#### **CHAPTER - ONE**

#### 1. INTRODUCTION

Nepal is one of the least developed countries in the world trapped in between two regional superpowers on the North by People's Republic of China the East, West & South by India. Nepal covers an area of 147,181 square kilometers, which accurse 0.3% are of Asia & 0.03% area of the world map. The length of the kingdom is 885 kilometers East- West and its breath vary from 145-241 kilometers North-South & average breath is 193 kilometers. About 31% of the total population is still below the poverty line. Various factors like landlocked situation, poor resource mobilization, lack of institutional commitment, erratic government policies, political instability etc are responsible for the slow face of industrial development in Nepal.

The history of industrialization is not long in Nepal, even though the first industry in Nepalese history is Biratnagar Jute Mill in 1993 B.S. and Nepal Bank in 1994 B.S. Taking in the account of industrialization process in Nepal it is quoted that "There was a good deal more of pre-industrial manufacturing activity during first decade of the last century. Then during the greater part of Rana period (Rishikesh Shah, 1972). During the period of Rana Regime other manufacturing enterprises such as Raghupati Jute mill etc. come into operation. After the thrown of Rana Regime efforts are being made to accelerate the pace of economic development. As a result many industries were established before the first plan.

Industrialization plays a crucial role in the progress of economic development and its importance is as a means of achieving economic growth and prosperity within the country. Hence, industrialization is universally accepted as a strategy of economic development as well as fundamental goals of most developing countries. In Nepal, industrialization is an important prerequisite for the economic development, which will transform the traditional economy to modern one.

Considering topographical condition, existing infrastructure facilities and regional balanced economic development of the country, Government of Nepal has established 11 Industrial Districts (IDs) in different parts of the Kingdom under the assistance from various donor countries like USA, India, Netherlands and Germany. Out of 11 IDs, 10 IDs i.e. Balaju, Patan, Hetauda, Dharan, Nepalguni, Pokhara, Butwal, Bhaktapur, Birendranagar and Gajendranarayan Singh are in operation at present and one at Dhankuta, the construction work being held up since a couple of years, due technical problem, is yet to come interoperation.

The establishment of the first industrial District at Balaju/ Kathmandu in 1960 under the U. S. assistance with infrastructure facilities e.g. developed land fenced with boundary wall, industrial sheds, warehouses, roads, drainage/culverts, electricity/ water supply, bank, clinic, Post office, Day care child center, canteen,

and other required services for smooth operation of industries therein, is considered as a pioneer venture in the organized development of industrial Districts/Estates in Nepal.

## **Industrial Districts Management Limited**

Initially, the management of **Nepalgunj**, Patan, Dharan and Pokhara Industrial Estates were under HMG, Department of Industries whereas Balaju and Hetauda Industrial District was undertaken by Nepal Industrial Development Corporation (NIDC). Later on as the IDs grew up in number and its activities expanded, the entire management of all IDs was formally handed over to the Industrial Services Center (ISC) an undertaking of Government of Nepal in 1975.

Industrial Districts Management Limited (IDM) was founded as a separate corporate entity in July 1988. It was entrusted with the overall management and supervision of all IDs plus other tasks such as conducting feasibility studies of IDs in potential areas, materializing new IDs and planning and promotion of industries therein. IDM is wholly an undertaking of Government of Nepal incorporated under the company Act in the form of a Public Limited Company. Its shareholders are Ministry of Industry Commerce & Supplies (MOICS), Auditor General Office and Nepal Industrial Development Corporation. It has an authorized capital of Rs.150 million and issued capital of Rs.130.87 million.

## **Objectives**

- <sup>o</sup> To provide infrastructure facilities like developed land, industrial sheds and warehouses, roads, drainage/culverts, electricity, water etc. to the industries established in the IDs
- <sup>o</sup> To study the potentiality for the establishment of ID/IE and promote new ID in feasible areas.
- <sup>o</sup> To stimulate private sector in setting up IDs/IEs in promising area and extend technical services of required.
- <sup>o</sup> To promote industries in the IDs and undertake the overall management and supervision of the IDs/IEs.
- <sup>o</sup> To identify problems of industrial units set up in the IDs and provide management consultancy and extension services for their smooth operation and productivity improvement.
- <sup>o</sup> To disseminate information on feasible projects, facilities available in the IDs/IEs and opportunities therein for investment.
- <sup>o</sup> To study the implication of government policies and make recommendations to Government of Nepal for necessary alterations to develop congenial industrial atmosphere in the IDs/IEs.

#### **Facilities**

#### **Facilities Provided By IDs**

Besides the industrial Sheds and developed land on lease, the basic physical infrastructures like warehouse, roads, electricity, drainage/ culverts, water supply and other supporting facilities such as Bank, Post Office, Clinic, Day child care center, workshop, Canteen, sports hall, Display center & review Room, Guest house Security arrangements are also available in With a view to discharge the wastewater from the industries after necessary treatment, thus maintaining the clean environment in the Industrial District, HMG/ Nepal, Ministry of Industry, Commerce and Supply, under the assistance from Denmark Government has launched the establishment of Waste Water Treatment Plan in Hetauda ID under ESPS program. Similarly, to bring the substantial improvement in production process of Industries in Balaju ID & Hetauda ID and to maintain clean & healthy Environment, Cleaner Production/Occupational Health and Safety (CP/OHS) projects are on going under the same ESPS programs.

#### **Resources**

#### **Income Resources**

The main source of IDM's income is rent charges i.e. leasing out land/buildings on rent to run industries/ business. Since the land/buildings rent charges are too low compared to the prevailing market price, the revenue thus obtained is quite nominal that IDM can hardly sustain. The other source of income is the rebate obtained from the Nepal Electricity Authority (NEA) for purchasing bulk electricity by the respective IDs/IEs. Besides it also generates some income by supplying water from its own source (i.e. not city supply line). Therefore, IDM is mobilizing combined fund for running up Central Office as well as 10 IDs/IEs and for repair & maintenance of therein as per infrastructures need and other development activities.

#### **Establishment Procedures**

#### Procedures For Establishing/Operating Industry In ID/IE.

Initial step for any Industry or company, willing to set up their enterprises inside Industrial Districts/Estates, is to contact the I.D./E. Office followed by submission of application letter along with necessary papers/documents demanded by the Industrial District/Estate.

I.D./E. will review all the papers/documents and upon completing all these formalities/rules & regulations approves the party's request. It is then only the lease agreement for land/buildings will be signed by both parties viz. ID/E Authority & the Industry Owner or its Representatives. Normally the lease

agreement will be for 20 (Twenty) years period further renewable on mutual understanding/concurrence of both the party.

# While signing the agreement the Industry/Company need to clear the following fees, rent charge etc. to ID/IE.

- O Entrance fee (one time only for entire period)
- O Annual land rent charge in advance.
- O 3(three) months building rent charge in advance (if building agreement is done).

Once the agreement is done, the ID/IE will give construction approval upon through receiving the detail drawings/designs/plant layout etc. submitted by the saied industry and provide electricity/water supply and other services required by the industry. As per the terms & Conditions of this agreement the Industry should complete its construction work within 6(six) months and come into operation within 2(two) years. It is important that the industries are registered in Department of Industry (**DOCSI**), Government of Nepal. IDs/IEs will entertain signing of the agreement with those industries only.

