	Amount absorbed (Rs.)	Amount incurred (Rs.)
Variable Overhead	16,000	15,000	15,000	15,800
Fixed Overhead	70,000	70,000	65,625	79,910
Total	86,000	85,000	80,625	95,710

Note:

i. Variable overhead is variable with the level of activity and hence the budget is proportionately adjusted for volume changes.

Budgeted variable overhead at 75% capacity = Rs. 16,000 x 75% ÷

85% = Rs. 15,000.

ii. Fixed overhead remain fixed irrespective of the volume change. So at 75% of the activity level also, the budgeted fixed overhead will be Rs. 70,000.

iii. For reason stated in (i) the variable overhead absorbed will be the same as the budget variable overhead at 75% activity level.

iii. Fixed overhead absorbed is calculated as follows:

Budget at normal capacity of 80% = Rs.70,000

Budget per unit capacity = Rs.70,000 ÷ 80 = Rs. 875

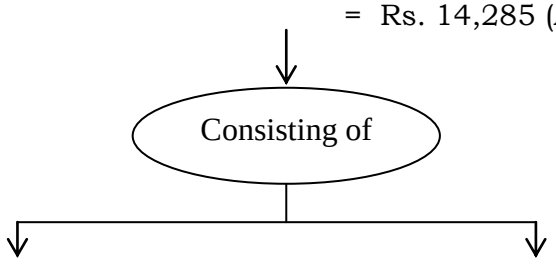
Overhead absorbed = Rs.875 x 75 =

Rs.65,625

Overhead Variances

Variable Overhead Cost Variance = Actual – Absorbed
= Rs. 15,800 – Rs. 15,000
= Rs. 800 (Adverse).

Fixed Overhead Cost Variance = Actual – Absorbed
= Rs. 79,910 – Rs. 65,625
= Rs. 14,285 (Adverse).



Fixed Overhead Expenditure - Variance = Incurred – Budgeted
= Rs. (79,910 – 70,000)
= Rs. 9,910 (Adverse)

Fixed Overhead Volume – Variance = Budgeted – Absorbed
= Rs. (70,000 – 65,625)
= Rs. 4,375 (Adverse).

2. Profit & Loss Report – Absorption Stage

Particulars		Amount (Rs.)	Amount (Rs.)
A	Income		
	Sales	2,41,000	
	Other income	2,000	
		2,43,000	
	Add: Closing stock of WIP & FG	1,78,450	
		4,21,450	
	Less: Opening stock of WIP & FG	1,89,220	
	Income (A)	2,32,230	2,32,230
B	Expenses - Normal		
	a) Direct Cost		
	Direct materials	45,100	
	Direct labour	21,370	
	Idle time - Normal	750	
	Sub-total	67,220	67,220
	b) Indirect Cost - Normal		
	Variable factory overhead absorbed	15,000	
	Fixed factory overhead absorbed	65,625	
	Selling & Admn. overhead absorbed	46,000	
	Sub-total	1,26,625	1,26,625
	Normal Cost (B)		1,93,845
C	Profit – Normal (A) – (B)		38,385
D.	**Abnormal & Non-cost Items**		
	Non-cost items (Entertainment expenses)	4,000	
	Idle time – abnormal	2,800	
	Material shortage	800	
	Variable overhead cost variance	800	
	Fixed overhead expenditure variance	9,910	
	Fixed overhead volume variance	4,375	
	Sub-total (D)	22,685	22,685
Net Profit (C) – (D)			15,700

Note: The net profit of Rs. 15,700 as per the above report tallies with the profit as per pooling and utilisation reports.

6.1.4 Profit & Loss Report - Proration Stage

In Three Dimensional Accounting, the ledger account namely the profit and loss account represent the forth stage profit & loss report. This is similar to the costing profit and loss account in the non-integral system and the profit and loss account in the integral system of accounting. The superior feature of the profit and loss account of TDA is that the transactions which has resulted into either profit or loss is apparent from the account itself.

The profit and loss report at proration stage differ from the reports of the earlier stages. In the reports of earlier stages, gross income (sales + other income + increase/(decrease) in work-in-progress and finished goods) is compared with the total expenses incurred to generate the gross income.

However in the proration stage profit and loss report, income from sales plus other income, if any, is compared with the cost of sales and other abnormal items of expenses not considered part of the cost of work-in-process and finished goods.

In Figure 6.1.4, Profit & Loss Account is shown in relation to the transactions that affects the account. Expenses incurred need adjustments so as to include only the cost of sales for comparison with the sales during a period. Remember that the adjustments are not separate activities, they have already taken place during the transaction posting stage.

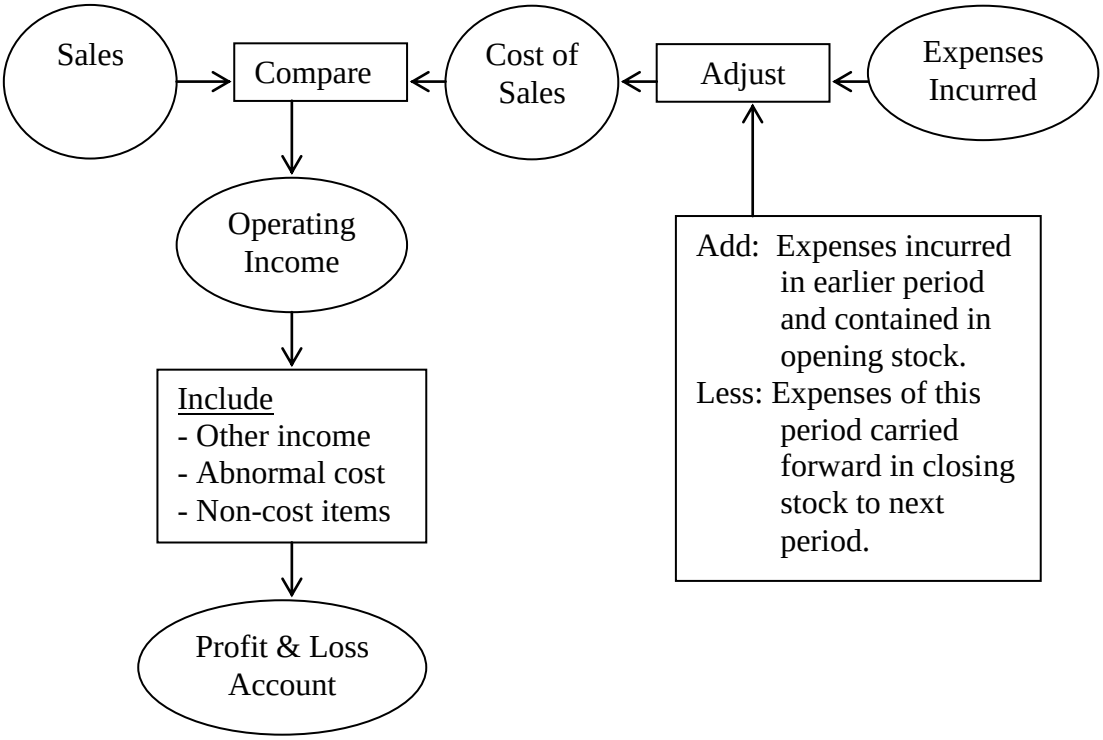


Figure 6.1.4: Transactions in Profit & Loss Account

The balance in the profit and loss account represent the profit earned or loss suffered. In case of profit, the same will be a credit balance representing a liability of the entity to the owners and in case of debit balance in the account, it represent an asset of the entity, a receivable from the owners.

There are transactions relating to proration, few of which are listed in E2 of Appendix-1. The transactions pertain to the value of goods finished and sold, wastage (both normal and abnormal) during the production stage etc. These transactions are absent in the earlier stages and therefore need to be incorporated with the profit and loss report of the earlier stages to have meaningful internal reports.

6.2 BALANCE SHEET

When double-entry principle of accounting is followed in posting, at any point of time, the total of balances of ledger accounts having debit balances must be exactly equal to the total of balances of ledger accounts having credit balances. This feature was referred earlier as the financial equilibrium of an entity. If both the balances are not in agreement, error in posting is implied.

In existing system, the accuracy of ledger balances is checked by the use of a statement known as trial balance. In TDA, as discussed in section 5.1.4, the transaction totals during a period are checked with the debit/credit totals of the ledger accounts and the ledger balances following different methods. The ledger accounts pertain to only assets and liabilities of the entity and the accuracy of the ledger balances are presumed when the balances constitute financial equilibrium. The ledger balances as at the end of a day when arranged in a desired format will be the balance sheet of the entity.

Exercise 6.2

Consider the information of Z co. given in exercises 6.1.2 and 6.1.3. Following additional information is also known.

1. Financial equilibrium as on 1.4.1998 consists of:

Particulars	Amount(Rs)	Remarks
Assets		
Fixed Assets (Gross block)	13,82,000	
Capital work in progress	17,200	
Investments	37,000	
Materials	60,950	
Work-in-progress	57,320	
Finished goods	1,31,900	
Debtors	1,60,000	
Miscellaneous receivables	19,400	Receivables in Misc. Party Ledger
Cash & Bank	24,800	
Total	18,90,570	
Liabilities		
Capital	4,08,000	
Reserves	99,370	
Provision for depreciation	5,75,000	
Loans	7,30,000	
Creditors	56,500	
Miscellaneous payables	21,700	Payables in Misc. Party Ledger
Total	18,90,570	

2. Proration and other transactions during April 1998 are:

Particulars	Amount (Rs.)
Goods finished	1,51,665
Goods sold (book value)	1,58,615
Production waste – normal	1,700
Collection from debtors	1,87,000
Collection from misc. parties	26,000
Payment to creditors	52,000
Payment to misc. parties	20,500
Loan repaid	30,000
Profit transferred to Reserve	15,700

Prepare:

a) Ledger accounts of April 1998.
b) Statement of financial equilibrium as on 30.04.1998.

Answer

a) Ledger Accounts of April 1998

1. Fixed Assets

Date	Transaction	Amount (Rs.)		
		Dr.	Cr.	Balance
1.4.1998	Opening balance			Dr. 13,82,000
30.4.1998	Closing balance			Dr. 13,82,000

2. Capital Work in Progress Account

Date	Particulars	Amount (Rs.)		
		Dr.	Cr.	Balance
1.4.1998	Opening balance			Dr. 17,200
	Materials Issues – Capital order	5,900	-	
	Total	5,900	-	
30.4.1998	Closing balance			Dr. 23,100

3. Investments

Date	Particulars	Amount (Rs.)		
		Dr.	Cr.	Balance
1.4.1998	Opening balance			Dr. 37,000
30.4.1998	Closing balance			Dr. 37,000

4. Materials

Date	Particulars	Amount (Rs.)		
		Dr.	Cr.	Balance
1.4.1998	Opening balance			Dr. 60,950
	Purchases	68,320		
	Direct material issues & returns		45,100	
	Issues for capital order		5,900	
	Issues for factory		18,430	
	Issues for Selling & Admn.		3,000	
	Shortages		800	
	Total	68,320	73,230	
30.4.1998	Closing balance			Dr. 56,040

5. Work in Progress Account

Date	Particulars	Amount (Rs.)		
		Dr.	Cr.	Balance
1.4.1998	Opening balance			Dr. 57,320
	Direct material issues	45,100		
	Direct labour cost	21,370		
	Idle time – normal	750		
	Production waste – normal	1,700	1,700	
	Variable factory O/H absorbed	15,000		
	Fixed factory O/H absorbed	65,625		
	Goods finished		1,51,665	
	Total	1,49,545	1,53,365	
30.4.1998	Closing balance			Dr. 53,500

6. Finished Goods Account

Date	Particulars	Amount (Rs.)		
		Dr.	Cr.	Balance
1.4.1998	Opening balance			Dr.1,31, 900
	Goods finished	1,51,665		
	Goods sold		1,58,615	
	Total	1,51,665	1,58,615	
30.4.1998	Closing balance			Cr. 1,24,950

7. Debtors Account

Date	Particulars	Amount (Rs.)		
		Dr.	Cr.	Balance
1.4.1998	Opening balance			Dr. 1,60,000
	Sales	2,38,200		
	Collections		1,87,000	
	Total	2,38,200	1,87,000	
30.4.1998	Closing balance			Dr. 2,11,200

8. Miscellaneous Party Account

Date	Particulars	Amount (Rs.)		
		Dr.	Cr.	Balance
1.4.1998	Opening balance			Cr. 2,300
	Salary & wages (Non-cash)		7,200	
	Expenses (Non-cash)		4,400	
	Prepaid insurance	9,200		
	Prepaid expenses	3,800		
	Income received in advance		1,500	
	Receipts from misc. parties		26,000	
	Payments to misc. parties	20,500		
	Total	33,500	39,100	
30.4.1998	Closing balance			Cr. 7,900

Note:

Opening balance consists of: Misc. payable - 21,700
Misc. receivable - 19,400 Cr. 2,300

Closing balance consists of: Misc. payable - 14,300
Misc. receivable - 6,400 Cr. 7,900

9. Cash & Bank Account

Date	Particulars	Amount (Rs.)		
		Dr.	Cr.	Balance
1.4.1998	Opening balance			Dr. 24,800
	Sales	2,800		
	Other income	2,000		
	Income received in advance	1,500		
	Material purchase		8,100	
	Salary & wages		38,200	
	Insurance paid		4,500	
	Prepaid insurance		9,200	
	Interest		16,000	
	Expenses		45,000	
	Prepaid expenses		3,800	
	Entertainment expenses		4,000	
	Collection from debtors	1,87,000		
	Collection from misc. parties	26,000		
	Payment to creditors		52,000	
	Payment to misc. parties		20,500	
	Loan repaid		30,000	
	Total	2,19,300	2,31,300	
30.4.1998	Closing balance			Dr. 12,800

10. Capital Account

Date	Particulars	Amount (Rs.)		
		Dr.	Cr.	Balance
1.4.1998	Opening balance			Cr. 4,08,000
30.4.1998	Closing balance			Cr. 4,08,000

11. Reserve Account

Date	Particulars	Amount (Rs.)		
		Dr.	Cr.	Balance
1.4.1998	Opening balance			Cr. 99,370
	Profit transferred		15,700	
	Total	-	15,700	
30.4.1998	Closing balance			Cr. 1,15,070

12. Provision for Depreciation

Date	Particulars	Amount (Rs.)		
		Dr.	Cr.	Balance
1.4.1998	Opening balance			Cr. 5,75,000
	Depreciation		29,900	
	Total	-	29,900	
30.4.1998	Closing balance			Cr. 6,04,900

13. Loan Account

Date	Particulars	Amount (Rs.)		
		Dr.	Cr.	Balance
1.4.1998	Opening balance			Cr. 7,30,000
	Loan repaid	30,000		
	Total	30,000	-	
30.4.1998	Closing balance			Cr. 7,00,000

14. Creditors Account

Date	Particulars	Amount (Rs.)		
		Dr.	Cr.	Balance
1.4.1998	Opening balance			Cr. 56,500
	Material purchases		60,220	
	Payments	52,000		
	Total	52,000	60,220	
30.4.1998	Closing balance			Cr. 64,720

15. Profit & Loss Account

Date	Particulars	Amount (Rs.)		
		Dr.	Cr.	Balance
1.4.1998	Opening balance			Nil
	Sales		2,41,000	
	Other income		2,000	
	Goods sold (Cost)	1,58,615		
	Non-cost items (entertainment expenses)	4,000		
	Idle time – abnormal	2,800		
	Material shortage	800		
	Variable overhead cost variance	800		
	Fixed overhead exp. variance	9,910		
	Fixed overhead volume variance	4,375		
	Selling & Admn. overhead	46,000		
	Transferred to Reserve	15,700		
	Total	2,43,000	2,43,000	
30.4.1998	Closing balance			Nil

b) Statement of Financial Equilibrium – 30.4.1998

Particulars	Amount (Rs.)
Assets	
Fixed Assets (Gross block)	13,82,000
Capital Work in Progress	23,100
Investments	37,000
Material stock	56,040
Work in Progress	53,500
Finished goods	1,24,950
Debtors	2,11,200
Miscellaneous Receivables	6,400
Cash & Bank	12,800
Total	19,06,990
Liabilities	
Capital	4,08,000
Reserves	1,15,070
Provision for Depreciation	6,04,900
Loans	7,00,000
Creditors	64,720
Miscellaneous payables	14,300
Total	19,06,990

6.3 RATIO ANALYSIS

There are many classifications and sub-classifications of ratios, the discussion of which are not the subject of this book. Whatever be the ratio, it will always be a figure representing the relationship between two figures or two aspects; with respect to accounting, the aspects will be either transactions or ledger balances or both.

There are three possible comparisons in any ratio:
i) comparing a transaction with another transaction,
ii) comparing a transaction with a ledger balance, or
iii) comparing a ledger balance with another ledger balance.

Ratio analysis is an age-old technique and is not new to TDA. What is special here is the easeness in retrieving the magnitudes of transactions, which process often is a time-consuming exercise in existing system environment.

We shall examine few ratios here classified according to the broad possibilities stated above.

i) A transaction compared with a related transaction

$$\text{Ratio} = \frac{\text{Magnitude of a transaction}}{\text{Magnitude of a related transaction}}$$

'Cheques returned unpaid' is a transaction and a transaction closely related to this transaction is 'Collection from debtors' during the period under consideration. Both the transactions are separately captured in TDA. So one can easily work out a ratio which in this case is 'Ratio of cheque returned to collections'.

$$\text{Ratio} = \frac{\text{Amount of cheques returned unpaid during a period}}{\text{Collections from debtors during a period}}$$

Initially an analyst may be calculating the ratio for the debtors as a whole. He may find that the ratio of chque return to collelction is a negligible figure and so may stop at this stage. Or else, he may wish to probe further the customer-wise instances of cheque returns. The task of the analyst is made easier in TDA as both the transactions are distinctly recorded customer-wise and for the debtors as a whole.

Going through a list of financial transaction one can find many meaningful ratios depicting relationship between two related transactions. Examples are:

a) Sale return to sales
b) Advance refunded to advance paid
c) Cash discount paid to collection from debtors
d) Cash discount availed to payment to creditors
e) Purchase returns to purchases
f) Purchases to payments.

ii) A transaction compared with a ledger balance

In this type of ratios, a ledger balance is compared with a related transaction. Consider, for example, the balance in creditors ledger. The balance is dependent on two main transactions that affects the creditors ledger, namely:

Credit purchases, and
Payment to creditors.

So it makes good sense in comparing the creditors balance as on a date with either or both of these transactions during a period. Let us analyse the following data:

		Rs. in lakhs
Creditors balance as on 30.04.199		Cr. 18.75
Credit purchases	No. of days	
April 1999	30	13.50
March 1999	31	12.60
February 1999	28	13.65
	89	39.75
Payment to creditors		
April 1999	30	11.80
March 1999	31	13.20
February 1999	28	10.50
	89	35.50

Here one figure (creditors balance) relates to a particular point of time and the other (purchase or payment) relates to a period. So the ratio of creditors to purchase or of creditors to payment will be number of months or days. The ratios are calculated below:

$$\text{Average credit purchase (per day)} = \frac{\text{Rs. 39.75 lakhs}}{\text{89 days}} = \text{Rs. 0.45 lakhs (rounded off)}$$

$$\text{Average payment to creditors (per day)} = \frac{\text{Rs.35.50 lakhs}}{\text{89 days}} = \text{Rs.0.40 lakhs (rounded off)}$$

$$\text{Ratio 1 (Creditors to purchase)} = \frac{\text{Rs.18.75 lakhs}}{\text{Rs. 0.45 lakhs}} = 42 \text{ days (rounded off)}$$

$$\text{Ratio 2 (Creditors to payments)} = \frac{\text{Rs.18.75 lakhs}}{\text{Rs. 0.40 lakhs}} = 47 \text{ days (rounded off)}$$

The above ratios represent the balance in creditors' ledger in terms of number of days average purchase and number of days average payment. By comparing the two ratios, one can make inferences. In our case the creditors balance in terms of payment is 47 days. Compared to the balance in terms of purchase it is more by 5 days implying that the payments to creditors are prolonged either generally or in specific cases. Ratios are indicators which help the analyst to decide the need for further study of the related aspects; in

this case he may like to know the cause of payments lagging behind the purchases.