Tarrif & Charges

#### **Rent and Tariff**

An industry that has taken industrial shed and/or land to establish industry has to pay rent on leasing shed and/ or land regularly from the date of agreement. Similarly, Industry should pay charge as per consumption of water as well as electricity in the monthly basis. Land rent should be paid in yearly basic whereas industrial shed, warehouse, water and electricity consumption charge should be paid monthly. Certain Rebate/ Discount on rent charge is given to those industries that settle payment in scheduled date fixed by ID/IE. And at the same time penalty will be charged if they fail to do so. Rebate/Discount and penalties are clearly mentioned in the rules & regulations of IDM that all IDs/IEs are to be followed strictly. Rent tariffs, rules & regulations (amendments if there any are circulated to each & every industry in IDs/IEs. IDM has its own rules & regulations on electricity supply which is more or less similar to that of Nepal Electricity Authority (NEA).

Land and Building Charges

Land and building char	yes			
Industrial District	Land (Ropani/Year) In NRs.	Industrial Shed (sq ft/Month) In NRs.	Ware House (sq ft/Month) In NRs.	
Balaju	4407.50	2.93	3.93	

Bhaktapur	2938.33	2.93	
Birendranagar	1101.88	1.30	
Butwal	2203.74	2.40	3.17
Dharan	2203.74	1.66	2.10
Hetauda	2203.74	2.40	3.17
Nepalgunj	2203.74	2.02	
Patan	2938.33	2.93	3.68
Pokhara	2203.74	2.40	3.17
Gajendranarayan Singh	2203.74	1.64	

<sup>-</sup> Rent charges of Land and Shed are increased by 15% every two years.

#### **Electricity Charge**

Electricity distributed by the IDs is as per Nepal Electricity Authorities. For example: Industry using Medium Voltage electricity of 11KV, should pay demand charge at the rate of @ NRs.190.00 per KVA per month and energy consumption charge @ NRs.5.90 per unit (kw/hr.) Similarly, Industry using Medium Voltage electricity of 33KVA, should pay @ NRs.190.00 per KVA demand charge per month and energy consumption charge @ NRs. 5.80 per unit (kw/hr.)

#### **Entrance Fee**

- A. For new industries, ID charges @ NRs.3000.00 per Ropani for the land and @ NRs. 2.00 per sqft for industrial shed as entrance fee in Nepalgunj, Hetauda, Pokhara, Butwal, Dharan, and Rajbiraj IDs.
- B. Similarly, for new industries ID charges @ NRs.5000.00 per Ropani for the land and @ NRs. 3.00 per sqft for industrial shed as entrance fee in Balaju, Patan and Bhaktapur IDs.

Note: Entrance fee is applicable one time only for entire period.

## **Privatization Policy**

The industrial Policy-1992 and Eighth Five Year Plan Of His Majesty's Government has made provision for the transfer of ownership of land and industrial buildings of fully developed IDs to the respective industrialists through privatization process. To fulfill this objective, IDM at present is involved in formulating a basic guideline proposal on the basis of the assessment and valuation of existing tangible assets of IDs with a view to sell the land and factory buildings so that the capital thus acquired could be invested for the study and promotion of new IDs in potential areas.

#### **Present Status**

These charges can be revised periodically.

<sup>\* 1</sup> hectare = 19.65 Ropani.

ID/IEs	Balaju	Patan	Hetauda	Dharan	Nepalgunj	Pokhara	Butwal	Bhaktapur	Birendranagar	Dhankuta*	G.N. S	ingh**
Year of Establishment	1960	1963	1963	1973	1973	1974	1976	1979	1981	1984	1986	
Assistance/Cooperation	USA	India	USA	India	India	Nepal	Nepal	Germany	Netherlands	Nepal	India	Total
Total Area (Ropani @)	670	293	2829	202	233	501	434	71	90	63	294	5680
Developed	670	293	2367	202	233	501	406	71	90	-	171	5005
Leased Out	526	218	1470	93	184	384	347	58	55	-	15	3350
Leasable	-	-	336	47	5	-	-	-	-	-	60	448
Land Occupied By Utility Services +	144	75	561	62	44	117	59	13	35	-	96	1206
Government Sector	13.2	25.8	29.21	7.7	9.6	16.7	11.0	13.6	7.4	5.6	35.5	175.31
Private Sector	2000	410.6	3163.58	162.9	125	740	1000	280	5	-	35.6	7922.68
No. of Industries	94	108	59	24	34	72	61	35	22	-	6	516
Operating	62	85	42	13	20	59	47	36	22	-	4	390
Under Construction	14	6	2	4	7	3	4	2	-	-	-	40
Closed	18	17	15	6	7	10	10	1	-	-	2	85
Employment Nos. ++	3800	1522	3500	504	850	1512	1651	700	89	1	47	14214
Power Capacity (KVA)	4000	1500	5000	750	750	700	1350	900	37.5	-	100	15087.5
Water Supply (KL/Hr)	20	1.25	92	1	7.75	20	6	20	4.1	-	8	179.92
Roads (KM)	5.2	5.0	11	2.30	2.34	2.54	2.14	0.69	0.91	-	2.0	34.12

- \* Construction help up
- \* \* G.N. Singh = Gajendranarayan Singh Industrial Estate
- @ 1 hectare = 19.65 Ropani.
- + Utility services include road, powerhouse, warehouse, drainage, green belt, industrial and administrative building, etc
- + + Including Head Office/IDs.

#### **Industries**

Balaju | Bhaktapur | Birendranagar | Butwal | Dharan | Hetauda | Nepalgunj | Patan | Pokhara | Gajendra Narayan Singh (source www.idm.com.np)

In Nepalese economy the manufacturing sector is very small. The manufacturing sector has to face various problems, which would have acted as constraints in growth of manufacturing industries. Mainly such problems arise due to landlocked and underdeveloped situation of the country, lack of physical, human, financial resources, administrative infrastructure, inconvenience of transportation and communication networks, non-availability of assured energy at reasonable rates, non-availability of trained and skilled manpower, shortage of capital, small size of market, high cost of production, low productivity of inputs, instabilities of government etc. The government policy to concentrate more on fixed capital has overlooked the financing of working capital.

Every firm wants to maximize the value of firm, it is the main goal of the enterprises. In this context, the firms always concentrate on providing quality product and service in the timely manner. Working capital is the part of the capital of a company that is employed in its trading operations. Working capital management is concerned with managing both current assets (CA) and current liabilities (CL) and the interrelationships between them. Working capital

management is the crucial aspect of financial management. The success or failure of any business organization heavily depends upon the sort of efficiency in its working capital management.

In the context of Nepal, working capital management is not satisfactory. Many studied reports relating the performance of public enterprise have found that managers often lack basis knowledge of working capital. It is most necessary to involve the study the working capital management for healthy industrial and business organizations. It has affected by the various factors. All of these affecting reasons have not succeeded to include in this study. Study of working capital management is important at least four reasons (i) the adequacy of investment in current assets other wise it would seriously erode their liquidity position (ii) they must select the type of current assets for the razing their operative efficiency (iii) they are required to ascertain the turnover of current assets that greatly determined the profitability of the enterprise (iv) they must find out the appropriate source of funds using to finance current assets.

All the corporate, whether public manufacturing or non-manufacturing has just adequate working capital to survive in competitive market. Excess investment of working capital affects a firm's profitability. Just as ideal investment yields nothing. In the same way, inadequate investment in working capital affects the liquidity position of the company and lead to financial and failure of the company. Thus, the amount of working capital invested should be as optimum, as possible. The firm should maintain a sound working capital position. Both excessive as well as inadequate working capital positions are dangerous from the firm's point of view. There are no set rules or formulae to determine the working capital requirements of he firms. A large number of factors influence the working capital needs of the firms. All factors are of different importance.