There are many other ratios of comparing a ledger balance with that of a related transactions; few examples are:

a) Stock balance and consumption
b) Debtors balance and collection
c) Bank balance and payments
d) Finished goods and cost of goods finished.

Not all transactions are readily available if existing system is practiced. But in TDA, all transactions and ledger balances are readily known. Therefore, any of the useful ratios can be easily worked out and made use of.

iii) A ledger balance compared with another ledger balance

Ledger balances, in TDA, constitute the financial equilibrium of an entity. On the one side is the assets of the entity and at the other side, the amount representing the claim on assets of various stakeholders of the entity. Over the years various useful ratios of this category (better known as financial position ratios) are developed few of which are noted below:

a) Debt-equity ratio
b) Capital leverage ratio
c) Current ratio
d) Acid test ratio.

It may be noted that the ledger balances of assets and liabilities are easily accessible in existing as well as TDA system. The only difference is that these ledger accounts of TDA consists of only assets and liabilities, whereas in double-entry system, the ledger balance consists of nominal accounts as well.

6.4 CASH FLOW AND FUND FLOW STATEMENT

The method of preparation of cash flow statement was briefly discussed in Chapter-I, this involves the preparation of a summary from cash and bank book, which in the existing system environment is not so easy a task particularly when the summary for a month or longer period is needed. In TDA, however, the transaction name is the pivot of the ledger accounting and is prominently written in all general purpose transaction books and so a summary of transaction wise amounts can easily be generated. The magnitude of cash transactions shown in the cash column of such a summary constitute the cash flow statement.

Cash flow statement has the purpose as a tool for short period operational controls. But for analysing the results of longer periods say for half year or one year, fund flow statement has a better perspective of the nature of things. In TDA, all transactions that has taken place during a period resulting changes in the balances of assets and liability items are known and so the fund flow statement can be explained in details.

Exercise 6.4

Transcribed below is the financial equilibrium of Z Co. given in exercise 6.2:

Particulars	Figures (in Rupees)	
	As on 1.4.1998	As on 30.4.1998
Assets		
Fixed Assets (Gross block)	13,82,000	13,82,000
Capital work in progress	17,200	23,100
Investments	37,000	37,000
Material	60,950	56,040
Work in progress	57,320	53,500
Finished goods	1,31,900	1,24,950
Debtors	1,60,000	2,11,200
Miscellaneous receivables	19,400	6,400
Cash & bank	24,800	12,800
	18,90,570	19,06,990
Liabilities		
Capital	4,08,000	4,08,000
Reserves	99,370	1,15,070
Provision for depreciation	5,75,000	6,04,900
Loans	7,30,000	7,00,000
Creditors	56,500	64,720
Miscellaneous payables	21,700	14,300
	18,90,570	19,06,990

Prepare a fund flow statement. Ledger accounts shown in the answer to exercise 6.2 be referred for transactions.

Answer

Fund Flow Statement of April 1998:

Particulars		Amount (Rs.)	
A.	Sources of Funds		
	Net profit transferred to Reserves	15,700	
	Add: Depreciation provided	29,900	
	Inflow from operations	45,600	
	Add: Increase in current liabilities	820	Note 1.
	Total	46,420	
B.	Utilisation of Funds		
	Expended for capital order	5,900	
	Loan repaid	30,000	
	Increase in current assets	10,500	Note 2.
	Total	46,420	

Notes

1. Increase in current liabilities

	As on 1.4.1998 (Rs.)	As on 30.4.1998 (Rs.)	Increase/ Decrease +/- (Rs.)
Creditors	56,500	64,720	(+) 8,220
Miscellaneous payables	21,700	14,300	(-) 7,400
Total	78,200	79,020	(+) 820

2. Increase in current assets

	As on 1.4.1998 (Rs.)	As on 30.4.1998 (Rs.)	Increase/ Decrease +/- (Rs.)
Materials	60,950	56,040	(-) 4,910
Work in progress	57,320	53,500	(-) 3,820
Finished goods	1,31,900	1,24,950	(-) 6,950
Debtors	1,60,000	2,11,200	(+) 51,200
Miscellaneous receivables	19,400	6,400	(-) 13,000
Cash & bank	24,800	12,800	(-) 12,000
Total	4,54,370	4,64,890	(+) 10,520

3. A further analysis to know the transactions that resulted change in value of assets and liabilities will be an easy task. A recourse to the ledger accounts is what all is required.

The sources and application of funds are shown in terms of transactions and not merely as changes in balances of two periods of assets and liability items

as is the practice in existing systems. This is possible in TDA because the nature of transactions and its magnitude are available in the transaction summary. Again, if a main ledger control account is maintained for the sub-ledger accounts, the nature of transactions will be also available in the control accounts. However in TDA, the maintenance of control accounts seems to be a duplicate effort when the transactions are scrupulously accounted and when arranged resembles the replica of the ledger control account with the transactions prominently seen.

In the fund flow statement of the above-said exercise, the opening and closing balances of current assets and current liabilities are shown and the net increase in the working capital is taken as the net fund inflow. One may further would like to know the causes of change in these accounts, the information can be readily had from the transaction summary.

6.5 ADVANTAGES OF TDA

TDA has many advantages; they are summarised below:

i) It brings clarity, conceptually and in practice. The concepts will be better appreciated by the accountants as well as non-accountants. TDA recognises, *ab ovo*, the financial equilibrium of a business entity and the interplay of the events and its effects and the accounting practices are established in conformity with this basic truth.

ii) Events or transactions, as such, are sans directions and the transaction recording is complete when they are entered in transaction books. Effects are posted in ledgers which consists of only accounts of assets and liabilities of the business entity and to the extent of number of nominal accounts in the existing systems, the number of ledger accounts will be lesser in TDA. In TDA, the difficulty of immediate identification of certain costs to jobs is taken care of by the use of very few cost-in-process accounts recognised as real assets.

iii) Transaction name is captured in ledger accounting. This practice will make the ledger accounts more user friendly and informative. It also obviate maintenance of different personal ledger accounts according to different transaction types.

iv) Ledger balances does not reveal transactions. In TDA, the magnitude of all transactions are known. Even those transactions which are null effectual and ignored in existing accounting systems can with ease be incorporated in TDA. The easy availability of information will be of great help in budgeting, budgetary controls, ratio analysis, preparation of profitability reports, cash/fund flow reports etc. and the reports from TDA will be more meaningful.

v) The feature of recording the transactions facilitates preparation of a host of useful reports on transactions happened during a period. Few such reports are:

a) Employee-wise advances paid and refunded.

b) Chronological listing of T.T. received from a branch

c) Payments made to a creditor during a period

d) Customer-wise statement of cheque returns.

vi) The existence of the transactions in the list of transaction is a pre-requisite for accomplishing TDA except for few infrequent transactions which are accommodated as Miscellaneous transactions. Therefore by subjecting those transactions entered via Miscellaneous transactions to greater scrutiny, the nature of all transactions accounted are known. This feature of TDA may act as a deterrent in perpetuating undesirable transactions.

vii) TDA result in lesser paper work and efforts:

a) The particulars to be written in voucher and transaction books will be lesser.

b) In computerised accounting, posting to ledger accounts will be automatic from the transaction.

c) Many transactions are posted from monthly summaries and in groups.

d) Ledger control accounts can be avoided.

e) No nominal accounts are needed in ledger and the closing entries are avoided.

f) Reconciliation of ledger accounts vis-a-vis the transaction will be easier.

g) There is no need to begin transaction posting in ledger with the words 'To' and 'By'.

viii) The initial recording of transactions can be performed by non-accounting staff as well.

CONCEPTUAL CLARITY AND HOLISTIC APPROACH ARE THE NOVEL FEATURES OF TDA.

6.6 SUMMARY

1. Profit & loss report compares the income earned during a period with that of expenses incurred to earn that income. The principle of 'Matching' is applied in the process.

2. In TDA, profit & loss report can be prepared separately for the four stages of recording expenses namely, pooling, utilisation, absorption, and proration stages.

3. Pooling stage Profit & loss report is similar to the profit & loss account of the existing financial accounting system; expenses are shown according to its nature.

4. In utilisation stage profit & loss report, the classification of overhead is according to the standing order numbers (cost accounts number in case of selling and administration overhead) or activities depending upon the classification followed by an entity.

5. Expenses are classified between absorbed and unabsorbed cost in the absorption stage. Profit & loss report of this stage portrays these transactions.

6. In proration stage Profit & loss report, sales is compared with the cost of sales. This is similar to the costing profit & loss account in the non-integral system and the profit & loss account in the integral system of account. A major dissimilarity is that transaction recording in ledger accounts is alien to the existing systems.

7. The Balance Sheet is a statement of financial equilibrium of an entity as on a particular date.

8. Ratio analysis involves comparisons and inferring therefrom and comparisons may be between two transactions, two ledger balances or between a transaction and a transaction.

9. A summary of cash & bank transactions during a period constitutes the cash flow statement.

10. Fund has a broader meaning than cash & bank balances and includes other items of working capital as well. Preparation of fund flow statement is shown in exercise 6.4.

11. TDA has many advantages; they are summarised in Section 6.5.

6.7 REVIEW QUESTIONS

1. Distinguish between financial transactions and financial equilibrium.

2. Name the four stages of accounting expenses. Discuss the usefulness or otherwise of such a practice.

3. How do the profit & loss report of the proration stage differs from the reports of the earlier stages?

4. What are the adjustments to income and expenses accounted during a period while preparing the profit & loss reports? Do we need adjustments for the proration stage profit & loss report?

5. Name the expense transactions of the absorption stage.

6. Name few proration stage transactions.

7. State how 'Normal waste in production' is treated in TDA. Does the method differs from the existing practice?

8. Name few transaction reports that are useful in an organisation you are familiar with.

9. Shown below is the Debtor's account in the books of D & Co. for the month of July 1997. Compute few ratios and give your observations.

Debtors Ledger – July 1997

Transactions	Amount (Rs.)		
	Dr.	Cr.	Balance
Opening balance			Dr. 81,300
Sales	66,200		
Collections		47,000	
Bills received		29,000	
Sale returns		4,500	
Bills dishonoured	12,500		
Total	78,700	80,500	
Closing balance			Dr. 79,500

10. Discuss the distinguishing features of a fund flow statement prepared from TDA books.

11. An accounting system should be simple and it should generate, with ease, meaningful reports. Does TDA meet this standard? Critically examine.

12. How do the following transactions accounted in TDA?

- Income accrued but not received

- Provisions for expenses.

CHAPTER VII

TDA FOR SPECIAL TRANSACTIONS

CHAPTER CONTENTS

7.7 REVIEW QUESTIONS

CHAPTER-VII

TDA FOR SPECIAL TRANSACTIONS

7.0 INTRODUCTION

In the previous chapter, many commonly occurring transactions and their treatments were discussed. Again in Appendix-1, many transactions are listed although not exhaustive enough to include all transactions that can happen in an entity. In actual scenario there may be many more transactions and there are also special transactions pertaining to bills, consignment transactions, hire purchase transactions, partnership accounts etc. These are deliberately avoided for inclusion while listing Appendix-1. In this chapter also, the intention is not to consider the transactions pertaining to all special situations; transactions of few arbitrarily selected activities are discussed in the following sections.

7.1 TRANSACTIONS RELATING TO BILLS AND NOTES

Bills of exchange and promissory notes are negotiable instruments. A cheque is also a special type of bill of exchange. These are commercial documents containing either an order and acceptance or a promise to pay a debt incurred as a result of dealings between individuals or business houses. Few transactions that are characteristic of negotiable instruments and their effects are given below:

(1) Bills received → Dr. Bills Receivable A/c.(Misc.Ledger)
→ Cr. Customer (Debtors Ledger)

Note: Here 'bills' is used to mean both bill of exchange and promissory notes but does not include cheques. Bills are received from debtors who owe money to the business entity and on receipt of a valid bill, their account is credited with the amount of bill and the debit effect is to a receivable account named bills receivable account.

(2) Discount allowed to debtors → Dr.Expense in Process A/c.(CIP Ledger)
→ Cr. Customer (Debtors Ledger)

Note: Sometimes, it is a practice to allow a discount on acceptance of a bill or on giving a promissory note by the debtor; this transaction can be effected as shown above. The accounting entry 'discount allowed to debtors' is specific that the discount allowed to debtors only will be considered for accounting against this transaction. If discount is allowed to some miscellaneous parties, the same does not suit for accounting in this head. By making the transaction specific, the credit effect is made certain, at the same time, opting for more and more specific transactions may result in increase in number of transactions. In the above example if the transaction was simply 'discount allowed' the credit possibility would

have been either to customer account in debtors ledger or a party account in Miscellaneous Party Account. Since the normal effect of the transaction is to a debtors account, the same can be considered as the default effect and miscellaneous party account be considered as an exception discussed in Section 5.1.2.

(3) Bills endorsed → Dr. Party (Creditors Ledger)
→ Cr. Bills Receivable A/c.

Note: As stated already, bills and notes are negotiable instruments. The document can be transferred from one person to another by endorsement and delivery. When it is so transferred, the holder acquires the title to claim the amount of the bill or note when it is due. Normally, the debit effect of this transaction is to a supplier account in creditors ledger and is considered above as the default debit effect. At times, when a bill is endorsed to a miscellaneous party in miscellaneous ledger, the transaction will be an exception to the general rule.

(4) Bills discounted → Dr. Bank A/c.(Misc.Ledger)
→ Cr. Bills Receivable A/c.

(5) Bills dishonoured → Dr. Customer A/c.(Debtors Ledger)
→ Cr. Bank A/c.

OR

Bills dishonoured → Dr. Customer A/c.(Debtors Ledger)
→ Cr. Supplier A/c.(Creditors Ledger)

Note: With respect to the effects of dishonour of bills, there are two possibilities as shown above. In the first case the bill discounted by the entity is dishonoured and the second situation arises when the bill endorsed by the entity to a supplier is dishonoured. It can be seen that whereas Bank A/c. is involved in the first case, in the second case Bank A/c. does not come into the picture. Consequently, the first case will be recorded through the Bank book and the second case will be recorded in a journal book and so the different effects can be identified as derivatives of the distinct books of original entry of the transaction.

So if the transaction 'Bill dishonoured' is entered in Bank book, the first alternative (Dr. Customers A/c. and Cr. Bank A/c.) will be given effect and when the transaction is recorded in a journal book, the second possibility of effect will be considered.

(6) Bank charges → Dr. Expense in Process A/c.
→ Cr. Bank A/c.

OR

Bank charges → Dr. Expense in Process A/c.
→ Cr. Supplier A/c.(Creditors Ledger)

Note: Bank charges may be on account of bill discounting or it may be the noting or other charges pertaining to the dishonour of bills. If so desired, the different charges can be treated as distinct transactions.

As in the previous transaction, here also, there are two possibilities of credit effect, debit effect remaining same in both the cases. Obviously the first possibility happens when the entity discounts the bill received by it and incurs bank charges towards discounting the bill or on account of subsequent dishonour of the bill. In the second case the bill received by the entity is endorsed to a supplier and later on at the happening of dishonour of the bill, reimburses the bank charges to the supplier. Here also, as discussed in the preceding note, the different effects are identified with reference to the different books of original entry of the transaction.

(7) Bank charges recovered → Dr. Customer A/c.(Debtors Ledger)
→ Cr. Expense in Process A/c.

Note: If the bill or note is dishonoured when presented on due date, it is customary to recover the bank charges from the party. The transaction can be accounted against the above specific transaction at the utilisation stage.

An alternative approach (if it is not desired to know the extent of recovery separately) is to account the transaction as a negative entry transaction against the second possibility of the transaction stated in (6). A minus amount will be posted to the debit of 'Expense-in-Process A/c.' and to the credit of 'Customer A/c.' in debtors ledger. The default credit of transaction (6) was to the 'Supplier A/c.' in creditors ledger and so the credit to an account in debtors ledger will be an exception to the general rule.

(8) Interest Income → Dr. Customer A/c.(Debtors Ledger)
→ Cr. Profit & Loss A/c.

Note: Sometimes, a new bill is made in lieu of an old bill which was dishonoured and cancelled. Normally, the amount of the new bill is

inflated to cover an interest for the period extended. Interest earned is an income and is credited to Profit and Loss Account debiting the customer concerned. It may be noted that the normal effect of interest earned (non-cash) is to debit the Miscellaneous Party account and the debit effect given here to the concerned debtors' account is an exception to the general rule. Procedures with respect to the accounting of exceptions were discussed earlier.

(9) Bills given → Dr. Supplier A/c.(Creditors Ledger)
→ Cr. Bills Payable A/c. (Misc. Ledger)

Note: Here 'Bills given' means either acceptance of a bill of exchange or giving of a promissory note to the supplier.

(10) Dishonour of Bills given → Dr. Bills Payable A/c.
→ Cr. Supplier A/c.

Note: The effects of dishonour of bill is the reverse of the initial transaction. It may be noted that the dishonour transaction stated in (5) is different from the transaction stated here; the effects are also different. On dishonour of the bills given, it may be required to pay the supplier noting charges and/or other bank charges. The transaction for this action is 'Bank Charges' and the effects will be as per option 2 of transaction shown in (6).

Exercise 7.1

In the books of Johnson & Co. the balances as on 31.8.1999 of few sub-accounts in Debtors and Creditors Ledger are as follows:

Debtors Ledger		Creditors Ledger	
A & Co.	Rs. 37,800	P & Co.	Rs. 63,400
B & Co.	Rs. 42,300	Q & Co.	Rs. 18,500

In the subsequent month, the collection, payment and related transactions in these accounts were:

1) Bill of P & Co. accepted – Rs. 35,000 (due for payment in the same month).

2) Note given to Q & Co. – Rs. 10,000 (due in October 1999).

3) Drew on A & Co. a bill for Rs. 30,000 which A & Co. accepted (due for payment in September 1999 itself). On acceptance, a discount @ 1% is allowed to A & Co.

4) B & Co. gives a promissory note for Rs. 20,000 (due same month).

5) Discounted bill accepted by A & Co. with bank. Discounting charges amounts to Rs. 200.

6) Note of B & Co. endorsed to P & Co.

7) B & Co. honoured the note when presented on due date.

8) Honoured bill of P & Co. on due date.

9) Bill on A & Co. dishonoured. Bank charges is Rs. 100 and noting charges Rs. 130. These charges are debited to A along with the initial charges of the bill.

Required to:

a) Show the transactions and effects.
b) Prepare a summary of transactions.
c) Suggest suitable transaction books for the bill transactions.
d) Write up the personal ledger accounts.

Answer

a) Transactions and effects in the books of Johnson & Co.

(1) Bills/Notes given (Rs.35,000) → Dr. P & Co.
→ Cr. Bills payable A/c.

(2) Bills/Notes given (Rs.10,000) → Dr. Q & Co.
→ Cr. Bills payable A/c.

(3) Bills/Notes received (Rs.30,000) → Dr. Bills receivable A/c.
→ Cr. A & Co.