The working capital management practices of manufacturing Industries Situated in Nepalgunj Industrial Estate provide totally a different picture. In recent years, it has been realized that the areas of working capital intricately inter-woven with the success or failure of the enterprises. Due to shortage of funds for working capital as well as the uncontrolled over expansion of working capital caused many businesses to fail and has stunted their growth. This aspect of financial management is equally applicable to the small as well as large scale enterprises of the manufacturing industry. Moreover, globalization and liberalization is giving threat and opportunities to the entire countries of the world. It is assertively said that the management of working capital should not be neglected by manufacturing companies. So this study of working capital management includes the selected manufacturing Industries situated in Nepalgunj Industrial Estate to present their scenario.

#### 1.1 Background of the Study

Every manufacturing firm needs various types of assets to run the production process without any interruption. Some assets are required to meet the needs of regular production and some to meet the expenses and short terms obligation of firms. So management has to manage different types of assets especially required to run the operation of the firm smoothly and to run daily production activities of the company besides the manpower, equipment etc. One of the major components is working capital without which businesses can not be operated smoothly.

Working capital management is crucial aspect of financial management of a firm. It refers to the administration of all aspects of the current assets and current liabilities. It includes that type of capital, which circulates from one to another form in the ordinary conduct of business. It plays a vital role in every business organization, whether they are trading or manufacturing concerns. It is the life blood and controlling nerve center for any types of business because without the control upon it no business organization can run smoothly. So, the study is focused on how the working capital management is managing in manufacturing industries Situated in Nepalgunj Industrial Estate.

#### **Industries Situated In Nepalgunj Industrial Estate**

S.N.	Name of Industries	Product	Proprietor
1	Bimal Metal Industries	Copper& Brass Pots	Ashok Kumar Baidhya
2	Laxmi Plastic Pvt. Ltd.	Polithine Pipes	Jaya Gopal Shrestha
3	Bijaya Metal Industries	Copper& Brass Pots	Kanhaiya Lal Baidhya
4	Binod Metal Industries	Copper& Brass Pots	Kanhaiya Lal Baidhya
5	National Automatic Works	Motor engine Repairs	Binaya Sharma
6	Modern Doors & Wood Pro.Pvt.Ltd.	Plywood & Door	Champalal Sharma
7	Tandan Plastic Pvt.Ltd.	P.V.C.Pipes&Polithin	Ratan Kumar Tandan
8	Binaya Food Industries	Soyabody & Vooja	Rajesh Kumar Maske
9	Shidhartha Engineering Works	Iron mfg. service	Bagel Ran Thapa
10	Ganesh Auto Works	Motor Repairs	Ram Burr Hitang
11	Rijawan Engineering Works	Iron mfg. Service	Jawahir Khan
12	Himalaya Engineering Works	Transformer Pannel board repair	Abdul Bahib Ansari
13	Tap and Valves Industries	Tap goods	Nitin Kumar Jalan
14	Bheri Technical School	Man power Production	Yam Bhandari
15	Rani Metal Industries	Brass Tap & Metal Pots	Rani Jaiswal
16	Noor Furniture Industry	Wood Furniture	Hajarat Ali
17	Himalaya Electro Mechanical & Trading	Electric Goods	Md. Safi Ansari
18	Krishna Kamal Textile Pvt. Ltd.	Polister cloths	Dinesh Kesharwal
19	Nepa Engineering Works	Greel, Shorter & Suspension Bridge	Kedarchandra Sharma
20	Brasher Metal Industries	Copper & Brass Goods	Kanhaiyalal Badhya
21	Om Shakti Metal Industries	Metal Goods	Shushil Kumar Jalan
22	Shidhhibinayak Food Pro.	Corn Flash	Minesh Maske
S.N.	Name of Industries	Product	Proprietor
23	Shyam Chemicals Industry	Detergent Power	Naresh Kumar Lakher
24	Roshan Metal Industries	Copper Rings	Mithumiya Jasgadh
25	Star Metal Industries	Brass & Copper Pots	Rasid Ahamad Jasgadh

26	Nepali Harbal Processing Plant	Harbal Processing	Sakil Ahamad Jasgadh
27	Ma Shakti Metal Industries	Tap Fitting Goods	Tej Kumar Jaiswal

The study is mainly focused on the working capital management practice of selected five manufacturing Industries situated at Nepalgunj Industrial Estate. A brief introduction of sample manufacturing companies is given below:

## (a) Vinod Metal Industry (VMI)

Vinod Metal Industry was established under the company Act, 2020 in 2039 with an authorized capital of Rs. 50 Lakh and paid up capital of Rs. 50 Lakh. Its main objective was to produce Almunium Utensil & Copper Utensil and other byproducts Almunium & Cupper Sheet Circle and to market them all over the country and India also. It purchase Almunium, Cupper, Brass & Zink from Australia and Singapoor as raw material

Total sales of the company for the fiscal year 2064/065 were Rs. 1181.1 lakh where as it was Rs. 1147.68 lakh in year 2063/064. The increase in total sales resulted into increase in net profit too.

## (b) Laxmi Plastic Industry (LPI)

Laxmi Plastic Industry was established in 2039 B.S. under the company Act, 2020 with a authorized capital of Rs. 50 Lakh. Its head office lies in Kupandol, Lalitpur. The main objective of the company was to manufacture High Density Polythin (HDP) Pipe in different seizes.

Total sales of the company for the fiscal year 2064/065 were Rs. 935.25 lakh where as it was Rs. 896.23 lakh in year 2063/064. The increase in total sales resulted into increase in net profit too.

## (C) Modern Doors & Wood Pro. Pvt. Ltd. (MDW)

Modern Doors & Wood Industry was established in 2039 B.S. under the company Act, 2020 with an authorized capital of Rs. 1 Lakh and a paid up capital of Rs. 1 Lakh. Now its authorized capital is Rs. 50 Lakh and a paid up capital of Rs. 100 Lakh. The company was established with the object of producing Plywood. Its produces about 187,826 square meter plywood every year. It purchase Urea & Maida from Nepal and Fornal dehide from Spen as raw materials.

Total sales of the Industry for the fiscal year 2064/065 were Rs. 273.15 lakh where as it was Rs. 247.68 lakh in year 2063/064. The increase in total sales resulted into increase in net profit too.

## (d) Binaya Food Industry (BFI)

Binaya Food Industry was established in 2037 under the company Act, 2020 with an authorized capital of Rs. 1 Lakh and paid up capital of Rs. 1 Lakh but now its authorized capital is 20 lakh and paid up capital is also 20 lakh. The main

objective of the company is to produce Nutreane (soya) and Harin Vooja. It purchase Defided soya oil cake from India and boil rice from Nepal as raw materials.

Total sales of the company for the fiscal year 2064/065 were Rs. 140.05 lakh where as it was Rs. 116.61 lakh in year 2063/064. The increase in total sales resulted into increase in net profit too.

## (e) Krishna Kamal Textile (KKT)

Krishna Kamal Textile was established in 2056 B.S. as a public sector company under the company act, 2020 with an authorized capital of Rs. 25 Lakh and paid up capital of Rs. 25 Lakh. The main objective of the company is to produce Shirting & Suiting School dress materials.

Total sales of the company for the fiscal year 2064/065 were Rs. 92 lakh where as it was Rs. 62 lakh in year 2063/064. The increase in total sales resulted into increase in net profit too.

#### 1.2 Statement of the Problem

Working capital management refers to the proper management of firm's current assets and current liabilities, recognizing the interrelations and interactions that exist between them. It is concerned with all decisions and acts that influence the determination of the appropriate level of current assets and their efficient use as well as the choice of the methods of financing them, keeping in view of liquidity.