Discount allowed (Rs.300) → Dr. Expense in process A/c.
→ Cr. A & Co.

(4) Bills/Notes received (Rs.20,000) → Dr. Bills receivable A/c.
→ Cr. B & Co.

(5) Bills discounted (Rs.30,000) → Dr. Bank A/c.
→ Cr. Bills receivable A/c.

Bank charges (Rs.200) → Dr. Expense in process A/c.
→ Cr. Bank A/c.

(6) Bills/Notes endorsed (Rs.20,000) → Dr. P & Co.
→ Cr. Bills receivable A/c.

(7) No entries in the books of Johnson & Co.

(8) Bills honoured by us (Rs.35,000)
- Dr. Bills payable A/c.
- Cr. Bank A/c.

(9) Bills dishonoured (Rs.30,000)
- Dr. A & Co.
- Cr. Bank A/c.

Bank charges (Rs.230)
- Dr. Expense in process A/c.
- Cr. Bank A/c.

Bank charges (- Rs.430)
- Dr. Expense in process A/c.
- Cr. A & Co.

Discount allowed (- Rs.300)
- Dr. Expense in process A/c.
- Cr. A & Co.

Note: Posting a minus figure has a reversal effect.

6. Summary of transactions – Johnson & Co.

Transaction name		Entries (Rupees)	Total amt.(Rs.)
i.	Bills/Notes given	+ 35,000 + 10,000	45,000
ii.	Bills/Notes received	+ 30,000 + 20,000	50,000
iii.	Bills/Notes endorsed	+ 20,000	20,000
iv.	Bills discounted	+ 30,000	30,000
v.	Bills honoured by us	+ 35,000	35,000
vi.	Bills dishonoured	+ 30,000	30,000
vii.	Discount allowed	+ 300 - 300	Nil
viii.	Bank charges	+ 200 + 230 - 430	Nil
Total			2,10,000

c. Transaction books

i. When the bills transactions are large and repetitive, it is preferable to have two special transaction books, one to record bills receivable transactions and the other for bills payable transactions.

ii. Only non-cash bill transactions are entered in special purpose books; cash/bank book is the record for cash transactions.

iii. Where the bills transactions are not too large, they may be recorded in the general purpose journal book in use.

d. Personal ledger accounts

i. Account of A & Co.

Vr. No. & Date	Transaction	T.B. Folio	Amount (Rs.)		
			Dr.	Cr.	Balance
1.9.1999	Opening balance				Dr. 37,800
	Bills/Notes received			30,000	
	Discount allowed			300	
	Bills dishonoured		30,000		
	Bank charges			(-) 430	
	Discount allowed			(-) 300	
	Transaction total		30,000	29,570	
30.9.1999	Closing balance				Dr. 38,230

ii. Account of B & Co.

Vr. No. & Date	Transaction	T.B. Folio	Amount (Rs.)		
			Dr.	Cr.	Balance
1.9.1999	Opening balance				Dr. 42,300
	Bills/Notes received			20,000	
	Transaction total		Nil	20,000	
30.9.1999	Closing balance				Dr. 22,300

iii. Account of P & Co.

Vr. No. & Date	Transaction	T.B. Folio	Amount (Rs.)		
			Dr.	Cr.	Balance
1.9.1999	Opening balance				Cr. 63,400
	Bills/Notes given		35,000		
	Bills/Notes endorsed		20,000		
	Transaction total		55,000	Nil	
30.9.1999	Closing balance				Cr. 8,340

iv. Account of Q & Co.

Vr. No. & Date	Transaction	T.B. Folio	Amount (Rs.)		
			Dr.	Cr.	Balance
1.9.1999	Opening balance				Cr. 18,500
	Bills/Notes given				
	Transaction total		10,000	Nil	
30.9.1999	Closing balance				Cr. 8,500

v. Bills payable A/c.

Vr. No. & Date	Transaction	T.B. Folio	Amount (Rs.)		
			Dr.	Cr.	Balance
1.9.1999	Opening balance				Nil *
	Bills/Notes given			35,000	
	Bills/Notes given			10,000	
	Bills honoured by us		35,000		
	Transaction total		35,000	45,000	
30.9.1999	Closing balance				Cr. 10,000

vi. Bills receivable A/c.

Vr. No. & Date	Transaction	T.B. Folio	Amount (Rs.)		
			Dr.	Cr.	Balance
1.9.1999	Opening balance				Nil*
	Bills/Notes received		30,000		
	Bills/Notes received		20,000		
	Bills discounted			30,000	
	Bills/Notes endorsed			20,000	
	Transaction total		50,000	50,000	
30.9.1999	Closing balance				Nil

* Opening balance not known. Arbitrarily it is assumed as Nil for writing the accounts of Bills payable and Bills receivable.

7.2 TRANSACTIONS RELATING TO CONSIGNMENTS

Consignment agreements are commonly observed business practices in the commercial world. Two parties namely the consignor and the consignee are involved; their relationship is not of a seller and buyer but they act respectively as the Principal and the Agent. The normally followed practice is that the consignor sends goods to the consignee who arranges for the sale of these goods on behalf of the principal or consignor. Till the goods are sold by the consignee, the ownership of the goods are with the consignor and when the goods are sold, the ownership is transferred to the buyer of goods. So with respect to the title to the goods consigned by the consignor, the consignee is merely a custodian and agent to effect the sale on behalf of the principal. Periodically or at the accomplishment of the task, the consignee sends a statement of accounts known as Account Sales or Sale patti. Sale patti contains *inter alia* details of sales effected, expenses incurred, commission and balance payable by the consignee.

Few commonly observed transactions and their effects in the books of the consignor are noted below:

(1) Goods sent on Consignment
- Dr. Consignment Stock A/c.
- Cr. Finished Stock A/c.

Note: Although there is no transfer of ownership with this transaction, movement of goods from one place to another take place and in order to distinguish the consignment stock from other goods the effects are given as above.

(2) Expenses on Consignment Stock
- Dr. Consignment Stock A/c.
- Cr. Expense in Process A/c.

Note: The credit effect is given to the Expense-in-Process A/c. implying that the transaction is considered as one at the utilisation stage; the recording at the pooling stage was according to the nature of such expenses to the debit of Expense-in-Process A/c.

These transactions which basically are distribution costs adds value to the goods sent on consignment unlike the selling costs or other costs which are fully recovered from the revenue of the period to which they pertain. Therefore, instead of a debit to the consignment account, the expenses are debited to the consignment stock account. Examples of such expenses are freight, insurance, octroi, etc. incurred for sending the goods to the consignee. Although only one transaction is shown above, the expense transactions may be classified according to the major heads like:

Freight on consignment stock,
Octroi on consignment stock,
Insurance on consignment stock,
Other expenses on consignment stock.

(3) Expenses on Consignment
- Dr. Consignment A/c.
- Cr. Expense in Process A/c.

Note: Unlike the earlier transaction, this transaction is meant for selling expenses or those distribution expenses which are not added to the value of stock; examples of such expenses are commission, Del Credere Commission, rent, freight for transportation to buyer etc.

There may be many consignments and one may like to know the profit or loss made for each such consignment business; this can be accomplished by maintaining sub-accounts for the consignment account and the consignment stock account.

(4) Consignment Sales
- Dr. Consignee A/c.
- Cr. Consignment A/c.

(5) Consignment Stock Sold → Dr. Consignment A/c.
→ Cr. Consignment Stock A/c.

Note: Consignment sale transaction is split into two transactions as shown in (4) and (5); the former is accounted with the sale value and the later with the value of stock as a result of which the balance in the consignment account will represent the profit or loss and the balance in consignment stock account will represent the balance stock lying unsold. At the end of an accounting period, the balance in consignment account shall be transferred to the profit and loss account for which the accounting entry is as per (6) below:

(6) Profit on Consignment transferred → Dr. Consignment A/c.
→ Cr. Profit & Loss A/c.

Note: In case of loss or debit balance in Consignment A/c., the above transaction will be accounted for a negative figure.

(7) Abnormal Loss on Consignment Stock → Dr. Profit & Loss A/c.
→ Cr. Consignment Stock A/c.

(8) Normal Loss on Consignment Stock → Dr. Consignment Stock A/c.
→ Cr. Consignment Stock A/c.

Note: Here normal loss means inherent losses on account of shrinkage, evaporation etc. of stock. Value of normal loss on stock is ignored for separate accounting in existing systems. The value of stock is not adjusted for the reduced stock quantity after the normal loss; with this practice the normal loss gets absorbed by the remaining goods in stock. In TDA, value of normal loss can be distinctly accounted as above or alternatively the transaction can be accounted considering it as null-effectual, i.e. without giving any effects.

Exercise 7.2 (1)

On 2.5.1999, P & Co. of Ahmedabad sent 100 sarees to A & Co. of Delhi for effecting sale on consignment basis. Following further information are given:

i) Cost of sarees : Rs. 120 per saree.
ii) Freight and transit insurance: Rs. 5 per saree (paid by P & Co.)
iii) Selling expenses: Rs. 830 (incured by P & Co.)
iv) Sales during May 1999: 50 sarees @ Rs 180 per saree.
v) Commission to A & Co. : Rs. 10 per saree sold.
vi) Selling expenses reimbursed to the consignee: Rs. 750
vii) Damages in transit: 5 sarees. Damaged sarees sold at a reduced price of Rs. 50 per saree.
viii) A & Co. sent by DD proceeds of sale after deducting expenses and commission on sales.

a) Show the transactions and effects in the books of P & Co.
b) Write the ledger accounts – Consignment stock account and consignment account.

Answer

(1) Goods sent on consignment (Rs.12,000)
- Dr. Consignment Stock A/c.
- Cr. Finished Stock A/c.

(2) Expenses on consignment stock (Rs. 500)
- Dr. Consignment Stock A/c.
- Cr. Expense-in-Process A/c.

(Utilisation stage accounting of freight & transit insurance)

(3) Selling expenses (Rs. 830)
- Dr. Expense in process A/c.
- Cr. Bank A/c.

(Pooling stage accounting)

Selling expenses on consignment (Rs. 830)
- Dr. Consignment A/c.
- Cr. Expense in process A/c.

(Utilisation accounting of selling expenses)

(4) Consignment sales (Rs.9,250)
- Dr. A & Co.
- Cr. Consignment A/c.

(50 sarees @ Rs. 180 + 5 sarees @ Rs. 50)

(5) Consignment stock sold (Rs. 6,875)
- Dr. Consignment A/c.
- Cr. Consignment Stock A/c.

(55 sarees @ Rs. 125)

(6) Selling expenses (Rs. 750)
- Dr. Expense in process A/c.
- Cr. A & Co.

(Pooling stage accounting)

Selling expenses on consignment (Rs. 750)
- Dr. Consignment A/c.
- Cr. Expense in process A/c.

(Utilisation stage accounting)

(7) Commission on sale (Rs. 550) → Dr. Expense in process A/c.
→ Cr. A & Co.

(Pooling Stage accounting)

Commission on consignment sale (Rs. 750) → Dr. Consignment A/c.
→ Cr. Expense in process A/c.

(Utilisation stage accounting)

(8) Insurance claimed (Rs. 350) → Dr. Insurance Co.
→ Cr. Consignment A/c.

(Rs. 120 – Rs. 50) for 5 sarees.

(9) Loss on damages in transit (Rs. 25) → Null effectual.

Note: Cost of a saree is Rs. 125 including the freight and transit insurance whereas the amount realised is Rs. 120 per saree (Rs. 50 as sale price and Rs. 70 being claim raised on insurance company). So the loss on this account is Rs. 5 x 5 sarees or Rs. 25.

As the loss is already accounted in transaction (5) by debiting consignment A/c., the above transaction is null effectual. We may avoid this entry when the magnitude involved is small. However when the loss is substantial, it is preferable that the transaction is accounted as null-effectual.

(10) Payment received (Rs. 7,950) → Dr. Bank A/c.
→ Cr. A & Co.

(Sales Rs.9,250 minus selling expense Rs.750 and commission Rs.550)

b. 1. Consignment Stock Account

Vr. No. & Date	Transaction	T.B. Folio	Amount (Rs.)		
			Dr.	Cr.	Balance
1.5.1999	Opening balance				Nil
2.5.1999	Goods sent on consignment		12,000		
	Expenses on consignment stock		500		
	Consignment stock sold			6,875	
	Transaction total		12,500	6,875	
31.5.1999	Closing balance				Dr. 5,625

2. Consignment Account

Vr. No. & Date	Transaction	T.B. Folio	Amount (Rs.)		
			Dr.	Cr.	Balance
1.5.1999	Opening balance				Nil
	Selling expenses on consignment		830		
	Consignment sales			9,250	
	Consignment stock sold		6,875		
	Selling expenses on consignment		750		
	Commission on consignment sale		550		
	Insurance claimed			350	
	Transaction total		9,005	9,600	
31.5.1999	Closing balance				Cr. 595

Note: The balance in consignment account represents the profit on account of the consignment deal.

Now let us consider few transactions and the three dimensional recording suggested for a consignee. Better we consider an exercise.

Exercise 7.2 (2)

Vee & Co. of Gujarat (consignor) sent on 1.5.1999 10,000 kgs. of skimmed milk powder (SMP) to Tee & Co. in Calcutta (consignee) who will arrange to sell the goods as per the following terms of a consignment agreement between them:

- Ordinary commission – 5% of sale.
- Del Credere commission – ½% of sale.
- Godown rent will be reimbursed by consignor.
- Local advertisement expense of consignee will be reimbursed subject to a maximum of Rs. 7,000 per month.
- Transportation expenses will be reimbursed at actuals.
- No other expenses will be reimbursed by the consignor.

- Consignee will sign a bill drawn on him for Rs. 2,00,000 due for payment within 15 days.
- The consignee will submit monthly accounts. Sale proceeds will be remitted to the consignor by D.D. after deducting permissible expenses. Advance paid by acceptance of bill will be adjusted in two equal installments in the first two months.

Transactions during the month of May 1999 are:

i) Freight and insurance paid by Vee & Co. – Rs, 8,300.
ii) 100 kgs. of SMP were found short on reaching Calcutta. There is no insurance cover for shortages.
iii) Factory cost of SMP sent to Calcutta – Rs. 46 per kg.
iv) Godown rent – Rs. 5,000 per month.
v) Local advertisement expenses incurred by Tee & Co. – Rs. 9,000.
vi) Transportation expenses of Tee & Co. – Rs. 8,500.
vii) Sales affected – 4,900 kgs. @ Rs. 60 per kg.
viii) Bill drawn on Tee & Co. accepted – Rs. 2,00,000. Payment made on due date itself.

Required to:

a) Show the transactions and effects in the books of Tee & Co.
b) Prepare the ledger account of Vee & Co. in Tee & Co.'s books.

Answer

a) <u>Transactions and effects – in the books of Tee & Co.</u>

1) 9,000 kgs of SMP received at Calcutta – No entry in the books of Tee & Co. Only quantitative records are needed.

2) Freight & Insurance paid by consignor – No entry in Tee & Co.'s books.

3) 100 kgs. of SMP is short delivered – No entry in Tee & Co.'s.

4) Godown rent (Rs. 5,000) → Dr. Expense in process A/c.
→ Cr. Bank A/c.

(Pooling stage accounting)

Rent on consignment sales (Rs. 5,000) → Dr. Vee & Co.
→ Cr. Expense in process A/c.

(Utilisation stage accounting)

5) Advertisement expenses (Rs. 9,000) → Dr. Expense in process A/c.
→ Cr. Bank A/c.

(Pooling stage accounting)

Advertisement expenses on consignment sales (Rs.7,000)
→ Dr. Vee & Co.
→ Cr. Expense in process A/c.

(Utilisation stage accounting)

Note: Only Rs. 7,000 is reimbursable and so Vee & Co. is debited with only Rs. 7,000. The balance amount of Rs. 2,000 is accounted according to the utilisation transaction suitable for Tee & Co.

6) Transportation expenses (Rs. 8,500)
→ Dr. Expense in process A/c.
→ Cr. Bank A/c.

(Pooling stage accounting)

Transportation on consignment sales (Rs.8,500)
→ Dr. Vee & Co.
→ Cr. Expense in process A/c.

(Utilisation stage accounting)

7) Consignment sales (Rs. 2,94,000)
→ Dr. Bank A/c./Debtors A/c.
→ Cr. Vee & Co.

8) Bills given (Rs. 2,00,000)
→ Dr. Vee & Co.
→ Cr. Bills payable A/c.

9) Bills paid (Rs. 2,00,000)
→ Dr. Bills payable A/c.
→ Cr. Bank A/c.

10) Ordinary commission earned (Rs.14,700)
→ Dr. Vee & Co.
→ Cr. P & L A/c.

11) Del Credere commission earned (Rs.1,470)
→ Dr. Vee & Co.
→ Cr. P & L A/c.

12) Payment to consignor (Rs.1,57,330)
→ Dr. Vee & Co.
→ Cr. Bank A/c.

b) <u>Vee & Co. Account</u>

Vr. No. &	Transaction	T.B.	Amount (Rs.)

Date		Folio	Dr.	Cr.	Balance
1.5.1999	Opening balance				Nil
	Rent on consignment sale		5,000		
	Adv. exp. on Consign-ment sales		7,000		
	Transportation on consignment sale		8,500		
	Consignment sale			2,94,000	
	Bills given		2,00,000		
	Ordinary commission		14,700		
	Del Credere commission		1,470		
	Payment to consignor		1,57,330		
	Transaction total		3,94,000	2,94,000	
31.5.1999	Closing balance				Dr.1,00,000

Note: The ledger account of Vee & Co. resembles a statement of accounts or 'Account Sales'. The debit balance of Rs. 1,00,000 represents the unadjusted advance as at the end of May 1999.

7.3 TRANSACTION RELATING TO HIRE PURCHASE

In hire purchase dealings ,the payment of purchase consideration is made by convenient installments agreed upon between the parties. Normally hire purchases are made for acquiring machineries or other fixed asset items. The transactions involved in hire purchase are the payment of installment and interest; the effects in the books of the purchaser are as shown below:

(1) Hire Purchase (down payment or principal amount)
- Dr. Fixed Asset A/c.
- Cr. Bank A/c.
  OR
  Cr. Hire Vendor
  (Misc. Ledger)
  (if amount is initially credited to the vendor)

(2) Interest (on hire purchase)
- Dr. Expense-in-Process A/c.
- Cr. Bank A/c.
  OR
  Cr. Hire vendor
  (Misc. Ledger)

Note: There can be two approaches of accounting of interest on hire purchase. In the first method, the interest on hire purchase is considered as a distinct transaction from other types of interest; as the interest on hire purchase is a purely financial transaction, the debit effect can be made to the profit and loss account.

In the second approach, the transaction is initially booked as interest along with other interest payments, however while doing so, the purpose or standing order (in this case – interest on hire purchase) is also input. The first stage is the pooling stage accounting when the

debit effect is made to the expense-in-process account and in the second stage or utilisation stage, the transaction is the standing order number and the debit effect will be made to the profit and loss account.

7.4 TRANSACTIONS RELATING TO ROYALTIES

Royalties are amount payable to a patentee, an author of a book, a landlord of a mine etc. and the amount varies in relation to the number of units produced or sold. Normally a minimum amount is agreed upon between the parties as payable for a period in which case the minimum amount is payable even if the royalty calculated on units produced or sold falls short of the minimum amount. The excess of minimum payable amount over the royalty based on production or sales is known as short-workings. The treatment of royalty transactions are shown below:

(1) Royalties (Pooling)
- Dr. Expense-in-process A/c.
- Cr. Patentee/Author A/c.

Royalties – Production (Utilisation)
- Dr. Finished Goods A/c.
- Cr. Expense-in-process A/c.

Royalties – Sales (Utilisation)
- Dr. Profit & Loss A/c.
- Cr. Expense-in-process A/c.

Note: In the method stated here, there are two distinct transaction for each royalty transaction, one at the pooling and the later at utilisation stage. This does not mean that there will be two distinct entries. When royalty is accounted at the pooling stage, the standing order number (in this case either royalty – production or royalty-sale) is also identified and input in system so that automatically, the utilisation transaction is created.

(2) Short working - Irrecoverable
- Dr. Profit & Loss A/c.
- Cr. Patentee/Author A/c.

Short working - Recoverable
- Dr. Short working A/c. (A receivable A/c. in Misc. Ledger)
- Cr. Patentee/Author A/c.

Short working adjusted
- Dr. Parentee/Author A/c.
- Cr. Short working A/c.

Note: As per the royalty agreement entered into between the parties, short workings may be irrecoverable or recoverable from future royalty earnings in excess of the minimum amount payable. Irrecoverable short workings are a charge to profit and loss account but recoverable short workings are receivables for the current period for adjustment in subsequent period/periods from royalty earnings in excess of minimum payable amount. So there are three distinct transactions as shown above; irrecoverable short workings is an expense transaction and the other two transactions by their nature are suitable for listing under 'other transactions'.

Exercise 7.4

Lee & Co. obtained on 1.2.1996 a patent right from Pee & Co. as per the following terms:

i) Royalty @ 1% on sale value payable for every financial year commencing from April 1996.

ii) Payment of royalties is to be made within a month of completion of the financial year.

iii) Minimum payable amount is Rs. 50,000 per annum.

iv) Short workings, if any, can be recouped from royalties in excess of minimum rent in subsequent years.

The sale values during the first three years are as follows:

1996-97	Rs. 40 lakhs
1997-98	Rs. 70 lakhs
1998-99	Rs. 60 lakhs.

Required to:

a) Show the transactions and effects in the books of Lee & Co.

b) Prepare the following ledger accounts:
Short working A/c.
Pee & Co. A/c.

Answer

a) Transactions and effects in the books of Lee & Co.

1) 31.3.1997: Royalties (Rs.40,000)
→ Dr. Expense in process A/c.
→ Cr. Pee & Co. A/c.

(Pooling stage accounting)

31.3.1997: Royalties - Sales (Rs. 40,000)
→ Dr. Profit & Loss A/c.
→ Cr. Expense in process A/c.

(Utilisation stage accounting)

2) 31.3.1997: Short-working (Rs. 10,000)
→ Dr. Short working A/c. (a receivable in Misc. Ledger)
→ Cr. Pee & Co. A/c.

3) April 1997: Payment to Misc. parties (Rs.50,000)
→ Dr. Pee & Co.
→ Cr. Bank A/c.

4) 31.3.1998: Royalties (Rs.70,000)
→ Dr. Expense in process A/c.
→ Cr. Pee & Co. A/c.

(Pooling stage accounting)

31.3.1998: Royalties - Sales (Rs. 70,000)
→ Dr. Profit & Loss A/c.
→ Cr. Expense-in-process A/c.

(Utilisation stage accounting)

5) 31.3.1998: Short-working adjusted (Rs. 10,000)
→ Dr. Pee & Co. A/c.
→ Cr. Short working A/c.

6) April 1998: Payment to Misc. parties (Rs. 60,000)
→ Dr. Pee & Co. A/c.
→ Cr. Bank A/c.

7) 31.3.1999: Royalties (Rs.60,000)
→ Dr. Expense in process A/c.
→ Cr. Pee & Co. A/c.

(Pooling stage accounting)

31.3.1999: Royalties - Sale (Rs. 60,000)
→ Dr. Profit & Loss A/c.
→ Cr. Expense in process A/c.

(Utilisation stage accounting)

8) April 99: Payment to Misc. parties (Rs. 60,000)
→ Dr. Pee & Co. A/c.
→ Cr. Bank A/c.

b) Ledger Accounts in the Books of Lee & Co.

1) Short Working A/c.

Vr. No. & Date	Transaction	T.B. Folio	Amount (Rs.)		
			Dr.	Cr.	Balance
1.4.1996	Opening balance				Nil
31.3.1997	Short workings		10,000		
31.3.1998	Short working adjusted			10,000	
	Transaction total		10,000	10,000	
31.5.1998	Closing balance				Nil

2) Pee & Co. A/c.

Vr. No. & Date	Transaction	T.B. Folio	Amount (Rs.)		
			Dr.	Cr.	Balance
1.4.1996	Opening balance				Nil
31.3.1997	Royalties			40,000	
31.3.1997	Short working			10,000	
April 1997	Payment		50,000		
31.3.1998	Royalties			70,000	
31.3.1998	Short working adjusted		10,000		
April 1998	Payment		60,000		
31.3.1999	Royalties			60,000	
April 1999	Payment		60,000		
	Transaction total		1,80,000	1,80,000	
30.4.1999	Closing balance				Nil

7.5 TRANSACTIONS RELATING TO BRANCH ACCOUNTS

There may be wide variations with respect to the functions performed by different branches. Some of the branches may be acting simply as a stock point with the limited function of upkeep of goods till they are delivered to customers as per the instructions from the head office. At the other extreme there are branches which function more or less independently of H.O. The accounting practices differ between the different types of branches. Here it is not intended to show all the possibilities of transactions in different situations, instead few commonly observed transactions between the head office and branches are shown below; juxtaposed are their effects in head office books.

(1) Goods sent to branch → Dr. Branch A/c.
→ Cr. Finished Goods A/c.

(2) Cash sent to branch → Dr. Branch A/c.
→ Cr. Bank A/c.

(3) Cash received from branch → Dr. Bank A/c.
→ Cr. Branch A/c.

Note: There may be many branches; for obvious reasons, ledger accounts are to be maintained for each branch. As transactions are written in ledger accounts, a copy of the branch account sent to branch will enable reconciliation of differences, if any, with the balance in Head Office account in branch books. Further, the transactions also can be maintained branch-wise. For example, if the transaction 'cash received from branch' is maintained branch-wise, a statement prepared for a branch for a period of time will help in checking the entries therein with the corresponding statement of the branch (statement of cash sent to HO)to find the missing entries, if any, in one of the statements. Again when the relevant transactions of a branch are arranged, this will resemble as a summary of the branch account; accuracy of the ledger balance is also ensured.

As against the transactions stated in (1) to (3), the corresponding transactions at the branch level are:

(4) Goods received from HO
- Dr. Finished Goods A/c.
- Cr. H.O. A/c.

(5) Cash received from HO
- Dr. Bank A/c.
- Cr. H.O. A/c.

(6) Cash sent to HO
- Dr. H.O. A/c.
- Cr. Bank A/c.

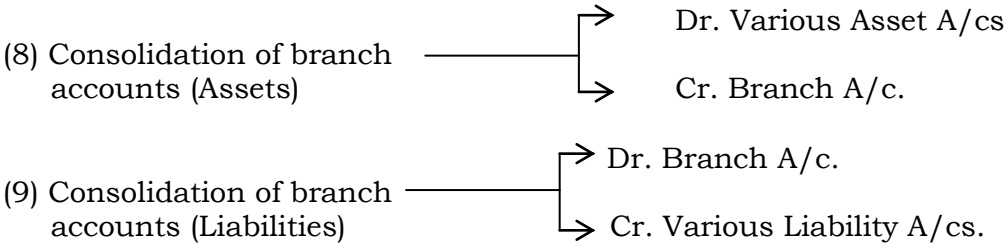
Note: These are interdependent transactions between the branch and HO. Now when a branch is functioning independently, it can be seen that apart from the above transactions (in some situations there may be few more interdependent transactions), other transactions are independently performed by the branches. The effects of these transactions are as discussed in earlier chapters and shown in Appendix-1.

Independent transactions of the branch do not have any effect on H.O. A/c. It may be recalled that financial equilibrium of an entity is the static truth with respect to the entity and after each transaction either the existing financial equilibrium is retained or a new equilibrium is resulted. The financial equilibrium is constituted by the assets and liabilities of the entity (in our case, the branch) and one of the liability item is Profit & Loss A/c. which is the liability of the branch to its owners (in the case of a branch the owner is its head office). So at the end of an accounting period if the balance in Profit & Loss account of the branch is transferred to the H.O. A/c., accounting can be said to be complete with respect to the independent branch. The terminal entry in head office books shall be:

(7) Net profit of branch
- Dr. Branch A/c.
- Cr. Profit & Loss A/c.

It is required to prepare a consolidated profit & loss report and balance sheet. Although following the method stated above the accounting in H.O. books is

complete, the ledger account viz. Branch Account *per se* do not represent either the assets or liabilities of the branch. The balance in branch account is in fact the net amount of the balance of various assets and liability items of the branch. So, when required, the branch accounts can be substituted with the asset and liability items of the branch by accounting the transactions shown below:



When the transactions (8) and (9) are accounted the branch account will have a Nil balance and when the balances of ledger accounts are arranged in desired format, it will constitute the balance sheet of the entity as at the end of the accounting period. At the beginning of the next accounting period, it is necessary to reinstate the branch account. This can be done by using the same transactions in (8) and (9); the transactions shall be accounted for minus figures whereby the effects will be reversed. There does not exist a one-to-one relation between the transaction and one of the effects. However, this does not pose any difficulties to practice TDA and the discussions on miscellaneous transactions stated elsewhere in this book is applicable for transactions of this nature.

The balance in Profit and Loss account after accounting transaction (7) shows the net profit of the entity including the branch profit. However, the details available in the Profit and Loss account may not be suitable for external reporting, for which a profit and loss report is required to be prepared from the transactions as per the method shown in the master exercise of Chapter VI. So what is required is the total magnitude of transactions including the amount transacted by the branches. This can be done by a mathematical summation of the head office and branch figures without giving effects to ledger accounts at H.O.; the net effect was already given vide the transaction stated in (7) above.

Let us consider an exercise on branch accounts maintained three dimensionally.

Exercise 7.5

Ahmed & Co. of Surat (H.O.) has many branches in major cities of India. One such branch is at Madras. Ahmed & Co. negotiates saree purchase in bulk from Surat and arranges despatching the same to its branches.

Accounts are kept according to TDA principles. Branches maintain a cash book with bank columns, a general purpose book to record non-cash transactions and a ledger sub-divided for accounts of Debtors, Miscellaneous parties, Stock, Profit & loss A/c. and Head office account. Fixed asset ledger is maintained at HO only; depreciation is provided by Branches on a monthly basis as per HO standing instructions. In HO book, the net block of Madras branch Fixed Assets as on 1.6.1998 was Rs. 1,37,000.

Following further information of Madras branch are available:

i) Summary of transactions during June 1998

Sl. No.	Transactions	Amount (Rs.)		
		Cash	Non-cash	Total
1.	Sarees received from HO	-	85,000	85,000
2.	Cash received from HO	27,000	-	27,000
3.	Fixed assets purchased	12,000	-	12,000
4.	Distribution expenses	4,200	2,000	6,200
5.	Selling expenses	3,400	4,800	8,200
6.	Administration expenses	2,100	2,300	4,400
7.	Payment for Cochin branch	500	-	500
8.	Sale	1,000	1,12,000	1,13,000
9.	Fund transferred to HO	1,08,000	-	1,08,000
10.	Book value of sarees sold	-	81,000	81,000
11.	Damages in storage	-	400	400
12.	Collection from Debtors	1,12,000	-	1,12,000
13.	Payment to Misc. parties	16,000	-	16,000
14.	Receipt from Misc. parties	700	-	700
15.	Depreciation	-	1,600	1,600
Total		2,86,900	2,89,100	5,76,000

ii) Financial equilibrium in the books of Madras Branch as on 1.6.1998 consist of:

Particulars	Amount (Rs.)
Assets	
Stock	61,000
Debtors	26,000
Cash & Bank	13,000
Total	1,00,000
Liabilities	
Misc. parties	21,000
H.O. Account	79,000
Total	1,00,000

You are required to:

a) Show the effects of transaction in the books of Madras Bbanch.
b) Prepare the ledger accounts.
c) Show the transaction and effects and prepare the ledger accounts of Madras branch in H.O. book.

Answer

a) Transaction and effects

→ Dr. Stock A/c.

1) Sarees received from HO (Non-cash) Rs. 85,000 → Cr. H.O. A/c.

2) Cash received from HO (Cash) Rs. 27,000
   - Dr. Bank A/c.
   - Cr. H.O. A/c.

3) Fixed Assets purchased (Cash) Rs. 12,000
   - Dr. H.O. A/c.
   - Cr. Cash/Bank A/c.

4) Distribution expenses (Cash) Rs. 4,200
   - Dr. Profit & Loss A/c.
   - Cr. Cash/Bank A/c.

Distribution expenses (Non-cash) Rs. 2,000
   - Dr. Profit & Loss A/c.
   - Cr. Misc. Party A/c.

5) Selling expenses (Cash) Rs. 3,400
   - Dr. Profit & Loss A/c.
   - Cr. Cash/Bank A/c.

Selling expenses (Non-cash) Rs. 4,800
   - Dr. Profit & Loss A/c.
   - Cr. Misc. Party A/c.

6) Admn. expenses (Cash) Rs. 2,100
   - Dr. Profit & Loss A/c.
   - Cr. Cash/Bank A/c.

Admn. expenses (Non-cash) Rs. 2,300
   - Dr. Profit & Loss A/c.
   - Cr. Misc. Party A/c.

7) Payment to Cochin Branch (Cash) Rs. 500
   - Dr. H.O. A/c.
   - Cr. Cash/Bank A/c.

8) Sale (Cash) Rs. 1,000
   - Dr. Cash/Bank A/c.
   - Cr. Profit & Loss A/c.

Sale (Non-cash) Rs. 1,12,000
   - Dr. Debtors
   - Cr. Profit & Loss A/c.

9) Fund transferred to HO (Cash) Rs. 1,08,000
   - Dr. H.O. A/c.
   - Cr. Bank A/c.

10) Book value of sarees sold (Non-cash) Rs. 81,000
   - Dr. Profit & Loss A/c.
   - Cr. Stock A/c.

11) Damages in storage (Non-cash) Rs. 400
→ Dr. Profit & Loss A/c.
→ Cr. Stock A/c.

12) Collection from Debtors (Cash) Rs. 1,12,000
→ Dr. Cash/Bank A/c.
→ Cr. Debtors A/c.

13) Payment to Misc. parties (Cash) Rs. 16,000
→ Dr. Misc. Party A/c.
→ Cr. Cash/Bank A/c.

14) Receipt from Misc. parties (Cash) Rs. 700
→ Dr. Cash/Bank A/c.
→ Cr. Misc. Party A/c.

15) Depreciation (Non-cash) Rs. 1,600
→ Dr. Profit & Loss A/c.
→ Cr. H.O. A/c.

16) Profit transferred to HO A/c. (Non-cash) Rs. 11,200
→ Dr. Profit & Loss A/c.
→ Cr. H.O. A/c.

b) Ledger Accounts in the Books of Madras Branch

1) Stock Account

Vr. No. & Date	Transaction	T.B. Folio	Amount (Rs.)		
			Dr.	Cr.	Balance
1.6.1998	Opening balance				Dr. 61,000
	Sarees received from HO		85,000		
	Book value of sarees sold			81,000	
	Damages in storage			400	
	Transaction total		85,000	81,400	
30.6.1998	Closing balance				Dr. 64, 600

2) Debtors A/c.

Vr. No. & Date	Transaction	T.B. Folio	Amount (Rs.)		
			Dr.	Cr.	Balance
1.6.1998	Opening balance				Dr.26,000
	Sales		1,12,000		
	Collection from Debtors			1,12,000	
	Transaction total		1,12,000	1,12,000	
30.6.1998	Closing balance				Dr.26,000

3) Miscellaneous Party A/c.

Vr. No. &	Transaction	T.B.	Amount (Rs.)

Date		Folio	Dr.	Cr.	Balance
1.6.1998	Opening balance				Cr. 21,000
	Distribution expenses			2,000	
	Selling expenses			4,800	
	Administration expenses			2,300	
	Payment to Misc. parties		16,000		
	Receipt from Misc. parties			700	
	Transaction total		16,000	9,800	
30.6.1998	Closing balance				Cr. 14, 800

4) Profit & Loss A/c.

Vr. No. & Date	Transaction	T.B. Folio	Amount (Rs.)		
			Dr.	Cr.	Balance
1.6.1998	Opening balance				Nil
	Distribution expenses	C	4,200		
	Distribution expenses	NC	2,000		
	Selling expenses	C	3,400		
	Selling expenses	NC	4,800		
	Administration expenses	C	2,100		
	Administration expenses	NC	2,300		
	Sales	C		1,000	
	Sales	NC		1,12,000	
	Book value of sarees sold	NC	81,000		
	Damages in storage	NC	400		
	Depreciation	NC	1,600		
	Profit transferred to HO A/c.	NC	11,200		
	Transaction total		1,13,000	1,13,000	
30.6.1998	Closing balance				Nil

Note: C denotes Cash and NC denotes Non-cash transactions.

5) Head Office A/c.

Vr. No. & Date	Transaction	T.B. Folio	Amount (Rs.)		
			Dr.	Cr.	Balance
1.6.1998	Opening balance				Cr.79,000
	Sarees received from HO	NC		85,000	
	Cash received from HO	C		27,000	
	Fixed assets purchased	C	12,000		
	Payment to Cochin branch	C	500		
	Fund transferred to HO	C	1,08,000		
	Depreciation provided	NC		1,600	
	Profit transferred			11,200	
	Transaction total		1,20,500	1,24,800	
30.6.1998	Closing balance				Cr.83,300

6) Cash & Bank A/c. (Only a summary given)

1.6.1998	Opening balance	Rs. 13,000
	Add: Receipts (Item Nos. 2, 8, 12 & 14) of transaction summary)	Rs. 1,40,700
		Rs. 1,53,700
	Less: Payments (Item Nos. 3, 4, 5, 6, 7, 9 and 13 of transaction summary)	Rs. 1,46,200
30.6.1998	Closing balance	Rs. 7,500

Note: The financial equilibrium as on 30.6.1998 of the Madras branch consists of:

Particulars	Amount (Rs.)
Assets	
Stock	64,600
Debtors	26,000
Cash & Bank	7,500
Total	98,100
Liabilities	
Misc. parties	14,800
H.O. A/c.	83,300
Total	98,100

c) 1) Transactions & effects (Madras branch transactions) in H.O. books

Answer avoided here.
Consider as a review exercise by the reader.

2) Madras Branch A/c. (in H.O. books)

Answer avoided here.
Consider as a review exercise by the reader.

7.6 SUMMARY

1) Chapter-7 deals with few special transactions relating to bills, consignment sales, hire purchase, royalties and branch accounts.

2) Special transactions also can be accounted in accordance with the TDA principles.

3) Considerable care is to be exercised at the initial stage while deciding the inclusion or otherwise of a transaction in the list of transactions. By making the transaction more specific, effects are known with certainty. However in such an approach the list will be lengthy and inconvenient to practice. A compromise between the extremes may be a better option.

4) Expenses of special transactions also are accounted in more than one stages, the first two stages being pooling and utilisation. In many cases

the distinction of an expense as an item of special transaction is known only at the utilisation stage.

5) Transactions are distinctly recorded of ledger accounts and transaction-wise statement with useful information can be generated from the system whenever so desired.

6) TDA for special transactions is illustrated in the chapter with the help of few exercise. A comparison of approach in TDA with that of the existing practice will be very helpful in appreciating the TDA concepts.