Most of the Nepalese industries are still facing the problem of working capital management due to the lack of professional manpower. Every investor wants to earn profit in their investment. But, profits are not only the indicator of proper management of working capital. There are several indicators of working capital management. So basically this study has tries to find out the issues of working capital management of manufacturing Industries. The financial performance of established manufacturing industries is not so good. There may be various reasons for the proper performance of manufacturing industries. Such reasons should be investigated and corrective measures should be taken for the improvement of their performance. This study has tried to solve the following research questions:

- ❖ What is the relationship between current assets and total assets?
- ❖ Is there proper investment in working capital in manufacturing Industries?
- ❖ Is there a sound liquidity position in manufacturing industries?
- ❖ Is overall profitability of Industries is satisfactory?

❖ Are the manufacturing Industries following appropriate working capital policy?

#### 1.3 Significance of the Study

Working capital is the investment made by a firm in short term assets. Working capital management involves a large portion of the firm's total assets as more than half the typical firm's total investment in current assets. Working capital is the most crucial area in enterprise management because many instances have shown that regardless of excellent production and wide fixed assets management has lost the control of its firm because a liquidity crisis resulted in takeover by creditors, forced merger or bankruptcy.

Nepalese manufacturing Industries have a different pattern of scenario of using working capital. Most of the companies do not have any fixed policies. Because of lack of definite working capital policies, the cash flow management of companies is almost poor. They have made their huge level of investment in fixed and long term assets. Though they have such type of investment, they are facing difficulties on operating their day to day business because of poor working capital management.

This study will be helpful to carryout further research study in this field. Hence, these studies will diagnose the relationship of working capital management of the efficiency of the enterprise as a whole. It will also be useful for the new management to improve the efficiency as well as the profitability with proper management of working capital and its components.

Working capital management is important for these reasons:

- More than half of the total assets are typically invested in current assets.
- A large proportion of time of the financial manager is allocated to working capital management.
- Small firms may minimize their investment in fixed assets by leasing but they cannot avoid their investment in cash, receivables and inventories.
- The relation between sales growth and the need to invest in current assets is close and direct.
- J Investment in fixed assets may be reduced by renting of leasing, but investment in inventories and receivables is usually unavoidable.

## 1.4 Objectives of the Study

The excess of working capital as well as inadequate working capital both are harmful for the business (Pradhan, 1986). The specific objectives of the study are as follows

- ❖ To analyze the composition of working capital of selected manufacturing Industries i.e. VMI, LPI, MDW, BFI, KKT.
- To analyze the proper relationship of sales and working capital in manufacturing Industries.
- ❖ To analyze the composition of current assets and current liabilities of selected manufacturing Industries.

#### 1.5 Limitations of the Study

This study does not cover all manufacturing companies of Nepal at the time of conducting this study. Out of 27 manufacturing Industries Situated in Nepalgunj Industrial Estate, only five Industries have been taken for research. So, the conclusion is based on the available financial statement which might not be perfectly correct in reality. However, following are the limitations of the study:

- ❖ The research design and analysis followed for this study are basically focused on secondary data which covers the period of last five fiscal years.
- ❖ Time and resource constraints may limit the area covered by the study.
- ❖ Due to limited time and resources, out of 27 manufacturing Industries situated in Nepalgunj Industrial Estate, only five of them are included in this study.
- ❖ The accuracy of the research work will be dependent on the data provided by concerned Industries.
- ❖ The major sources of the secondary data are the financial statement of concerned Industry which is extracted from the progress report of related Industry, Central Bureau of Statistics and other published and unpublished articles.

#### 1.6 Research Methodology

Research methodology is the way to solve about research problem systematically. In other words, research methodology is the process of arriving at the solution of problem through planned and systematic dealing with collection, analysis and interpretation of the facts and figures.

This study will consider the secondary historical data. The methods of analysis and research methodology will depend upon the data available. The research design is less descriptive but more prescriptive.

In order to achieve the objectives of the study, the following research methodology is followed which includes research design, sources and types of data, data gathering instruments, procedures and tools for analysis, to analyze the collected data statistical tools, percentage, ratio, financial tools, etc. will be used.

#### 1.7 Organization of the Study

This study has been organized into five different chapters as stated below:

#### I) Introduction

This chapter includes introduction, focus of the study, significance of the study, statement of the problem, objectives of the study, and limitations of the study and research methodology.

#### II) Review of Literature

This chapter deals with the issues related to the study which are already published in the form of books, journals, articles and unpublished thesis.

## III) Research Methodology

This chapter deals about research design, nature and sources of data and tools and techniques for analysis of data.

#### IV) Presentation and Analysis of Data

The acquired data are presented and analyzed through the way of designed methodology in this chapter to attain the research objectives. Furthermore, this chapter is subdivided into various headings as follows:

#### a) Working capital policy:

In this part, various components of working capital will be analyzed on the basis of variables and ratios.

## b) Composition of Working Capital:

This part deals with the investment in current assets.

### c) Correlation and Regression Analysis:

The relationship between various working capital variables will be analyzed using statistical method.

#### d) Major findings:

This part presents all the major findings based upon analysis.

#### V) Summary, Conclusions and Recommendations:

This chapter provides the summary of the study; conclusions and recommendations are forwarded for the related manufacturing Industries to improve their working capital policies.

At the end, an extensive part of references and appendices are also included as the part of this thesis/dissertation work.

## **CHAPTER TWO**

#### REVIEW OF LITERATURE

Review of literature is an essential part of all studies. It is a way to discover what other research in the area of our problem has uncovered. It is also a way to

avoid investigating problems that have already been definitely answered. The purpose of literatures review is, thus, to find out what research studies have been conducted in one's chosen field of study, and what remains to be done.

The study about selected listed manufacturing companies situated in Nepalgunj Industrial State has been streamlined to some extent in the first chapter regarding their growth, objectives, statement of problem and working capital practices in general. The main objectives of this chapter are to clarity the need of the study rationally and systematically. It reviews all the related studies on working capital management. Including different views of experts and researchers, who had accomplished their researches on different companies of Nepal? So, the review of literature is organized as below:

### 2.1 Conceptual/Theoretical Review

Working capital is as all the short term assets used in day to day operation of firms. The management of such assets described, as working capital management. It is one of the most important aspects of the overall financial management. Technically, working capital is an integral part of overall financial management (Khan and Jain 1999). Working capital plays a vital role in the success or failure of the business. It is also known as circulating capital (Kulkarni 1993). It represents that part of fund, which circulates from one form of current assets to another form in the ordinary course of business. For example cash is used to purchase materials, merchandise goods, fuel, labor, staff etc. It creates inventories, and then finished goods, inventories are sold in market and change to cash (Khan and Jain 1999).

Working capital management is very difficult task for financial manager because both excess working capitals and less working capital are harmful to the business. Greater the relative proportion of liquid assets, lesser the risk of running out of cash, all other being equal. However profitability will also be less (Kuchhal 1988). On the other hand inadequate amount of working capital can threaten the solvency of the organization if it fails to meet its current financial obligation. The higher return is due to the less money tied up in non-income earning assets and then higher risk is due to the possibility of shortage of ash in the event of urgency. Thus, a low liquidity is associated with high rate of return. Main objective of shareholders and investors is to maximize the return of their investment. But it does not mean that low liquidity is the best interest of shareholders wealth but liquidity has to do with assuring that the enterprises is able to satisfy its entire current financial obligations (Pradhan 1986).

The cash and marketable securities are respectively considered as purely liquid and near liquid assets whereas the account receivable and inventories are not. However, they can be liquidated as and when necessary within a period of less than one year. The capital invested on these assets is known as working capital. In short, working capital is the

source of financing current assets and it includes short as well as long-term financing.

Working capital is a controlling nerve of business. It is an important and integral part of financial management as short-term survival is a prerequisite to long-term success. As pointed out by Ralph Kennedy and Steward McMullar, the inadequacy or mismanagement of working capital is the heading cause of business failure. Unless the payment is made at the maturity of the particular debt, the firm is at worst and the creditors may force the firm to terminate its business. (Flink and Donald; 1964:13)

Firms need cash to pay for all their day-to-day activities. They have to pay wages, pay for raw materials, pay bills and so on. The money available to them to do this is known as the firm's working capital. The main sources of working capital are the current assets as these are the short-term assets that the firm can use to generate cash. However, the firm also has current liabilities and so these have to be taken account of when working out how much working capital a firm has at its disposal.

#### Working capital is therefore:

Working Capital	Current Assets (CA)	Current	
=		- liabilities	
(WC)	Stock + debtors + cash	(CL)	

Thus working capital is the same as net current assets, and is an important part of the top half of the firm's balance sheet. It is vital to a business to have sufficient working capital to meet all its requirements. Many businesses have gone under, not because they were unprofitable, but because they suffered from shortages of working capital (www.bized.ac.uk)

Thus, it plays the crucial role in the success and failure of an organization as it deals with that part of assets. Which are transformed from to another during the course of manufacturing cycle? Therefore, the role of working capital management is more significant for every business organization irrespective to their nature. The financial decision on working capital management is planning, utilizing and controlling its current assets/short term assets in term of the requirement of the company and liquidity position of the company. The skill of working capital

management should be unique to make an efficient use of funds for minimizing the risk of loss to attain profit objectives.

## 2.1.1 Concept of Working Capital

The term working capital management is closely related with short-term finance and it is concerned with collection and allocation of the resources. Working capital management is related to the problems that arise in attempting to mange the current assets, the current liabilities and the inter-relationships that exist between them. Thus the management of working capital is no longer viewed as an accounting task but as a strategic method for increasing the financial performance of leading organizations. While early initiatives for reducing days sales outstanding (DSO) have largely focused on post invoice collection and dispute management, today, the ability to drive working capital management throughout the entire quote-to-cash cycle has proven to deliver an exponential effect of DSO and the overall customer experience. (www.bambooweb.com)

There are two main concepts of working capital, namely, gross working capital concept and net working capital concept.

## I) Gross Working Capital Concept

According to gross concept, WC refers to the capital invested in current assets of a firm. It focuses only the optimum investment on current assets and financing of current assets. It includes cash, short-term securities, and inventory and account receivables. The level of current assets may be fluctuating with the changing business activity. Thus, this concept can help earning more profit through maximum utilization of current assets. This concept is called quantitative concept. (Pradhan; 1986: 119)

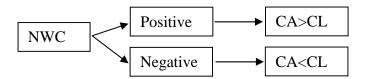
This concept makes the implied meaning of working capital to current assets only. Current assets are the assets which can be converted into cash within an accounting cycle, that is, usually a period of one year. Current assets include cash, short-term securities, account receivables, inventories, prepaid expenses etc. Supporters of the gross working capital concept argue that the real working operation of public enterprises solely rely on current assets. So it is reasonable to consider working capital as current assets only.

## **Gross working capital = Total current assets**

## II) Net Working Capital Concept

According net concept, working capital refers to the difference between current assets and current liabilities. In other words, it is that part of current assets financed with long term funds. It focuses on the liquidity position of the firm and suggests extending which working capital need to be financed by permanent sources of funds. It is not very useful to compare the performance of different firms as a measure of liquidity, but it is quite useful for internal control. This concept helps to compare the liquidity of the same firm over a time. (Khan and Jain; 1999:604)

This concept refers to the difference between current assets and current liabilities. The need for this concept arises because the gross concept fails to consider current liabilities. The current liabilities are those liabilities, which can be claimed by outsider/suppliers within a year. It includes account payable, bills payable and outstanding expenses. Net working capital can be positive or negative. A negative net working capital occurs when current liabilities are in excess of current assets and when current assets exceed current liabilities; it is positive net working capital.



This concept helps to determine optimum mixture of short term capital and ling term capital of business enterprises. This concept is equally important in every organization but more appropriate to running business i.e. the business running at present. This concept is also known as qualitative concept of working capital.

#### **Networking capital = Current assets - current liabilities**

The management should be promoted to initiate an action and imbalances. The definition described above convey in some way or other, the same meaning. It seems that there is consensus on the following special characteristics of the working capital:

#### 1. Short Life

Working capital characterized by assets with a life span of less than one year like cash, marketable securities, account receivable and inventories etc. This short life span leads to high volatility in the level of investment required financing WC.

#### 2. Nearness of Cash or Liquidity

The basic characteristic constitutes the first line of defense against technical insolvency. Cash is the most liquid assets having zero conversion period time and 100% conversion rate. But for inventory and marketable securities two factors i.e.

(i) nearness to cash or amount of time required converting asses in to cash (ii) price realized on conversion must be considered.

#### 3. Lack of Synchronization

Since the enterprise cannot produce on order only and cannot insist on cash payments, there are always the problems of synchronization in cash receipt and disbursement. It is also due to the level of investment in WC that is affected by the sales volume, production policies and collection policies.

The basic characteristics of WC as mentioned above indicate that it is a form of capital intended to be kept moving of circulating and its potential or earning comes from movements. Though the expenditures controlled and planned its income is usually subject to random variation and is not controllable (Gallagher 1979).

#### 2.1.2 Types of Working Capital

Working capital can be classified into two parts permanent and variable working capital. These two types of working capital are necessary for continuous production and sales without any interruptions.

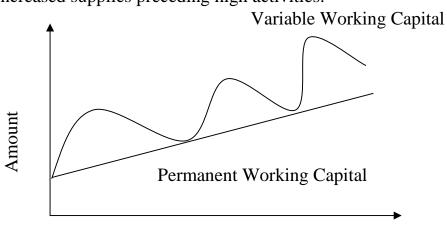
#### 1. Permanent Working Capital

These assets are required on a continuing basis over the entire year. They represent the amount of cash, receivables, and inventory maintained as a minimum to carry on operations at any time.

## 2. Temporary/Variable Working Capital

Like permanent working capital, temporary working capital also consists of current assets in a constantly changing form. However, since the need for this portion of the firm's total current assets is seasonal, we may want to consider financing this level of current assets from a source which can itself be seasonal or temporary in nature. (Van Horne; 1996: 2053)

This represents additional assets required at certain time during the year. Added inventory must be maintained to support peak selling periods. Receivables will increase and must be financed after a period of high sales. Cash may be needed to pay for increased supplies preceding high activities.



#### Time

Figure 2.1: Types of Working Capital

Source: John J. Hampton (1998)

Graphically displays permanent and variable working capital needs for a firm whose level of business is growing. The level of working capital is higher in the summer than in the winter, reflecting a cyclical business activity.

#### 2.1.3 Determinants of Working Capital

A firm should plan its operations in such away that is should have neither too much nor too little working capital. Since, there are no set of rules to determine the working capital, the firm itself should manage working capital in proper way by considering the need of business. Generally, the following factors affect the working capital requirement of the firm:

#### 1. Nature and Size of Business

The working capital requirement of a firm is basically related to size and nature of the business. If the size of the firm is bigger then it requires more working capital. While a small firm needs les working capital. Trading financial firms require larger amount of working capital relatively to public utilities. While manufacturing's concern lies between these two extremes.

## 2. Manufacturing Cycle

Working capital requirement of an enterprise is also influenced by the manufacturing or production cycle. It refers to the time involved to make the finished goods from the raw materials during the process of manufacturing cycle funds is ties-up. The longer the manufacturing cycle, the larger will be working capital requirement and vice-versa.