7.7 REVIEW QUESTIONS

1) List the transactions involved in the following business practice and state the effects of each transaction:

   Promissory notes payable in 45 days are accepted from debtors and these notes are sometimes endorsed to creditors in settlement of dues. Otherwise they are discounted with bank for which discounting charges are payable to the Bank. In case of dishonour of Notes, the practice is to note the fact with a Notary Public. The bank and noting charges are debited to the debtor concerned. Also an interest is collected on the value of dishonoured instrument for the number of days from dishonour to realisation.

2) The effects of transactions are not always certain. Name few such transactions and discuss how these transactions will be processed in TDA.

3) What are the transactions and effects involved in stock accounting of consignment business.

4) What is meant by the term 'Account Sales"? State how this is prepared in TDA. Does the method differs from the method followed in double entry systems?

5) Transaction accounting facilitates transaction reports. State few meaningful transaction reports on dealings between head office and a branch.

6) A three dimensional accounting consultant suggests a company that in its branches only transaction recording need to be performed and that from a summary of transactions for a period, posting can be effected at H.O. Do you agree with the consultants' suggestions? Substantiate your answer.

CHAPTER VIII

THREE DIMENSIONAL ACCOUNTING

MISCELLANEOUS TOPICS

CHAPTER CONTENTS

CHAPTER - VIII

THREE DIMENSIONAL ACCOUNTING

MISCELLANEOUS TOPICS

8.0 INTRODUCTION

In this chapter, TDA is discussed in relation to few concepts viz. standard costing, budgeting and activity based costing. These concepts are tools or techniques that are supposed to enhance the usefulness of the accounting function. An accounting system cannot be stated as ideal if it does not accommodate these useful tools with practical ease and effectiveness. This aspect is examined in this chapter.

Again in sections 8.4 and 8.5, TDA is briefly discussed in relation to service organisations and small entities.

8.1 TDA AND STANDARD COST ACCOUNTING

TDA does not come in conflict with standard cost accounting, rather it supplements the task. Standard cost accounting involves the accounting of few or all expense transaction at standard price and also to account the variances that has happened. Introducing standard cost accounting in the existing system environment involves opening ledger accounts for accounting the variances apart from the nominal accounts already in use for expenses. For example, in integrated accounting when materials are received the ledger entry would be:

Stock Control A/c.	Dr.
To Creditors A/c.	

Now, supposing standard cost accounting is employed by a business unit and the standard purchase price fixed for material X is Rs. 80 per piece, the accounting entry for purchase of 20 pieces of material X at an actual price of Rs. 82 will be:

Stock Control A/c.	Dr. Rs. 1600	
Material Price Variance A/c.	Dr. Rs. 40	
To Creditors A/c.		Rs. 1640

So the stock is accounted at standard price and the subsequent issues also will be at standard price; the price variances are separated from stock accounting. Similarly, at the issue stage, the work-in-progress account is charged only with the standard quantity of material and the difference in usage, if any, is charged to a material usage variance account at the standard price. Similarly for accounting of labour and overhead variances, ledger accounts are opened to show the various variance transactions.

In TDA, transactions are recognised as distinct from ledger accounts, which are the effects of transactions. Variances are only events and not the effects, and in TDA they are recorded as transactions of different types like:

Material price variance
Material mix variance
Material yield variance
Labour rate variance
Labour yield variance
Labour idle time variance
Labour gang variance
Variable O/H cost variance
Fixed O/H expenditure variance
Fixed O/H capacity variance
Fixed O/H calendar variance
Fixed O/H efficiency variance.

The effects of these variances depend upon the practice followed by the business unit and may vary from organisation to organisation.

In Appendix-1, expense transactions are grouped in three distinct stages namely pooling, utilisation and absorption; each variance transactions listed above will pertain to one specific stage as shown below:

Material price variance	Pooling stage (Purchase stage)
Material mix variance	Utilisation stage (Issue stage)
Material yield variance	
Labour rate variance	
Labour yield variance	
Labour idle time variance	
Labour gang variance	
Variable O/H cost variance	Absorption stage
Fixed O/H expenditure variance	Absorption stage
Fixed O/H capacity variance	
Fixed O/H calendar variance	
Fixed O/H efficiency variance	

All these events can be easily accommodated in the transaction list.

To illustrate this aspect, in the exercise of Appendix V, the overhead variances viz. capacity, expenditure and efficiency are accommodated. Favourable variances, if any, can be recorded as a minus entry as shown against the overhead expenditure variance in that exercise. Another exercise on variance transaction is shown below:

Exercise 8.1

Norms & Co. employs standard cost accounting for costing its products. According to the practice followed by the company, the variances are charged to Profit & Loss account. Following are the direct material and labour cost variances of July 1997:

	Amount (Rs.)

1)	Material price variance	2,800	(Favourable)
2)	Material mix variance	500	(Adverse)
3)	Material yield variance	3,300	(Adverse)
Total (M.C.V.)		1,000	(Adverse)
4)	Labour rate variance	1,400	(Adverse)
5)	Labour efficiency variance	2,600	(Favourable)
Total (L.C.V.)		1,200	(Favourable)

Show the effects of these transactions in the accounting books of Norms & Co.

Answer

1) Material price variance (-) Rs. 2,800
   - Dr. Profit & Loss A/c. (-) Rs.2,800
   - Cr. Stock A/c. (-) Rs. 2,800

Note:

i) When material purchase is accounted, the stock A/c. and creditors A/c. respectively are debited and credited with the actual amounts. With the above entry, the value of stock is corrected at standard price.

ii) This is considered as a pooling stage transaction and variance is directly transferred to Profit & Loss account without being routed through Expense-in-process account.

iii) The material price variance is favourable and so the magnitude of transaction is a negative amount. When an account is debited with a minus figure, in effect, the account gets a credit effect.

2) Material mix variance (Rs. 500)
   - Dr. Profit & Loss A/c.
   - Cr. Work in progress A/c.

(Considered for accounting at utilisation stage)

3) Material yield variance (Rs.3,300)
   - Dr. Profit & Loss A/c.
   - Cr. Work in progress A/c.

(Utilisation stage accounting entry)

4) Labour rate variance (Rs.1,400)
   - Dr. Profit & Loss A/c.
   - Cr. Expense in process A/c.

Note: In case of material purchase accounting, Expense in process A/c. was not involved and there the price variance accounting was done without any effect to the pooling account. But when wages is accounted the Expense in process account will be debited necessitating adjustments to Expense in process account for variances. After the adjustment of rate variance, the net debit to

Expense-in-process account will be at standard rate of wages.

Labour rate variance is a utilisation stage transaction.

5) Labour efficiency variance (-) Rs. 2,600
   → Dr. Profit & Loss A/c. (-) Rs.2,600
   → Cr. Expense in process A/c. (-) Rs. 2,600

8.2 TDA & BUDGETING

Budget can be stated as a blueprint, a plan of action for a definite future period. The definition itself points to the need and usefulness of budgeting. Budget motivates and gives directions to pursue the plans. It is again a yardstick to compare results and a powerful tool to control. So it is just natural to observe meticulous budgeting and budgetary controls practiced by most of the successful business units.

Budget can be classified differently. Budget can be debated and discussed at length. Such a detailed classification or discussion is not attempted here, notwithstanding the importance of budgeting. The classifications and brief discussion made here are in relation to three dimensional accounting, as to how TDA facilitates the budgeting and budgetary control tasks.

LONG-TERM AND SHORT-TERM BUDGETS

Based on the period covered, budget may be classified into:

i) Long-term plans being summary of activities for periods extending to more than one year.

ii) Short-term plans being detailed plan of actions for shorter future periods. Budgets extending upto an year may be loosely termed as short-term budgets.

Short-term budgets have greater significance and effectiveness when budgeting is used as a tool for management and operational controls. Yearly budget may not be suitable to exercise effective control. Still shorter period budgets like monthly, weekly or even daily budgeting need to be made so that control will be closer to action. Few short period budgets will be discussed later in this section. Chapter-IX may be referred for meaning of the terms management control and operational control.

MASTER AND COMPONENT BUDGETS

Based on details contained, budgets can be classified as Master budget and component budgets.

Master budget is a consolidated budget of all the functional budgets of an entity. An entity is characterised by financial equilibrium, an equilibrium in the value of assets and liabilities at any point of time. Financial equilibrium is the end result of activities performed by an entity. When the future actions are governed by a budgeting system, the activities or transactions are

budgeted and when all the budgeted activities during a period are consolidated, it will be the statement of financial equilibrium of the entity at the end of the budget period. So it is appropriate to equate the budgeted financial equilibrium as the master budget of an entity.

Master budget consists of many types of assets and liabilities and the same can be grouped as shown in Figure 8.2 (1).

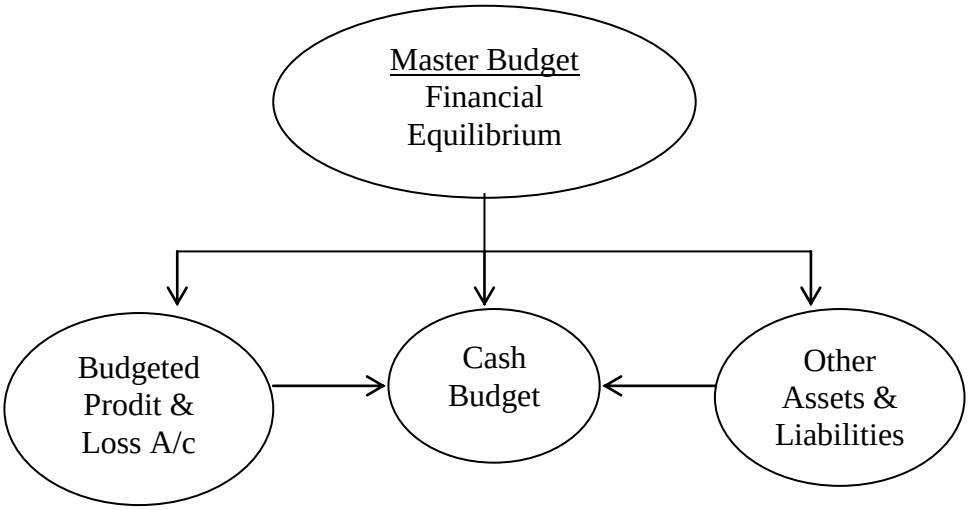


Figure 8.2 (1): Main constituents of Master Budget

The constituents of the master budget can be further broken down and the process can be continued till the activities at the operating level are reached. This leads to the concept of component budgets which are detailed budgets covering the activities of functions and sub-functions of an entity. For example, sales is one of the items of the budgeted profit and loss account and may be just one figure in financial terms. The figure is a consolidated amount of all the sales that will be effected at the grass-root level. The item can be traced back to its component budgets as shown below:

Profit & Loss A/c. ⟶ Sales ⟶ Product-wise sales ⟶
Depot-wise sales ⟶ Salesman-wise sales ⟶ Dealer-wise sales.

Here sales budget can be stated as a component budget of budgeted profit and loss account, product-wise sales budget can be stated as a component budget of sales budget and so on. Quantitative data are increasingly used in component budgets.

THE BUDGET PROCESS

Budgeting involves the projection of future actions. Past data form the basis and is suitably modified for expected future changes. A mere projection of past data to future will not serve much useful purpose. Budget must be backed by a sound action plan for each of the activities of the organisation. It is here that TDA matters. In TDA we have:

a) Transactions:

- classified between cash and non-cash transactions

- classified between income and expense transactions and other transactions
- financial transactions linked to transaction drivers

b) Financial equilibrium consisting of the balances of various assets and liabilities of the entity.

(Transaction drivers are explained in Section 9.2.5 which may be referred)

So each item in the budget will be supported by operating level transactions and the process will be much more meaningful than a mere guess work. Let us consider the process involved in the preparation of the three constituent budgets of the master budget shown in Figure 8.2 (1). The figures 8.2 (2) and 8.2 (3) nearly resemble the process.

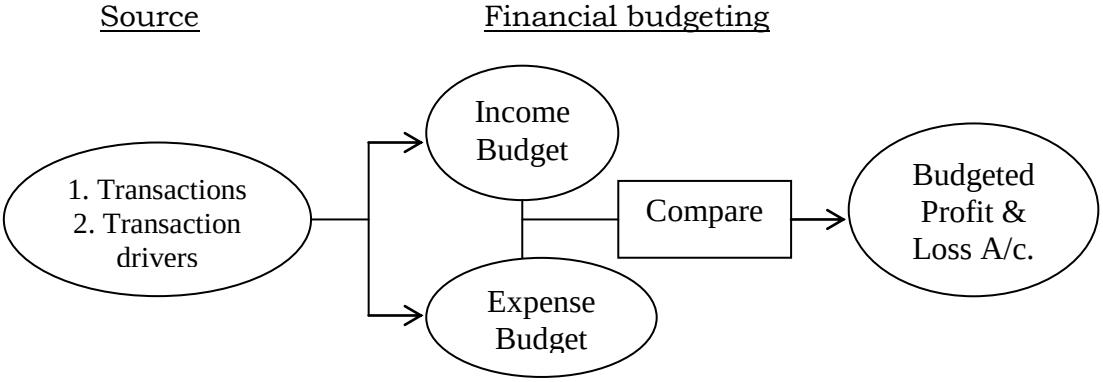


Figure 8.2 (2): Budgeting Profit & Loss A/c.

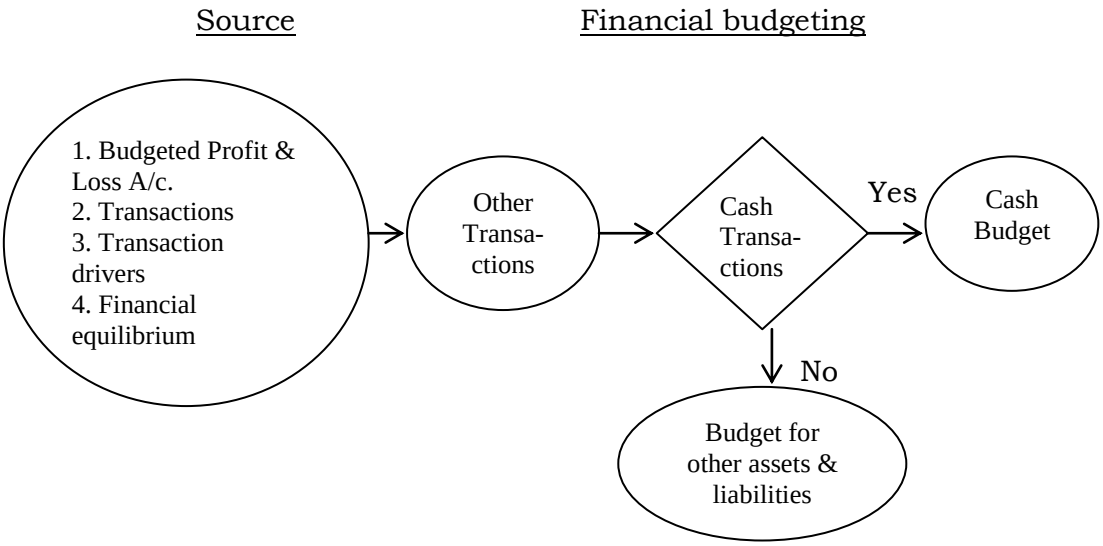


Figure 8.2 (3): Budgeting Cash and other assets & liabilities

We know that transaction-wise recording is a distinguishing feature of TDA, which is not the case in double-entry accounting system. Even in case of revenue and expense transactions, one can find many transactions left out for distinct recording in double-entry. And with respect to transactions that affects only the balance sheet items, the transaction recording distinctly of effects can be found only in TDA. Distinct recording helps the budgeting and budgetary control tasks that each figure of budget and actual results are explained sufficiently with the help of supporting transactions.

BUDGETARY CONTROL PROCESS

Budgetary control process involves the setting of budgets, comparing the actual figures with budget, analysis and corrective actions where necessary. Transaction recording of TDA make the tasks easier. This is explained below with the help of few short-term component budgets.

Let us assume a budget for a balance sheet item, Debtors. When double-entry accounting is practiced, the budgeting preparation may be like:

Budgeted credit sales April 1998	Rs. 29,00,000
Credit period (average)	30 days
Budgeted Debtors balance 30.04.1998	Rs. 29,00,000.

Now, supposing that the actual balance as on 30.04.1998 is Rs. 35 lakhs, how do we explain this? We have to derive the transactions that has taken place in the Debtors A/c. Opening and closing balances are known and the amount of credit sales can be taken from the sale book. These figures are available without any difficulty, but is that the case for the transaction 'collection from debtors'? One may be contented with the collection figure derived from the following formula:

Collections = Opening balance (+) Credit sales (-) Closing balance.

In the absence of other transactions in Debtors A/c., the figure for collection derived in this way will be correct. One may also say that the amount of other transactions will be negligible. May be true, but the fact remains that the transaction recording in TDA helps the easy compilation of the budgeted transaction amounts vis-à-vis the actual figures and in this process, there will be no guess work.

Now let us assume the practice of TDA and see how the budgetary control of debtors take shape. Budget for April 1998 will be as given in Table 8.2 (1).

Table 8.2 (1) : Budgeted Debtors for April 1998

Budgeted Debtors A/c. – April 1998 (Rs. in lakhs)	
Opening balance 1.4.1998	36.00
Add: Credit sales	29.00
Sub-total	65.00
Less: Collections	36.00
Closing balance 30.04.1998	29.00

The actual balance was Rs. 35 lakhs and there is a deviation from the budgeted figure. Since the transactions are recorded, a summary of Debtors ledger of April 1998 can be output and when the figures are juxtaposed with the corresponding figures of budget, the same will be a meaningful analytical statement. Debtors account of April 1998 with hypothetical transactions and figures is shown in Table 8.2 (2).

Table 8.2 (2): Debtors Account – April 1998

Debtors Account – April 1998	Budget (Rs. in lakhs)	Actual (Rs. in lakhs)
Opening balance 01.04.1998	36.00	36.00
Add: Credit sales	29.00	30.00
Cheques dishonoured	-	3.30
Credit balance refunded	-	0.20
Sub-total	65.00	69.50
Less: Collections	36.00	34.00
Cash discount	-	0.50
Sub-total	36.00	34.50
Closing Balance 30.04.1998	29.99	35.00

There is some insight which may induce the controller to probe further which he may be doing by a customer-wise statement output as per the form given in Table 8.2 (3).

Table 8.2 (3): Customer-wise Statement of Debtors

Customer-wise Debtors Statement – April 1998							
Name of Customer	Opening Balance 01.04.98	Sales	Cheque dis-honoured	Cr. Balance refunded	Colle-ctions	Cash Discount	Closing Balance 30.04.98
TOTAL							

The position with respect to each individual account is clear now to take corrective actions, wherever felt necessary. Similar analytical exercise is possible for other assets and liabilities also to effectively control the activities.

Another example of component budget is Material cost budget, which is a budget at the utilisation stage of expense transaction. As all transactions are captured, a budgetary control report output from a TDA system will resemble the one shown in Table 8.2 (4). Transaction recording facilitates meaningful reporting and effective controls.

Table 8.2 (4): Material cost budget

Material Cost Budget : Month - _____			
Particulars	Budget	Actual	Variance
Direct Material			
Job 1			
Job 2			
Job 3			
Indirect Material			
S.O. No. 1			

S.O. No. 2			
S.O. No. 3			
Material shortages			
Material excesses			
Material scrapped			
Total			

It may be noted that the booking of costs according to jobs and standing orders is practiced in existing cost accounting systems also. So when the last three transactions namely material shortages, material excesses and material scrapped are also considered as standing orders, no difference is felt between the standing orders of cost accounting and the utilisation stage transactions of three dimensional accounting system. Difference however will be felt between the systems when accounting the costing transactions namely the transactions of the absorption and proration stages distinctly of ledger accounts.