#### 3. Production Policy

Working capital requirement is also determined by its product in policy. If a firm produces seasonal goods, then it sells its products in a certain month of the year in this situation, it can either confine its production only that period when goods are sold or follow a steady production policy producing goods at level to meet the peak demand. The former policy does not need more working capital than the later does.

## 4. Growth and Expansion Activities

Growth and Expansion also affect the working capital requirement of a firm. However, it is difficult to precisely determine the relationship between the growth and expansion of the firm and working capitals needs. But the other things being the same growing firm needs more working capital than those static ones.

#### 5. Level of Taxes

The level of taxes also influences working capital requirement. The amount of taxes to be paid in advance is determined by the prevailing tax regulations. But the firm's profit is not constant, or can't be predetermined. Tax liability in a sense of short-term liquidity is payable in cash. Therefore, the provision for tax amount is one of the important aspects of working capital planning. If tax liability increases, it needs to increase the working capital and vice versa (Hampton 1998).

### 2.1.4 Source of Working Capital

Working capital helps to meet daily requirements of business. Specially, it is required to spend on raw materials, salary, wages, rent, electricity, advertisement and other sales related expenses. Depending upon the business organization ad its timely need of working capital, it can be financed from different sources as follow:

- a. For regular or permanent working capital:- long tern instrument of financing such as shares and debentures are issued.
- b. For variable or seasonal working capital:- different sources such as working capital of indigenous bankers, commercial banks, public deposit, retained earnings etc. are used to finance depending upon the volatile nature of the enterprises activities.

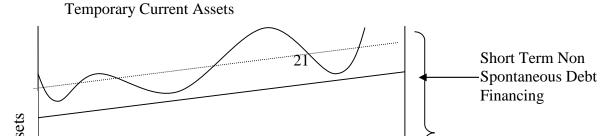
#### 2.1.5 Working Capital Financing and Investment Policy

#### A) Current Assets Financing Policy

It is the manner in which the permanent and temporary current asses are financed. Current assets are financed with funds raised from different sources. Current assets financing policy should clearly outline the sources of financing of current assets. There are three variants aggressive, conservative and moderate policies of current financing.

#### 1. Aggressive Policy:

Aggressive policy carries a low of current assets (marketable securities, cash, inventories and receivables) to sales. Aggressive policy uses more short term debt and less long term debt for financing current assets. Therefore, an aggressive policy results in a higher risk and higher profitability.



#### Permanent level of Current Assets

#### **Fixed Assets**

Figure 2.2 Aggressive Policy

Source: Weston, Besley and Brigham, Essential of Managerial Finance, 1996

#### 2. Conservative Policy:

Conservative policy carries a high level of current assets to sales. Conservative policy uses more long term debt and less short term debt for financing current assets. Therefore, conservative policy lowers the risk and return.

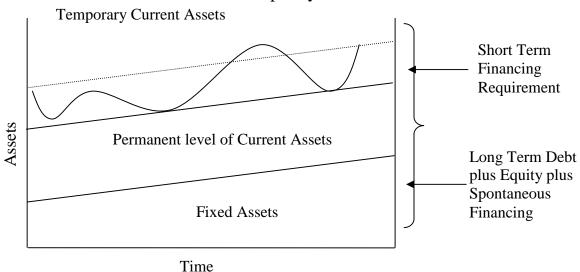


Figure 2.3 Conservative Policy

Source: Weston, Besley and Brigham, Essential of Managerial Finance, 1996

#### 3. Moderate Policy:

Moderate carries an average level of current assets to sale. Moderate uses mid range of short term and long term debt of above two policies. Therefore, the moderate current assets policy results in mid range risk and profitability.

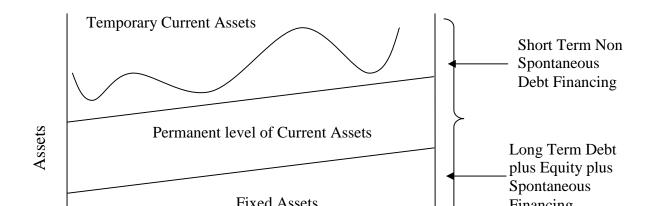
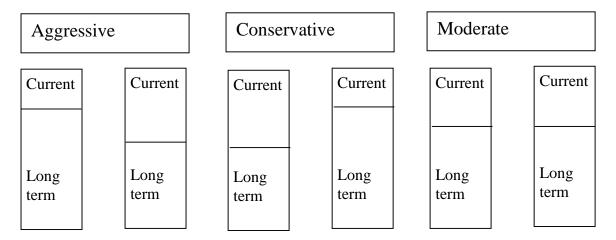


Figure 2.4 Moderate Policy

Source: Weston, Besley and Brigham, Essential of Managerial Finance, 1996

To match them G.E. Pinches prescribed the following rules:

- ➤ If a firm has an aggressive CA position, it should counterbalance its risks by employing a conservative liability position.
- ➤ If a firm has a conservative CA position, it should counter balance its risks by employing an aggressive liability position.
- ➤ If a firm has a moderate CA position, it should counterbalance its risks by employing moderate liability position.



Source: George E. Pinches, 1990

## **B)** Current Assets Investment Policy

Current assets investment policies determine the appropriate level of current asset, both in total and by specific accounts. Generally, there are three types of investment policies which can be followed by business enterprises.

## 1. Relaxed Working Capital:

In this policy, the firm holds relatively large amount of cash, marketable securities, and receivable to support a given level of sales. In addition, a company is

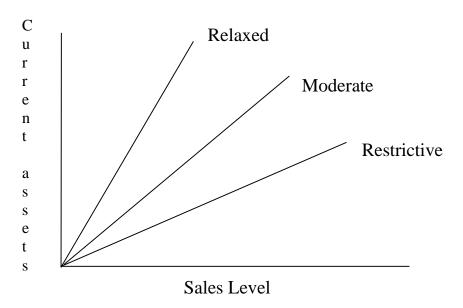
motivated to sale by applying liberal credit policy. Therefore, it creates longer receivable collection period. Similarly, it creates longer inventory and cash conversion cycles. Thus, this policy provides the lowest expected return on investment with lower risk.

#### 2. Restrictive Working Capital

Under restricted working capital assets policy, a company has high control in current asset. The firm holds minimum level of inventory, marketable securities, receivable & cash to support given level of sales. This policy tends to reduce the inventory, receivable and cash conversion period. The company follows tight credit policy and bears the risk of losing sales. However, this policy provides the highest return on investment.

#### 3. Moderate Working Capital

In this policy, both the risk & return are moderate. The company holds the amount of current assets in between relaxed & restricted policies. We can show these policies with the help of following figure.



**2.1.6 Need an** Figure: 2.5 Current Assets Investment Policy

Every business firms needs working capital to operate day to day transaction. It helps to meet daily requirement of business. Specially, it is required to spend on raw material, salary, wages, rent electricity, advertisement and other sales related expenses etc (K.C. 2051). Before staring the production, a firm needs to purchase raw material and keep stock in them to continue the production. It has to pay salary and wages to its staff and labor. After the production of finished goods, it has to

wait for the demand of market and to manage the finished goods stock (K.C. 2051). Besides this, the business enterprises have to spend on advertisement and promotion of the market, which helps in sales of products (K.C. 2051). To operate all above processes, the business firm has to invest enough funds in current assets. Therefore, every business firm needs working capital to meet following motives.

The management of working capital has been regarded as one of the conditioning factor in the decision making issue. It is no doubt, very difficult to point out as to how manage working capital is needed by a particular company, but it is very essential to analyze and find out the solution to make an efficient use of funds for minimizing the risk of loss, to attain profit objective. Thus goes the importance of working capital in operating life of company. A successful business keeps its working capital moving rapidly; hence it is a lead circulating capital or a moving capital. The transmutation of a company's working capital into income and profits and back into working capital is one of the most dynamic and vital aspects of business operation. And only this movement of current assets keeps the business alive. A fully equipped factory without the stock to sell is of no use. The circumstances emphasize the importance of working capital in a business firm. (Ghime 2002: 73)

The need for working capital or current assets cannot be overemphasized. The objection of financial decision making is to maximize the shareholders' wealth. To achieve this goal is necessary to generate sufficient profits. The extents to which profit can be earned which naturally depend upon the magnitude of the sales among other things.

A successful sales program is, in other words, necessary for earning by any business enterprise. However sale does not convert into cash instantly; there is invariably a time log between the sale of goods and receipt of cash. There is, therefore, sufficient working capital is necessary to sustain sales activity. Technically, this is referred to as the operating or cash cycle. This operating cycle can be said to be at the heart of the need for working capital. "Operating cycle is the time duration required to convert sales. After the conversion of resources into inventories, into cash" (Pandey; 1996: 731)

#### 1. The Transaction Motive

A business firm holds current assets for its transaction motives. The firm holds cash inventories and marketable security for a smooth running of the business. Business firms have to keep inventory or raw materials and finished goods to operate regular transaction. Generally, a business firm invests on marketable security that can be converted into cash in a short time. It is temporary investment (Weston & Brigham 1982). Therefore, a business firm has to manage working capital for its transaction motives.

#### 2. The Precautionary Motive

The precautionary motive is the need to hold cash and inventory to guard against the risk and unpredictable change in demand and supply and other factors such as strike, failure of important customer's unexpected slowdown in collection of account receivable, cancellation of order and some unexpected emergency. Thus, the firm needs the working capital to meet any contingencies in future.

## 3. The Speculative Motive

The firm's cash and marketable securities accounts may raise to rather sizable levels on a temporary basis as funds are accumulated to meet specific future needs (Weston & Brigham 1982). The WC is needed to meet the speculative motive, which refers to the desires of a firm to take advantage of the following opportunities

- a) Opportunities of profit making investment.
- b) An opportunity to purchase raw material at a reduced price on payment of immediate cash.
- c) To speculate on interest rate and d) To purchase at favorable price etc.

To grab these opportunities, the business has to manage cash and marketable securities, it also represent "war chest" or pool of funds from which a firm may draw quickly to meet a short term opportunity including acquisition. Therefore, case and marketable securities are needed for speculative motives.

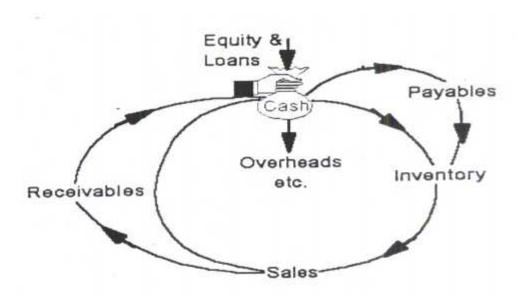
## 2.1.7 Working Capital Cycle

Cash flows in a cycle into, around and out of a business. It is the business's life blood and every manager's primary task is to help keep it flowing and to use the cash flow to generate profits. If a business is operating profitably, then it should, in theory, generate cash surpluses. If it

doesn't generate surpluses, the business will eventually run out of cash and expire. The faster a business expands the fore cash it will need for working capital and investment. The cheapest and best sources of cash exit as working capital right within business. Good management of working capital will generate cash which improve profits and reduce risks. Bear in mind that the cost of providing credit to customers and holding stocks can represent a substantial proportion of a firm's total profits.

There are two elements in the business cycle that absorb cash – Inventory (stocks are work-in-progress) and Receivables (debtors owing your money). The main sources of cash are payables (your creditors and Equity and Loans.

Figure 2-6
Working Capital Cycle



Each component of working capital (namely inventory, receivables and payables) has two dimensions TIME and MONEY. When it comes to managing working capital – TIME IS MONEY. If you can get money to move faster around the cycle (e.g. collection monies due from debtors more quickly) or reduce the amount of money tied up (e.g. reduce inventory levels relative to sales), the business will generate more cash or it will need to borrow less money to fund working capital. As a consequence, you could reduce the cost of bank interest or you'll have additional free money available to support additional sales growth or investment. Similarly, if you can negotiate improved term with suppliers

e.g. gets longer credit or an increased credit limit; you effectively create free finance to help fund future sales.

If you	Then
Collect receivables (debtors) faster	You release cash from the cycle
Collect receivables (debtors) slower	Your receivables soak up cash
Get better credit (in terms of duration or	You increase your cash resources
amount) from suppliers	
Shift inventory (stocks) faster	You free up cash
Move inventory (stocks) slower	You consume more cash

It can be tempting to pay cash, if available, for fixed assets e.g. computer, plant, vehicles etc. If you do pay cash, remember that this is now longer available for working capital. Therefore, if cash is tight, consider other ways of financing capital investment — loans, equity, leasing etc. Similarly, if you pay dividends of increase drawings, these are cash outflows and, like water flowing downs a plug hole, they remove liquidity from the business.

(Source: www.planware.org)

#### 2.2 Review of Journals/Articles

This section mainly focuses on the review of journals published by the different management experts in working capital management. It is not possible to estimate working capital needs accurately, the firm must decide about levels of current assets to be carried. The current holding of the firm depends upon the working capital policy. It may follow a conservative or an aggressive policy. These policies have different risk return implications (Van Home 1970). Working capital management is usually described as involving the administration of these assets namely cash, marketable securities, receivable, inventories, and the administration of current liabilities. It means the working capital management is concerned with the problem that arises in attempting to manage current assets, current liabilities and the interrelationship that exists between them (Van Horne 1970).

The financial manager should determine the optimum level of current assets so that the wealth of shareholders will be maximized. In fact, optimum level of each type of current assets should be fixed (Walker 1964). The value represented by current assets circulates among several balance sheet accounts, cash is used to purse raw material and pay the labor and the other manufacturing costs to produce product, which are then carried as inventories. When the inventories are sold,

account receivables are created. The collection of the receivable brings cash into the firm and process starts over again. Because of the circulating nature of the current assets working capital is interred changeable used as circulating assets (Hampton 1986).

An article on working capital management in PEs by Manohar Krishna Shrestha, has studied the working capital management of ten-selected PEs. He has also found that out of ten PEs six were operating in losses while only four were getting some percentage of profit. With the reference of his findings he has brought certain policy issues such as lack of suitable financial planning, negligence of working capital management, deviation between turn over and return on net working capital. At the end, he has made some suggestive measure to overcome form the above policy issue i.e. identification of needs funds regular check of accounts, development of management information system, positive attitude towards risk and profit and determination of right combination of short term and long term sources of funds to finance working capital needs (Shrestha 1982-1983).

Another article related to working capital management by Dr. R.S. Pradhan is "The Demand for Working Capital by Nepalese Corporation". For the analysis, nine public corporations were selected covering 12 years data from 1973 to 1984. For the analysis, the regression equation has been adopted. The earlier studies concerning the demand for cash and inventories by business firms didn't report unanimous findings. A lot of controversies existed with the respect to the presence of economics of scale, rate of capital cost, and the capacity utilization relates and the speed with which actual cash and inventories are adjusted to describe cash inventories respectively. The pooled result shows the presence of economics of scale with respect to the demand for working capital and its various components. The regression results, suggests strongly that the demand from working capital and its components is a function of both scales and their capital costs.

The next article related working capital management published by Dr. K. Acharya described the two major operational and organizational problems regarding the working capital Management in Nepalese PEs.