8.3 TDA & ACTIVITY BASED COSTING

A broad outline of how ABC will function in TDA is given below:

The first three steps involved in accounting costs are pooling, utilisation and absorption, although for some costs, as discussed earlier not all the three steps are involved. Pooling is the initial stage of accounting a transaction and there is no difference in pool accounting whether traditional cost accounting or ABC is in operation. The difference in ABC is felt at the second stage i.e. utilisation or issue stage of accounting.

In traditional cost accounting, issues or utilisation are identified with the jobs in case of direct costs and in case of indirect costs, they are identified with cost centres and standing order nos. For ledger accounting, indirect costs are grouped according to the functional classification. In ABC, the identification of costs is made to activities in place of standing order numbers and since the activities cut across functional divisions they are not identifiable with the functional classifications. Activities are identifiable with business processes. To facilitate subsequent absorption of cost identified with activities, in ABC, activities for which a common absorption rate is applicable are pooled together in activity pools. It can be observed that in ABC, activity pools are substituted for functional overhead ledger accounts. ABC, in TDA environment can be accomplished by considering the activities as the utilisation or issue transactions and the transient effects of this will be to the debit of activity pools cost-in-process accounts.

Activities are the second stage events or transactions and are identifiable with the activity pools and hence a one-to-one relationship exist between the activities and the effects. Similarly for absorption stage, the transactions are absorption, activity pool wise or other convenient classification to facilitate absorption and under/over absorption. Obviously the effects of these transactions will be either to the jobs or to the profit and loss account.

8.4 TDA FOR SERVICE ORGANISATIONS

There are various categories of service organisations or service providing organisations. Some of the organisations are solely engaged in providing services, some are predominantly so engaged and many may be providing services as an ancillary function to their main function. Again some organisations are profit motivated while others may be charitable. Irrespective of the nature and type of the service organisation, the basic financial characteristics of an entity are applicable to the service organisations as well. These characteristics are the foundation upon which the principles of TDA are developed and so similar to the case of manufacturing organisations, TDA is suitable and desirable for service organisations as well. The financial characteristics of an entity were discussed at length earlier, nevertheless, they are briefly stated here:

Static Truth: Financial equilibrium of an entity is the static truth.

Dynamic Truth: Each financial transaction has a dual effect on the financial equilibrium of an entity. The transactions are distinct from

effects and the effects are complementary to restore a financial equilibrium after every transaction.

The nature of many transactions in service organisations are different from the transactions of manufacturing organisations. Again the nature of assets and liabilities also may differ between the two types of organisations. However these differences are not detriment to the operation of TDA. For service organisations also, the transactions shall be distinctly recorded from the effects and the magnitude of transactions during a period along with the ledger balances at the end of the period constitute the source for reports.

Exercise 8.4

Given below is the summary of Cash & Bank book of ABC School for the academic year 1995-96:

Cash & Bank Book summary 1995-96: ABC School

	Amount (Rs.)	Amount (Rs.)
Opening balance		18,700
Receipts:		
Fees	2,29,300	
Grant	40,000	
Donations	48,900	
Furniture sold (book value – Nil)	1,700	
Auditorium rentals	14,800	3,34,700
Payments:		
Salaries	1,65,000	
Repairs	27,300	
Meals	41,900	
Annual function expenses	8,600	
Stationery	11,200	
Other expenses	31,400	
Library books purchased (Fixed asset)	4,700	
Investments made	20,000	
Earlier year provisions paid	13,500	3,23,600
Closing balance		29,800

The School accounts fees on cash basis, however provisions are made for outstanding expenses. No credit transactions are entered into and ledger accounts are written only at the year end. Following data are available:

i) Expenses outstanding at year-end:

Salary Rs. 13,600
Repairs Rs. 1,700

ii) Depreciation for 1995-96: Rs. 12,000.

iii) Financial equilibrium at the beginning of 1995-96 consists of Cash & Bank balance and the following items:

Fixed assets (Net block)	Dr. Rs. 1,67,000
General Fund	Cr. Rs. 1,72,200
Creditors (for provision)	Cr. Rs. 13,500

Required to:

1) Prepare an Income & Expense statement of 1995-96.

2) Show the ledger account posting and financial equilibrium at the end of the year.

Answer

1. Income & Expense A/c. of ABC School for 1995-96

	Amount (Rs.)	Amount (Rs.)	Remarks
Income		3,34,700	(All the receipts, in this case, are income)
Expenses			
Salary	1,78,600		
Repairs	29,000		
Meals	41,900		
Annual Function expenses	8,600		
Stationery	11,200		
Other expenses	31,400		
Depreciation	12,000	3,12,700	
Excess of income over expenditure		22,000	

2. Ledger accounting at year-end (Transactions & effects)

i) Income (Rs. 3,34,700)
→ Dr. Cash & Bank A/c.
→ Cr. Income & Expenditure A/c.

ii) Expenses (Cash) Rs.2,85,400
→ Dr. Income & Expenditure A/c.
→ Cr. Cash & Bank A/c.

iii) Expenses (Provisions) (Rs.15,300)
→ Dr. Income & Expenditure A/c.
→ Cr. Creditors for provision A/c.

iv) Depreciation provided (Rs.12,000)
→ Dr. Income & Expenditure A/c.
→ Cr. Fixed Asset A/c.

v) Earlier year provisions paid (Rs.13,500)
→ Dr. Creditors for provisions A/c.
→ Cr. Cash & Bank A/c.

vi) Excess of income transferred (Rs.22,000)
→ Dr. Income & Expenditure A/c.
→ Cr. General Fund A/c.

vii) Library books purchased (Rs.4,700)
→ Dr. Fixed Assets A/c.
→ Cr. Cash & Bank A/c.

→ Dr. Investment A/c.

viii) Investments made ———
(Rs.20,000) → Cr. Cash & Bank A/c.

After giving effects of the above transactions, the financial equilibrium of ABC School will consist of the following items:

	Amount (Rs.)
Assets	
Cash & Bank	29,800
Investments	20,000
Fixed Assets (Net block)	1,59,700
	2,09,500
Liabilities	
General fund	1,94,200
Creditors (for provision)	15,300
	2,09,500

8.5 TDA FOR SMALL ENTITIES

Accounting can be stated as having universal applications. It is applicable for business and charitable organisations. It is applicable irrespective of the size of the entity. The expediency of TDA in small entities is the subject of discussion in this section.

Three Dimensional Accounting involves the recognition and accounting of the three dimensions of a transaction. Compared to this, double-entry accounting system involves the accounting of only two dimensions and appears to be a better proposition especially for small entities. We shall not, at this stage, make any arbitrary conjectures, instead we shall have a more clear view of the accounting environment of small entities.

For the financial year 1997-98, the year of my starting practice as Cost Accountant, I was conceptualising the accounting books to start with. The volume of transactions was not expected to be large and two elaborate a system of accounting was not felt needed. I decided to maintain two registers, one to serve as the cash book (with cash and bank columns) and the other to be used as the ledger. Non-cash transactions were not expected, except two or three such transactions at the year-end. Therefore, no separate journal book was provided.

Transactions were recorded in cash book chronologically in either the debit or credit columns as the case may be. Every month the cash book (cash and bank account) was closed and in the next page of the cash book itself, a summary of the cash & bank transaction was made; the summary was prepared as per the format shown in Figure 8.5. At no point of time during the year, the need of posting the transaction to the ledger accounts was felt and consequently, the ledger remained unutilized. Of course, for transaction-wise summary, one has to pick up and total the entries in cash book for each transaction.

Particulars	Upto last month (Rs.)	This Month (Rs.)	Year to Date (Rs.)
Opening Cash & Bank Balance			

Add: Cash Inflow Transactions: (1) (2) (3) (4) Less: Cash Outflow Transactions: (1) (2) (3) (4)			
Closing Cash & Bank Balance			

Figure 8.5: Monthly summary of Cash & Bank Transactions

The summary is prepared month after month till the last month. The statement in Table 8.5(1) is taken from the summary statement for the month of March 1998.

Table 8.5(1): Transactions for 1997-98 (Figures changed)

			Rupees
Opening cash & bank balance (1.4.1997)			Nil
Add: Cash Inflow Transactions:			
(1)	Teaching income	20,000	
(2)	Certification income	3,000	
(3)	System assignment income	10,000	
(4)	Own contributions	50,000	
Sub-total		83,000	83,000
Less: Cash Outflow Transactions:			
(5)	Travelling expense	3,000	
(6)	Rent paid	10,800	
(7)	Electricity expense	1,500	
(8)	Professional expenses	2,100	
(9)	Books & periodicals	1,800	
(10)	Vehicle expenses	3,300	
(11)	Communication expenses	300	
(12)	Stationery expenses	600	
(13)	Telephone expenses	2,100	
(14)	Bank charges	200	
(15)	Miscellaneous expenses	300	
(16)	Fixed Assets purchased	23,000	
(17)	Telephone deposit	15,000	
(18)	Own withdrawals	8,000	
Sub-total		72,000	72,000
Closing Cash & Bank Balance (31.3.1998)			11,000

There were two non-cash transactions; the same were:

- Depreciation provided Rs. 3,000/-
- Teaching income (accrued) Rs. 2,500/-

The magnitudes of cash and bank transactions during the year are known, the non-cash transactions are also known. What more information I would like to have? Can these information be derived independently of ledger? Yes, and for the above case, the profit and loss report and balance sheet can easily be worked out as shown in Table 8.5(2).

It may be noted that the items listed against (1) to (18) of the summary are the transactions and not ledger accounts although in case of transactions pertaining to income and expenses, the transactions are synonymous with the traditional ledger accounts.

Table 8.5(2): Profit & Loss A/c. and Balance Sheet

(i)	Profit & Loss Account		
	Income transactions (items 1 to 3 plus the accrued teaching income)	Rs. 35,500	
	Less: Expenses (items 5 to 15 plus the depreciation provided)	Rs. 29,000	
	Net Profit	Rs. 6,500	(Cr.)
(ii)	Capital Account		
	Own contribution (Item No. 4)	Rs. 50,000	
	Less: Own withdrawals (Item No.18)	Rs. 8,000	
	Net Amount	Rs. 42,000	(Cr.)
	TOTAL LIABILITIES	Rs. 48,500	(Cr.)
(iii)	Fixed Assets		
	Fixed assets purchased (Item No.16)	Rs. 23,000	
	Less: Depreciation provided	Rs. 3,000	
	Net Block	Rs. 20,000	(Dr.)
(iv)	Receivables		
	Telephone deposit (Item No. 17)	Rs. 15,000	
	Accrued teaching income	Rs. 2,500	
	Sub-total	Rs. 17,500	(Dr.)
(v)	Cash & Bank (as per summary)	Rs. 11,000	(Dr.)
	TOTAL ASSETS	Rs. 48,500	(Dr.)

In the above case, ledger accounting could be postponed till the end of the year and ledger accounts are meaningfully derived from the transactions. So the three dimensions are taken care of with much ease and information. This may be a very simple case, but simplicity is characteristic of small entities. There may be little more complexities in other cases, but the principle of TDA can be put through easily. Few points are worth noting here:

(i) For the above case, it was the initial year of operation and therefore, there was no opening ledger balances. When opening balances exist, the same will be the starting point to add or deduct thereon the transactions to arrive at the closing ledger balances.

(ii) There was no personal accounts or stock accounts in the above exercise. In case personal accounts or stock accounts are involved, we cannot avoid the posting to the individual accounts nor can we defer the posting to a later stage. In these situations, at least for those

transactions effecting personal and stock accounts, transaction-wise posting need to be carried out.

(iii) Except the transactions against item Nos. 4,16,17 and 18, other transactions pertain to either income or expense transactions and resemble the ledger accounts of double-entry system. The distinction between TDA and double-entry accounting system in the above case seems to be very narrow. This may not be the case for other entities.

In TDA, many of the transactions need to be posted only from the transaction summary for a period. Again posting need not be for each transaction total; many transaction can be grouped for the purpose of posting. For example, there are only two distinct posting to the Profit & Loss Account of Table 8.5(2); one for the total income during the year and the other entry for the total expenses, which is the total of 12 transactions during the period.

Hope the above illustration demonstrates, beyond doubt, the usefulness of TDA in small business units.

PARADOXICAL THOUGH IT MAY SEEM, THREE DIMENSIONAL ACCOUNTING APPEARS TO BE SIMPLER THAN THE TWO DIMENSIONAL (DOUBLE-ENTRY) ACCOUNTING.

8.6 SUMMARY

1. TDA supplements standard cost accounting by incorporating, in the list of transactions, the transactions pertaining to various variances.

2. TDA facilitates the budgeting and budgetary control processes. Especially with respect to the assets and liabilities of an entity, budget variances are more easily analysed when TDA is practiced.

3. TDA does not come in conflict with activity based costing. Activities are second stage (utilisation) transactions and ABC is accomplished if standing order numbers are substituted by activity numbers and functional ledger accounts substituted by activity pools or other grouping for ledger accounting.

4. TDA is suitable for service organisations as well. Again, the principles of TDA are equally valid for small entities. This point is illustrated in Exercise 8.4 and Section 8.5.

8.7 REVIEW QUESTIONS

1. Discuss why overhead variances are transactions at the absorption stage.

2. Distinguish between activities and standing order numbers.

3. Name few utilisation transactions of a hospital.

4. For small organisations, ledger accounting can be dispensed with except perhaps at the month-end or year-end. Examine critically this statement.

5. Distinguish between master budgets and component budgets.

6. Assets and liabilities can be managed well if TDA is practiced. Examine this statement in the context of managing the suppliers' accounts.

7. Differentiate between:

   - Activities of an ABC system
   - Transactions of a TDA system.

CHAPTER – IX

TDA IN COMPUTER & MIS

CHAPTER CONENTS

CHAPTER – IX

TDA IN COMPUTER & MIS

9.0 INTRODUCTION

In the preceding chapters, we have discussed the concepts of TDA and how the concepts can be practiced for different transactions and for different types of entities. We have also discussed the method of generating various financial reports. Although reference to computerized accounting environment was made, the coverage seems to be too inadequate particularly because computerized accounting is the prevailing practice even in very small entities.

This chapter, however brief it may be, is devoted to explain TDA in computerized environment and how it facilitates the MIS requirements of an entity. Concepts are discussed in a logical way only at a broad level; minute details are felt undesirable and hence avoided here.

9.1 MODEL OF COMPUTERIZED ACCOUNTING SYSTEM

True, computer is a complex subject. Attempting to contain the intricacies of the subject seem to be impractical. Even if it is practicable, the need for such a detailed and jargonized discussion is not felt here. However, an attempt is made to synopsize the flow of accounting data in a computerized environment.

The three basic accounting steps are documenting, recording and posting and the documents corresponding to these steps are voucher, transaction book and ledger. In TDA, summarizing is also an accounting step. This was discussed earlier. In manual accounting, each step is accomplished by writing the corresponding documents and human effort was involved for wring each of the document. In a data base computerized environment, the writing task is only at the initial data input stage and the different outputs are derivatives of the data base thus created.

A simple model of the computerized accounting system is shown in Fig. 9.1.

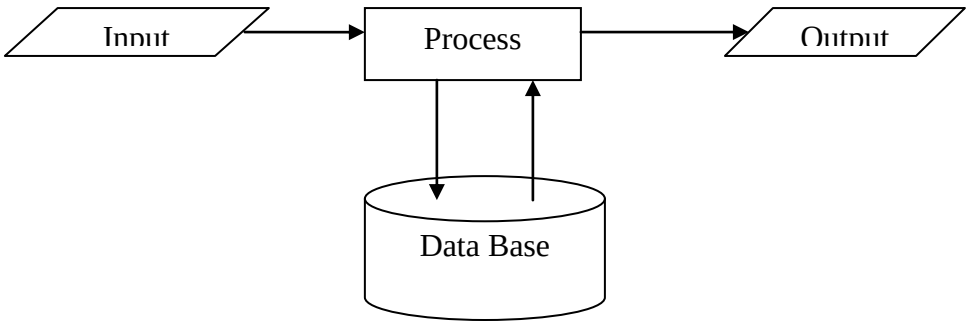


Fig. 9.1 A simple model of computerized accounting system.

The model consists of input / output units, a processing unit and the storage of accounting data referred in the diagram as ‘data base’.

Different transactions are input in the system. Data input are processed by following pre-defined concepts and methodology and the results are output from the system.

In the following sub-sections, the input, process, data base and output are briefly discussed.

9.1.1 Input

Transactions are input. This is the initial step of any accounting system. Whether it be double-entry system or TDA. The difference, however, in TDA is that transactions are distinctly recognised and recorded of ledger accounts. The process involved in transaction input in a computer system is illustrated in Fig. 9.1.1 (a) to (c):

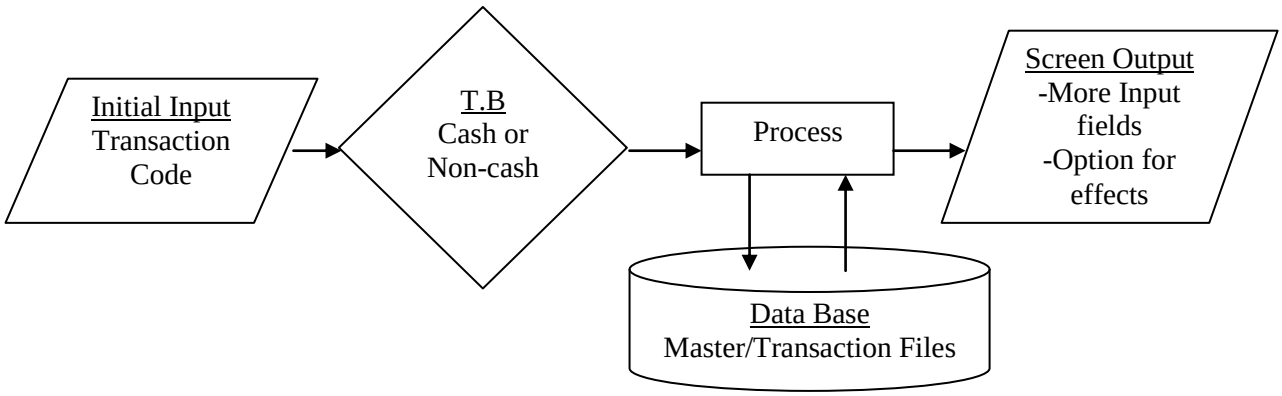


Fig. 9.1.1 (a) Initial Input

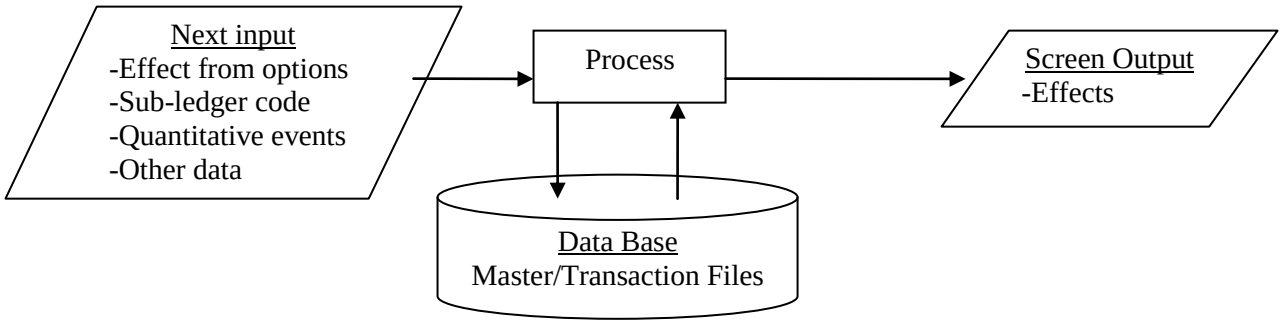


Fig. 9.1.1 (b) Next input

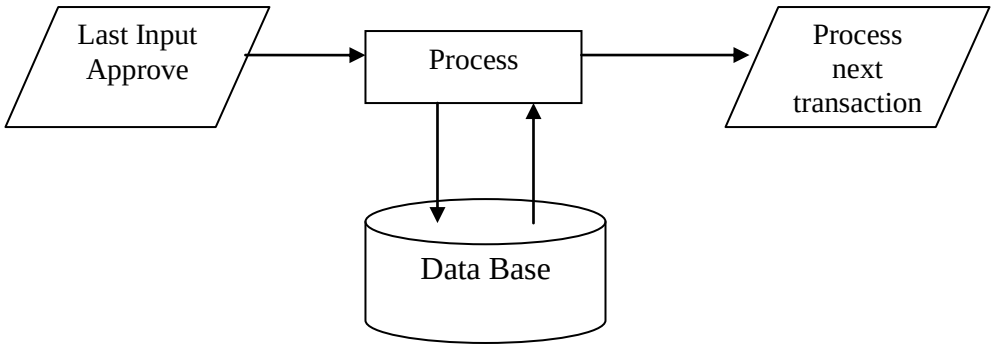


Fig. 9.1.1 (c)

By identifying the book of original entry (cash or non-cash transaction books), the effects are known for many of the transactions. For other transactions where either or both of the effects are not certain, the options with respect to the effects need to be displayed to facilitate easy selection. This is done when the transaction input is compared with the pre-defined parameters in the computer system.

At the second stage, as displayed in figure 9.1.1 (b) the input requirement may include the selection of an option for ledger account effected and the input of one or more sub-ledger codes. Again the information requirement of some transactions may be specific and many; for some others, it may be useful to input the related quantitative transactions also depending upon the information requirements desired.

Here the word input does not necessarily mean a manual input of data. It also means capturing of a data already available in a sub-system. For example, let us consider a proration stage transaction 'Goods produced'. The quantitative transaction related to this is the quantity of goods produced. So if there is a production sub-system, one need not input the quantity when the value is input. Conversely, the value accounting may be an integral constituent of the production sub-system and is integrated with TDA at the end of each month.

The transaction input is complete when the input is validated or approved at the last stage. The system will update the master and the transaction files and will be ready to process the next transaction, if any.

9.1.2 Process

In layman's words, the data is processed in system to generate the outputs. There is processing at the input stage and there is processing at the output stage also.

From what has been shown in figure 9.1.1, one can conceptualize the processing at the input stage. The transaction input is compared with the pre-defined parameters in system and when the input is validated, the master files and transaction files in the data base are updated.

The data stored in the data base are not in the report formats. They are in forms and mediums that are suited to the requirements of master and

transaction files in data base. So processing is required at the output stage to generate reports of desired format from the data available in data base files.

There may be multifarious sub-processes involved in 'Process'. We are deliberately avoiding the technicalities involved in the process and sub-processes so that there is no shift in our focus.

9.1.3 Data base

In data base management system, the data base constitute the store of data consisting of many data base files, few of which are called master files and others are the transaction files.

Master files

Master files contain master data, some of which are mostly data of a permanent nature. That is, the data contained therein does not change each time a transaction is input but which change when transactions relating to addition to or deletion of the items in master files are made. Few examples of such master files are Account code master, Employee master, Creditors account master, Stock item master etc.

There is another type of master file which is often referred as the balance master. Here, against each item, the balance (either quantity or value) is written in the master. So we can find the creditors balance, account balance master (trial balance), employee leave balance master etc. as examples of this category of master files. Now the question may arise how often the balance master need to be updated. There are two options.

(i) Update balance master after each related transactions,
(ii) Update balance master periodically, say every month-edn.

The first case can be referred to as on-line processing and when this is followed, the balance master represent the true balance at any point of time. In case of periodical updating of balance master, the balance master will be true only at the end of a period.

Transaction files

The transaction files accommodate different particulars of the transactions which are input in the system and are stored in different pre-defined columns or fields of the transaction file. Any number of fields can be determined and in-built in system depending upon the needs of the organization.

There may be many transaction files and with respect to the data contained therein the transaction files are similar to the structure of a transaction-book. Each transaction file contains different voucher entries, also known as records. The structure of a data base transaction file is illustrated below with the help of a hypothetical overhead transaction.

A record of an Overhead Transaction:

No *Fields* *Data*

1.	Record Number	0181
2.	Date	22-05-098
3.	Description – 1	Paid to M/s. XYZ
4.	Description – 2	Bill No: 36 dated 06-05-98
5.	Expense code (Pooling Stage)	080
6.	S.O. Number (Utilization Stage)	031
7.	Cost Centre Code	008
8.	Department Code	003
9.	Ledger account debited	056, 091
10.	Ledger account credited	002, 056
11.	Amount	Rs.3800

For the above case, there are altogether eleven fields (thirteen fields when utilization stage transaction is also considered) to record the data of an overhead transaction. Based on the input requirement and nature of the data, the characteristics of the fields can be stated as follows:

Fields 1 & 2	: The system may be automatically generating the number and date.
Fields 3 & 4	: These are descriptive input fields and are user discretionary within pre-defined character space.
Fields 5 to 8	: Input of codes from pre-defined schedules or master files
Fields 9 to 10	: In TDA the system may be automatically creating these fields by identifying the transaction and / or book of entry.
Field 11	: Input is a numerical figure

The point is that when the system identifies a particular field by a coding scheme as is the case for fields 5 to 10, any information with respect to these fields can be easily generated from the data base.

For example, in the case of overhead transactions, if desired, different reports expense code wise, standing order wise, cost centre wise etc. can be output from the system. But such is not the case for field numbers 3 and 4. Here the data input is not governed by a pre-determined master code list; the input is descriptive to nature and do not have a separate identity as its own.

In the above illustration, item nos. 5 and 6 are the events or the transaction respectively at the pooling and utilization stages and item nos. 9 and 10 are the effects of the transactions.

9.1.4 Output

Output from a TDA system includes the documents, records and reports as depicted in Fig. 9.1.4

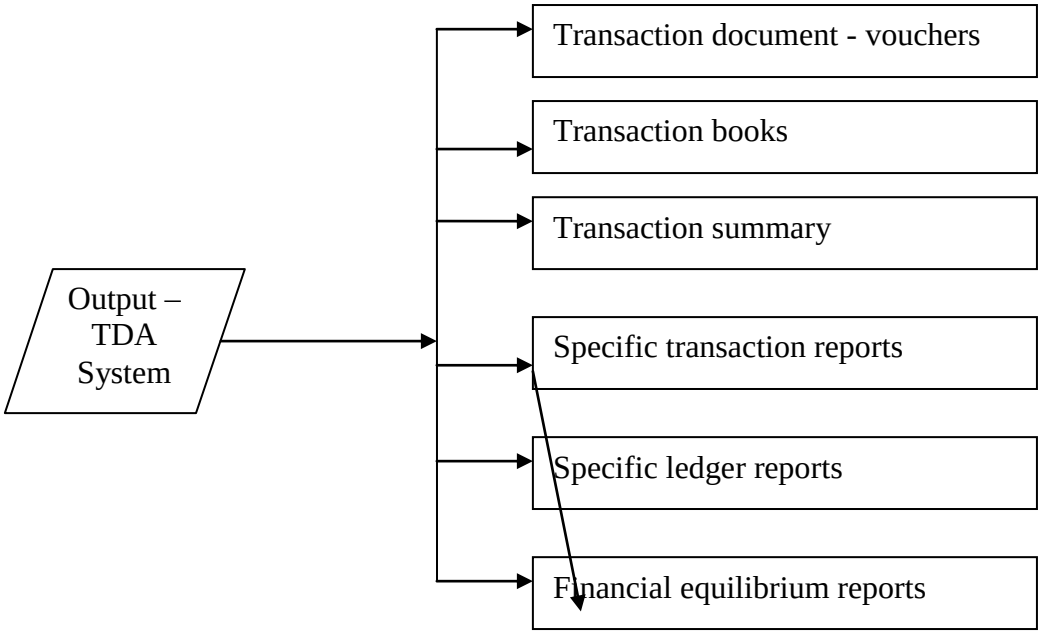


Fig. 9.1.4 Output of a TDA system

Comparing the output of TDA with that of the double-entry system, one can observe that the transaction summary and specific transaction reports are unique to TDA. The trial balance of double-entry system lists the balance of ledger accounts. Although this can be stated as a transaction summary with respect to the revenue and expense transactions, with respect to the entire financial transactions the entity entered into during a period, the trial balance is incomplete.

In the next section, management information system is briefly discussed at a conceptual level. Thereafter, few useful MIS reports from a TDA system are shown.

9.2 MANAGEMENT INFORMATION SYSTEM

The functions of a manager include planning and control. He needs to efficiently and effectively perform his functions for which availability of desired information is the key tool. Management information system (MIS) can be stated to include all those activities involved in providing information to various levels of management hierarchy.

An MIS designer should have a clear understanding of the management hierarchy and the information needs of the different levels. This understanding is a necessary per-requisites without which the MIS will not be very effective.

9.2.1 MANAGEMENT HIERARCHY

Management hierarchy is often described as having three levels of management namely the top manager, the middle level manager and the bottom level managers. Together they constitute a pyramid like structure as shown in Figure 9.2.1.

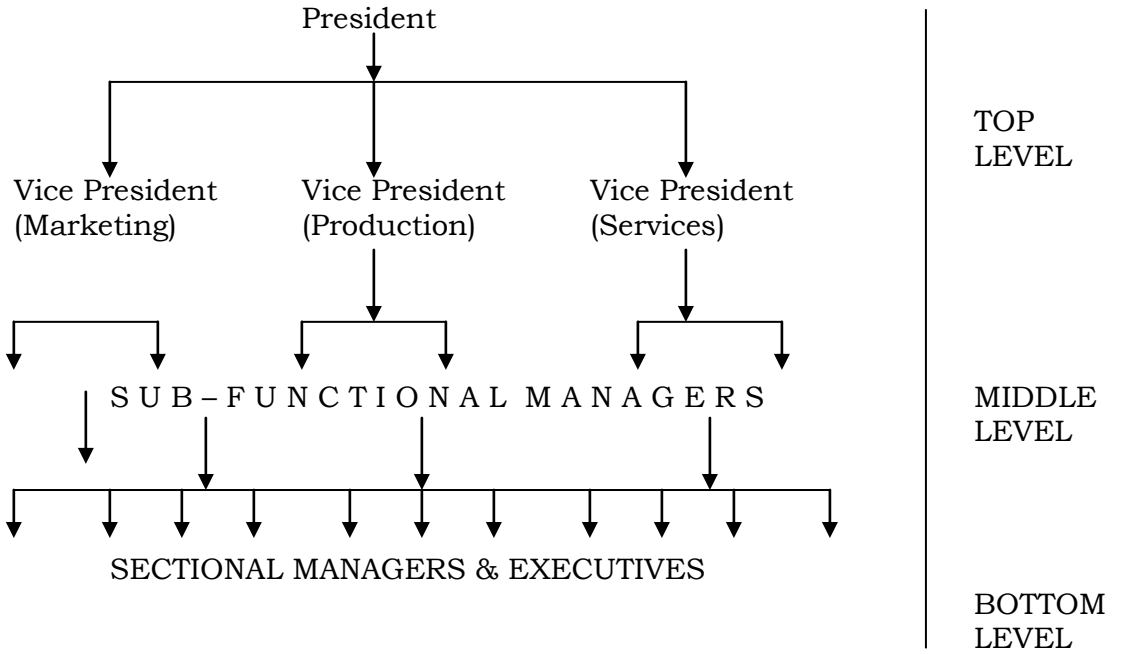


Fig. 9.2.1 Management hierarchy model of an entity

In this model, there are three major functional groups namely Marketing, Production and Services and each group is headed by a Vice-President. Along with the President of the entity they belong to the top management team and take all major decisions.

Next lower level of the hierarchy consists of sub-functional managers. So marketing function consists of many sub-functions like Sales, Distribution and Advertising, each headed by a middle level a manager specialized in the sub-function and reporting to the Vice-President (Marketing). Similarly for the other major functions also there will be many sub-functions headed by middle level managers.

The third and bottom level of management hierarchy consists of sectional heads. So reporting to Manager (Sales), one can find many Sales Executives with division of responsibilities according to geographic areas or customer or product divisions.

At the top, there are only very few level manager who has to control a wider base than the bottom level and they tend to be generalists. Towards the lower levels, the responsibility areas are more and more specific and the bottom level managers tend to be specialists of the tasks they handle. Between these extremes are the middle level managers who look after the functions or other divisions of an entity.

The pyramid structure is true for huge multi-divisional entities also, although one can observe several pyramids within the same organization. That is, there may be separate management structures for each of the divisional entities who function more or less independent of other divisions of the entity.]

9.2.2 MANAGEMENT FUNCTIONS

To manage is to plan, act and control. This is a continuous process and resembles the Figure 9.2.2.

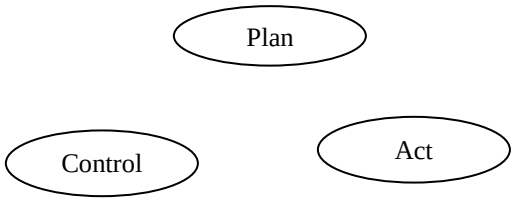


Fig. 9.2.2. The management function.

Planning involves deciding what to do and also how to do. Again planning may be for actions of immediate future or of a distant future.

Controls are of two types namely on-the-spot controls and control by use of reports. The former is direct and the later is indirect control. So when a shop worker is diligent in the use of raw materials, it can be said that he is exercising on-the-spot self control to avoid excessive wastages. Similarly, a shop supervisor can exercise on-the-spot controls by personally supervising the use of raw materials by the careless workers. These controls are direct and lead to instant efficiency in the use of raw materials.

Control by use of reports is different that there is no direct control as in the case of on-the-spot controls. Here there is a medium, i.e. reports, with the help of which the managers make his subordinates accountable for the tasks assigned to them. For instance, when a shop manager introduces a reporting system to compare the quantity of raw materials used against standards and holding the shop supervisor accountable for any abnormal variances, he is doing nothing but control with the help of reports.

Both the types of controls are essential and they supplement each other. A reporting system invigilates actions. On the other hand, on-the-spot controls sans proper reporting system do not motivate and the doers will be less enthusiastic.

Now, planning and control are the twin general functions of a manager. Managers at all levels do these functions. But the type of plans and controls differ between the different levels.

Top level managers have a wider base to control and to be effective, they cannot resort to meticulous control of each and every activity. They have to entrust detailed controls to lower levels, retaining broader level controls with them. Again short period results are of lesser importance than long-term achievements; they engage themselves more on long-term plans popularly known as strategic planning.

Long term planning is not an isolated process; it has, as its constituents, the functional plans. An entity may have many internal strengths and weaknesses too which the planners must know and consider the planning

process. Equally important is the study of external environment of the entity; the changes that are probable in the external environment may have favorable or adverse effects on the entity. Therefore the planners must also consider the probabilities of different events external to the entity.

The bottom level manager or the operational level managers exercise a type of planning and control quite different from the planning and control quite different from the planning and control of the top level managers. The operational manager's plans are short term for the forthcoming day or week and the controls are also short term coinciding with the short plan period. Obviously the information requirements at the operational level will be detailed and accurate expected in real time or within a short time. The management function of the operational level managers or executives is known as operation control; control assumes greater importance than planning.

We have seen that a gap exists between strategic planners and the operation executives. There is long-term strategic planning at the top and the operational executives exercise short period controls. Gap also exists due to overall planning and control at the top and specific controls at the operating level. For many other aspects also the gap prevails and is wide between the two levels. There will be much difficulty in functioning with only two extreme levels. An interface is what is required and that is exactly what the middle level managers are supposed to be.

The management function of middle level managers can be called as Management Control. The functional plans consist of sub-functional plans which are made for convenient and comparable intervals neither too long as in strategic planning nor too short as in operational controls. There will be an yearly budgeting further split into monthly detailed budgets and a level mangers concentrate more on periodic plans and its achievements; their information requirements will be periodic summaries, detailed analytical reports in case of variances from norms etc. in the area of their responsibilities.

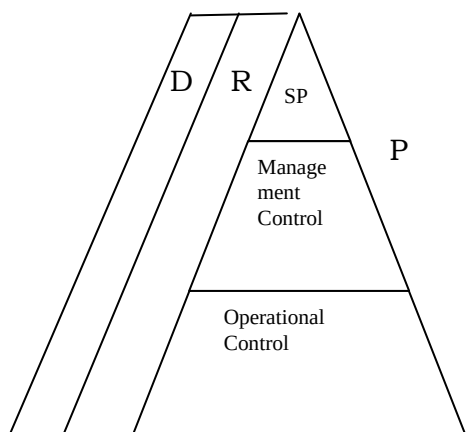
9.2.3 AN MIS MODEL

In the foregoing sections, we have briefly discussed:

(i) the tree levels of management hierarchy,
(ii) the general management functions, and
(iii) the features of specific management functions.

Since the type of planning and control exercised at the different levels are different, naturally, the information requirements will also be different. An ideal MIS shall take care fo the specific needs of all levels.

A sample MIS model is shown in Figure 9.2.3; the explanation thereto is also made in simple terms avoiding the usage of computer jargons.



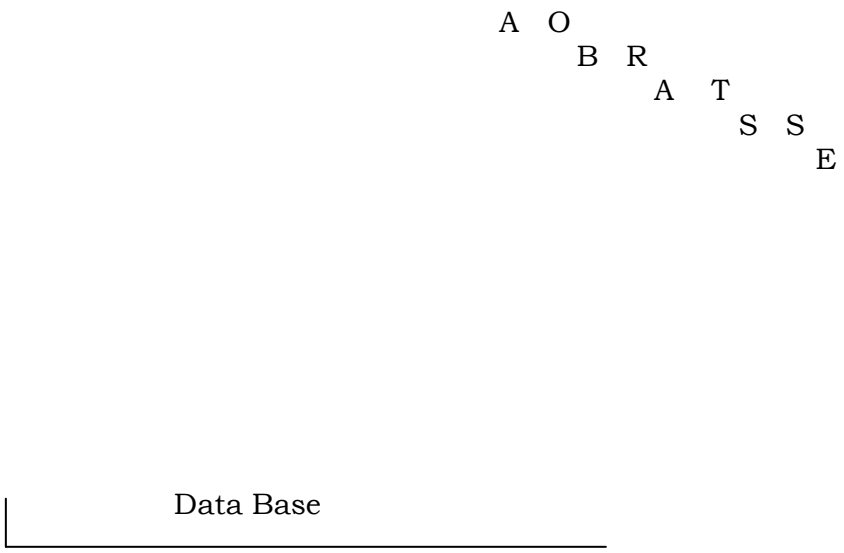


Fig. 9.2.3 An MIS Model.

The pyramid structure corresponds to the management hierarchy and the specific functions of the three levels are inscribed therein.

Managers need information to carry out their functions. Necessary infrastructure is to be created which, in a computerized environment, consists of the hardware and the software. Transactions are input to constitute as the data base, a store house of data and a potential source to equip the managers with the desired information.

Here also there exists a gap. At the one side is the computer with all its potentials and at the other side are the managers with their information requirement. There must be an interaction which aspect is taken care of by the transaction processing function. Transaction processing can be stated to include all those interacting activities which facilities the reporting system and includes the collection, input, output, enquiries, approval etc. of data.

Transaction processing should not be conceived as a function distinctly performed by some individuals. Although majority of the input task is carried out normally by the clerical staff, transaction processing is performed by all levels of the management. For example, when the production manager likes to know the availability of some vital spare parts, he interacts with the system to have a screen output of balance quantities. Several such instances can be stated; transaction processing permeates throughout the organization.

9.2.4 REPORT CHARACTERISTICS

Reports must be timely and reports must be useful in relation to the functions performed. A summary of report characteristics if given in Table 9.2.4

Table 9.2.4 Report Characteristics

Report Characteristic	*Strategic Planning*	*Management Control*	*Operational Control*
1. Contents	Summary	⟷	Detailed
2. Form	Non-standardized	⟷	Standardized

3. Time interval	Longer	⟷	Shorter
4. Accuracy	Less	⟷	More
5. Source	External		Internal
6. Transaction type	Financial & non-financial	⟷	Quantitative

As shown in the table, for management control, the report characteristics will be somewhat in between the report characteristics of the other two functions.

Too much information is not information at all; managers will probably get lost in the heap. On the contrary, too little information may lead to taking improper and sometimes hasty decision. Further, reports must be timely. What use will it be to know that huge bank balances remained unutilized for a long period? The knowledge will be of no use except in taking corrective steps to ensure that such lapses do not recur in future. Had the event correctly forecasted before its occurrence, the excess fun could have been deployed elsewhere profitably. Reports must be timely and at the same time appropriate to the management functions of the levels discussed.

9.2.5 TRANSACTION DRIVERS

In the preceding sections, we have discussed the fundamentals of an MIS in relation to the information needs of the three management levels. We shall now look into it in little more details in the context of three dimensional accounting system. This leads us to the concept of transaction drivers.

Data base consist of many master and transaction files and is the source of any reporting system. This is true irrespective of the accounting system practiced. However, TDA has a distinguishing feature that transactions are recorded separately of effects. Here lies the clue. Apart from the financial magnitude, one can notice one or more quantitative magnitudes relevant and related to each financial transaction. The transactions, both quantitative and financial, along with the effects of transactions constitute the source for a meaningful and effective MIS.

Transaction drivers are quantitative transactions (sometimes financial transactions too) that cause the magnitudes of financial transactions to vary although not in direct proportion. For instance, more the quantity of goods sold, more will be the value of sales. The quantity drives the value and one can say that the quantity of sales is a transaction driver for the value of sales.

The concept of transaction drivers is similar to that of cost drivers of activity based costing system. Whereas cost drivers cause the costs to vary, transaction drivers cause the magnitude of financial transactions, which includes the cost transactions also to vary. So the term transaction driver has a wider scope that all cost drivers are transaction drivers and not vice versa.

There are many classifications for financial transactions which were discussed in Chapter V. Similarly, the transactions drivers can also be classified in different groups. As transactions and transaction drivers co-exist and closely relate to each other, transaction drivers can also be classified similar to the classification of financial transaction. Such a classification is avoided for discussion here, instead a general classification showing the link that exist between the transaction and the transaction drivers is attempted below:

A transaction driver may be:

(i) the transaction itself in quantity
(ii) the number of times of the transaction
(iii) the number of times of an event related to the transaction
(iv) a related financial transaction

Examples are:

	Transactions	Transaction drivers
Category (i)		
Transaction in quantity	Sales (value)	Sales (quantity)
	Production (value)	Production (quantity)
	Wastage (value)	Wastage (quantity)
	Capacity variance (value)	Capacity variance (capacity unutilized)
Category (ii)		
No of times of the transaction		No of invoices
	Sales	No of withdrawals
	Cash withdrawn	No of collections
	Collection (debtors)	No of advances
	Traveling advances	No of repair orders
Category (iii)	Repairs to building	
No of times of an event related to the transaction		No of sales
	Sales returns	No of cheque collections
	Cheque bounced	No of tours
	Traveling advance	No of issues
	Store keeping expense	No of purchases
	Purchase returns	No of creditors
	Payment to creditors	
Category (iv)		Sales value
A related financial transaction	Sales discount	Sales value
	Commission	

Many other examples can be given. Transaction recording opens up a wide spectrum of possibilities for operational and management controls. One may contend that these information can also be derived from the existing accounting systems. True, but transaction recording instigates such probes and further the retrieval of these information will be easier when TDA is practiced.

9.2.6 FINANCIAL & QUANTITATIVE REPORTS

Reports can be broadly identified either as a financial report or a quantitative report although many of the reports contain both financial and quantitative data. Many financial reports were discussed earlier in Chapter VI. These reports pertain to profitability, financial equilibrium and fund flow of the entity and are useful tools for strategic planning and management controls. However for operational controls, quantitative and detailed reports will be much more demanding and useful especially so for shop floor controls. This does not mean that quantitative information is not of use to the top level nor does it mean that financial data will be redundant for operational controls.

The usefulness mentioned is only a relative phenomenon. Often a combination of both financial and quantitative information makes better and meaningful reports. It may be recalled that quantitative information are nothing but quantitative dimensions (transaction drivers) of financial transactions and a linkage between the two is an easier task when TDA is practiced.

Some of the key quantitative reports are those pertaining to quantity produced, sales and utilization of materials, labor and machines. An extensive coverage of all such reports is not intended here. Instead two arbitrarily selected reports are discussed here mainly with the idea to show the linkage that exists between the financial and quantitative transactions.

Let us assume a process industry, a dairy engaged in processing the raw milk purchased to produce three milk products namely:

(i) Standardized milk in pouch,
(ii) Milk powder, and
(iii) Ghee.

The initial process of the dairy is 'milk process' where the raw milk is pasteurized and standardized (two activities in milk processing) to suit the input requirements of the subsequent processes. The milk flow of the milk process section is shown in Fig. 9.2.6 (a) and the subsequent processes are shown in figures 9.2.6 (b) to 9.2.6 (d).

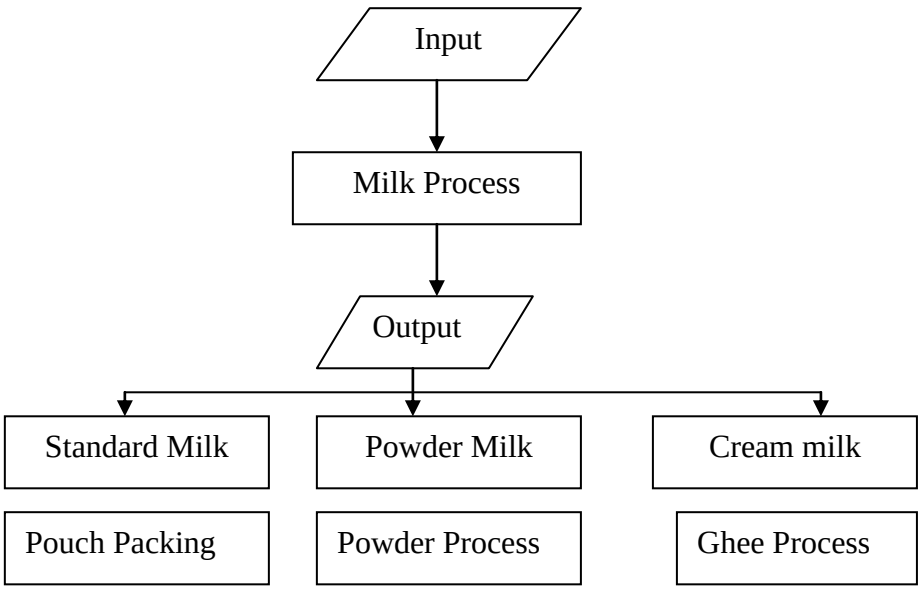


Fig. 9.2.6 (a) – Milk flow of Milk Process Section.

With respect to the Milk Process section, the flow of milk to and from the section constitutes one of the key quantitative reports; such a report is shown in Table 9.2.6 (1). Milk is expressed in terms of weight of milk as well as the

weight of milk solids contained therein, i.e. Fat and SNF (SNF stands for Solid Non Fat to include all ingredients in milk except the Fat).

Table 9.2.6 (1) – Milk Process Account – August 1998 (fig assumed)

Particulars	Budget (kg)			Actual (kg)		
	Milk	Fat	Snf	Milk	Fat	Snf
Opening Milk in process				2000	120	180
Add: Milk input						
Sub-total	60000	3600	5400	50000	3000	4500
Less: Closing Milk in process				52000 4000	3120 240	4680 360
Milk Processed	60000	3600	5400	48000	2880	4320
Milk Output						
Pouch Packing	5100	153	459	4000	120	360
Powder Process	54300	-	4887	42000	-	3780
Ghee Process	8527	3411	-	6500	2600	-
Total Output		3564	5346		2720	4140
Loss in Process						
Normal @ 1%		36	54		29	43
Abnormal		-	-		131	137

This report can be loosely stated as a report for management control which the production manager and sometimes the topmost manager of the dairy will be using.

For operation control, however, the milk the milk process in charge requires the information for shorter periods say on a day to day basis, and in greater details. This will enable him to exercise on the spot direct controls wherever such controls are felt. For example, if it is observed that the abnormal loss is on account of careless handling of milk at the receiving dock, the in-charge can organize suitable supervision at that control point. Or he might find that there were losses due to leakage in pipes, which he would avoid by securing the milk pipes leak-proof.

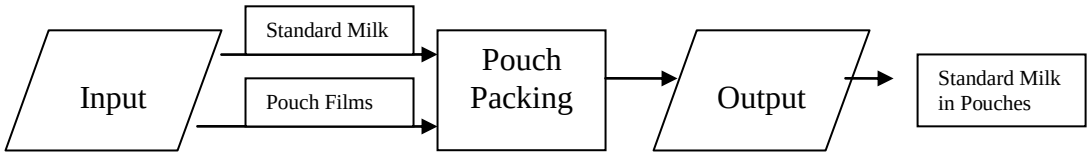


Fig. 9.2.6 (b) – Milk flow of Pouch Packing section

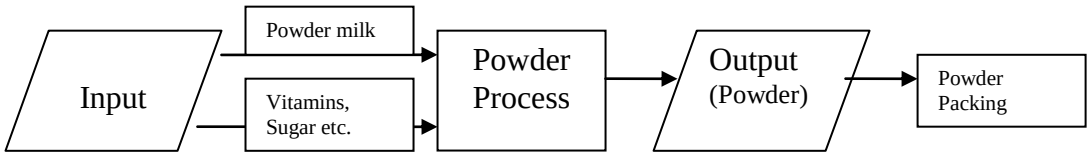


Fig. 9.2.6 © - Milk flow of Powder Process section

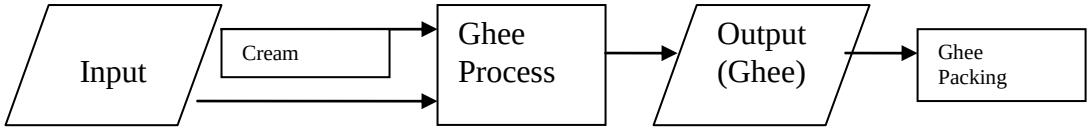


Fig. 9.2.6 (d) – Milk flow of Ghee Process section

In the subsequent processes, the processed milk is input along with other input that forms part of the product. The output is either the final packed product or the milk product yet to be packed in marketable sizes. For each section the quantitative report of milk as shown in Table 9.2.6 (1) will be helpful to exercise controls. In addition there should be reports of utilization of other inputs like the pouch films used in pouch packing section and the vitamins and sugar used in powder process.

Let us consider a simple quantitative report of pouch film consumption in pouch packing section. A sample report is given in Table 9.2.6 (2).

Table 9.2.6 (2): Pouch Film consumption – August 1998
(Figures assumed)

Particulars	Unit	Quantity		Value	
		Budget	Actual	Budget	Actual
(i) Milk packed (½ kg pouches)	No	10000	8000		
(ii) Pouch film consumption (Standard @ 4 gm per pouch of ½ kg milk)	Kg	32*	33.2		
(iii) Loss of pouch films	Kg		1.2		

*Standard adjusted for actual production of 8000 pouches.

At a glance we can affirm this report also as a control report. When the value is assigned in the last two columns, the financial effect of the actions will be known helping to appreciate further the need for proper control and plan accordingly.

The reports discussed here are sectional. But when we consolidate all the sectional reports of the dairy, the same will be a report of overall performance and will be helpful for the top management in deciding the future course of action in terms of quantity and value. Along with the external factors, strategic planning will take shape.

We have missed an important aspect, the aspect for which this section was stated to be, that is the link that existed between the quantitative and financial transactions. The events stated in the particulars column of the above tables are nothing but transactions of TDA. The only difference is that their magnitudes are given in quantitative terms. When a rate per unit quantity at standard or actual cost is applied, the same will be financial

transactions. A direct one to one relationship exist which is not the case in the existing accounting system where the ledger accounts are not transactions.

In Table 9.2.6 (3), the transactions or ledger accounts of TDA that corresponds to the items stated in the tables 9.2.6 (1) and 9.2.6 (2) are given. When a direct link exists, the TDA posting and report generation can be easier and automatic task.

Table 9.2.6 (3): Quantitative Transactions & TDA – the link

Sr. No	Item	Corresponding Item in TDA	Remarks
1.	Opening Milk in Process	Work-in-process A/C	This is the opening balance of WIP A/C (Sub-account: Milk in process)
2.	Closing Milk in process	-do-	Closing balance in WIP A/C (Sub account: Milk in Process)
3.	Milk input	Utilization transaction	
4.	Milk output to: -Pouch Packing -Powder Process -Ghee Process	Proration transactions	
5.	Normal Loss	-do-	
6.	Abnormal Loss	-do-	
7.	Milk Packed	-do-	
8.	Pouch Films consumed	Utilization transaction	
9.	Loss of pouch films	-do-	This is the usage variance for pouch films

The advantage resulting from such a link is obvious. Accounting will no longer be considered an affair separate from other activities of an entity. Each department will be participating in accounts related to their activities and will be able to better appreciate the entire exercise. Accounting permeates the entire organization and there will be an integrated approach to the development of accounting system.

9.2.7 Ledger Accounts

With the transactions inscribed therein, ledger accounts of TDA are easily understood.

Let us assume that a summary of creditor's ledger is submitted to the Finance Manager of a company. The summary so submitted is shown below:

Creditors Ledger – June 1998

	Rs. In '000
Opening balance	2,205

Add: Purchases	2,982
Sub Total	5,187
Less: Purchase returns	31
Payments	3,509
Discount received	18
Sub Total	3,558
Closing balance	1,629

Looking at the report, the Finance Manager feels skeptical of the effectiveness of monitoring creditor's accounts. He feels that although the payments made during June 1998 is substantial in relation to the opening balance and purchase, the discount received (for prompt payment) is a negligible figure. Now he desires to know the transactions that happened in each of the creditors account. TDA system accomplishes this by gathering a statement (figures omitted) as shown below:

Statement of Creditors – June 1998

Creditors name	*Opening balance*	*Purchase*	*Purchase returns*	*Payment received*	*Discount*	*Closing balance*
A B C						

As against the above statement, it may be noted that double-entry system can generate a statement of creditors with columns namely Opening balance, Debit amount, Credit amount and Closing balance.

Now the Finance Manager will be in a position to select few accounts to probe further for which he may need a transaction statement relating to the transaction 'Payment to Creditors'.

9.2.8 Transaction Statement

When transactions (or selected few transactions) are input, apart from the amount of transactions, other related aspects can also be input. If this is done, detailed transaction statements can be retrieved when desired. In the case of creditors account mentioned in preceding section, the Finance Manager can have a statement of payments with details as shown in the table below:

Statement of Creditor's payments – Selected parties

Date paid	*Creditor*	*Bill no & date*	*Due for payment*		*Goods received on*	*Amount (Rs)*	
			Discount	*No discount*		*Paid*	*Discount*

Many similar statements, that will help to carry out the operational and management control functions easier, can be generated from a TDA system. For transactions pertaining to income and expenses also, transactions reports in forms desired to suit the management needs can be created and output. Few useful reports on other transaction may pertain to the following transactions.

- Salary advance paid
- Cash withdrawn from bank
- Remittances from branches
- Advance to suppliers
- Loans repaid
- Credit balance refunded
- Cheques returned unpid

It may be noted that it is not impossible to generate these statements when double-entry system is practiced. But that will be Herculean task involving the retrieval of details from the primary documents. By a little effort at the initial recording phase, transaction processing is made easy and automatic in TDA.

MANAGEMENT OF REVENUE AND EXPENSES IS IMPORTANT. EQUALLY IMPORTANT IS THE MANAGEMENT OF ASSETS AND LIABILITIES OF AN ENTITY. TDA FACILITATES BOTHE THE TASKS.

9.3 SUMMARY

1. In computerized environment also, TDA starts with the input of transaction. Transaction masters identified each transaction distinctly of the effects of the transactions.
2. There may be many useful information related to many of the transactions. When transactions are input, related information are also input to constitute as a data base, a source for further retrieval whenever desired.
3. The output of TDA includes, among other reports, transaction summary and specific transaction reports.
4. the management hierarchy is often described in three levels namely:
    - Top level managers
    - Middle level managers
    - Bottom level managers
5. The general functions of a manager are to plan, act and control. Within the ambit of these general functions, there are specific functions attributable to the three levels of management hierarchy. A thorough knowledge of the general and specific functions is a pre-requisite in developing an efficient and effective MIS.
6. The management functions that are generally attributed to the three levels are:
    - Strategic planning
    - Management control
    - Operational control
7. The classification of the functions with the levels need not be construed rigidly. Top level managers also exercise management controls. Similarly, one can notice the involvement of middle level manager and

sometimes even the bottom level managers in the strategic planning process.

8. Report requirements for the different functions are different which are described in Section 9.2.4.
9. Transaction drivers are quantitative dimensions of financial transactions. The transaction drivers may be the transaction itself in quantitative terms or the number of times of the transaction or a related transaction. Transaction drivers elucidate the financial transactions and reports.
10. A report may be quantitative or a financial report or a combination of both quantitative and financial information. Two quantitative reports in the context of a process industry, a dairy, are illustrated in Section 9.2.6.

9.4 REVIEW QUESTIONS

1. How do the master files of a TDA system differ from that of a double-entry accounting system?
2. State the difference between transaction files and master files. New few examples.
3. What is meant by specific transaction reports? How will it be useful in exercising management controls?
4. For the following transactions, design useful fields for transaction files:
   (i) Payment to creditors
   (ii) Goods produced
   (iii) Abnormal losses in production
   (iv) TDS from contractors
5. Name the levels of management hierarchy. What functions are carried out at each level?
6. You are entrusted with the task of designing an MIS system for a manufacturing unit. What do you like to know before designing the reports?
7. TDA complements MIS and vice versa. Do you agree with this statement? Substantiate your answer.
8. In figure 9.2.6 ©, the input and output of powder process is shown. Design a monthly report for production manager enabling him to exercise management control on the following activities of powder process.
   (i) Production
   (ii) Usage of input.
9. Distinguish between strategic planning and management control. Do top level managers exercise management controls?
10. Design a monthly quantitative report for receipt and utilization of milk (in terms of Fat and SNF) for the dairy stated in 9.2.6 as a whole. The report is for use by the Managing Director of the dairy who is interested to know the overall efficiency of the production function.