In his article on "Problems and Impediment in the Management of Working Capital in Nepalese Enterprises", he said that working capital management, especially in public sector, has been a relatively weak area. He has described

operational problems as well as organizational problems faced by the organizations. Some of these problems are:

1	<b>OPERATIONAL</b>	PROBLEMS.
Ι.	OFENATIONAL	TRODLEMS.

J	Slow inventory turnover.
J	Change in working capital had low impact on profitability.
J	Current liabilities increased largely than current assets.
J	They had not followed the conventional proportion of debt and equity as 1:1.
J	Absent or apathetic information management system.
J	The performance evaluation tools and techniques like break even analysis,
	funds flow analysis, ratio analysis were either undone or ineffective in most public enterprises.
J	Monitoring of the proper functioning of working capital management has never been considered a managerial job.
OR	RGANIZATIONAL PROBLEMS:
J	Lack of regular evaluation of financial results as well as regular internal &

## 2. 0

	external audit system.
J	Most of public enterprises being unable to present their capital requirements with proper justifications.
J	Functioning of finance department was not satisfactory.
J	Some public enterprises are facing the problem of under utilization of
	capacity.

Mr. Acharya was not satisfied with the performance of enterprises. To make an efficient use of funds for minimizing the risk of loss & to attain, Mr. Acharya has made some suggestions and recommendations. They are,

J	Public enterprises should take care of negatively affecting policies directives from HMG Nepal itself.
J	Public enterprises should keep their consumers alive to consume their commodity.

Public enterprises should avoid fictitious holding of assets immediately.

- They are also suggested to avoid the system of crisis decision, which prevailed frequently in their operations.
- Finance staff must be acquainted with the modern scientific tools used for the presentation and analysis of data.
- Their level of investment should optimize.

The basic goal of working capital management is to manage the firm's current assets and current liabilities in such a way that a satisfactory level of working capital is maintained. Neither over nor under investment in working capital is desired by the management of an enterprise because both of these situations will erode the efficiency of the concern (The Bulletin, ISC, and Publication Nepal).

Working capital management involves the relationship between a firm's short-term assets and its short-term liabilities. The goal working capital management is to ensure that a firm is able to continue its operations and that it has sufficient ability to satisfy both maturing short-term debt and upcoming operational expenses. The management of working capital involves managing inventories, account receivable and payable, and cash (studyfinance.com 2006).

#### 2.3 Review of Related Thesis

In this section, an attempt has been made to review some of the selected research studies related to working capital management of different companies. Besides review of available research studies, some of these relevant unpublished thesis/dissertations of MBA/MBS students of Tribhuvan University related to working capital management of different Nepalese companies have been reviewed as follows:

**1. Gartaula, Keshav Prasad** has carried out his study on "Working Capital Management of Tea Development Corporation". His basis objective was to examine and measure the working capital structure on NTDC.

His major findings were:

- Inventory constitutes the most important and largest element of working capital.
- There is increasing trend of sundry debtors. This indicates slack position of sales with accumulation of inventories.
- There is poor liquidity position of the firm and lower risk of technical insolvency.

**2. Gurung, Om Bikram** has carried out his study on "A study on working capital management of Nepal Lever Limited." The objective of this study is to analyze the liquidity, composition of working capital, assets utilization and profitability position of NLL. He has taken five years' sample period and used as follows:

His major findings are as follows:

- a. Inventory holds the major portion of current assets followed by miscellaneous current assets, sundry debtors, prepaid expenses and advances and cash and bank balance. All the components of current assets are fluctuation during observed period.
- b. Current ratio contains high amount of inventory and receivable but they don't show any significant relationship between current assets and current liabilities.
- c. Liquidity position of NLL is not satisfactory since current and quick ratio are below satisfactory level but increasing trend implies that liquidity position can be expected to be good in future.
- d. Current liabilities vary during the study period and doesn't relate to each other. It shows the company hasn't taken serious decision on financing policy.
- e. The company has preferred short term financing rather than long term financing which has been indicated by the increasing trend of current liability to long term liability ratio. It applies firm's moderate financing policy.

His suggestions for the company are:

- Company should determine certain proportion of current asset components to improve the current assets management in future.
- Company should reduce inventory and receivable level for adjusting with sales and receivable level for adjusting with sales and production level. To balance them, company should improve marketing policy and credit policy. Credit policy is highly influenced by sales level. Similarly, the company should determine appropriate financing sources.
- **3. Joshi, Arjun Lal** has carried out his study "A Study on Working Capital Management of Biratnagar Jute Mill Ltd.". The objective of the study was to show

the composition of working capital and relationship between working capital and working capital components. He has taken five-year study period and used secondary data.

#### His findings are as follows:

- Inventory holds the major portion of current assets followed by cash and receivable.
- Cash has not been efficiently managed. The company has relied heavily on bank support for meeting additional funds without making the best utilization of realized funds.
- Receivable & collection period is favorable which means the company can change in cash in very short period.
- The company has not been able to manage sources of meeting working capital needs as prudently & efficiently as possible.

#### His suggestions to BJM are:

- The company should adopt efficient inventory management system. He has given two ideas, the first one is to maximize productivity and the second is to minimize inventory wastage.
- The company should prepare effective sales plan and exhaustive market research programs and stock piling of finished goods.
- Mill should take step to develop its own competency and infrastructure and direct sales in overseas market and domestic market to increase its sales. Shortage of cash should be met through short term borrowing from the bank.
- **4. K.C.**, **Niraj** has carried out a study on "Comparative Study of Working Capital Management of Nepal Bank Limited and Nepal Arab Bank Limited."

#### **Objective:**

- To analyze the comparative study of working capital management of NBL & NABIL.

### **Major Findings:**

- The liquidity position of NBL is better than NABIL.
- NABIL has better turnover and investment efficiency on loan and advance than NBL. So the management of loan and advance is more problematic in NBL than NABIL.
- Profitability position on NABIL is far better than NBL although NBL has earned higher interest than NABIL.
- **5. Shah, Sabitri** has carried out his study on, "Working Capital Management of Selected Manufacturing Company Listed" His objective was to appraise the working capital management of manufacturing company with respect to cash, credit & inventory management and to study the relationship between sales and different variables of working capital. She has taken five years study period and applied the secondary data.

The major findings of the study are as follows:

- a. Inventory constitutes the most important & largest elements of working capital.
- b. Current assets with respect to total assets are in increasing trend & it has occupied high portion than fixed assets.
- c. Cash has occupied smallest portion of CA & cash conversion cycle is 26 days.
- d. Company has held highest portion of inventory and liquidity position of the company is not well i.e. current & quick ratio are below standard value & turnover position of the company was also found weak because of high collection period.

She has following suggestions for the company.

- a. The company should increase the turnover and reduce the cash conversion period.
- b. The company should determine certain rate of return on its investment and sales target should be set.

c. To control the excess & shortage of working capital of the company, the company should always concern about the CAS & CLS & regular check should be made.

She has also given the advice that the company should give attention to manpower planning & should avoid both under staffing & over staffing.

**6. Shrestha, Anupama** carried out her has done his research on "A Study on Working Capital Management of Manufacturing Companies: Listed in NEPSE".

#### **Objective:**

- To find out the working capital practices of manufacturing companies and to evaluate the relationship between the selected variables regarding working capital.

#### **Major Findings:**

- Working capital policy shows that most of the manufacturing companies are following aggressive policy but it has impacted oppositely in revenue.
- Most of the companies have negative return and is found that there is unfavorable liquidity, profitability and turnover position.
- Success and failure analysis also shows that most of the companies are financially unsound.
- **7. Yogi, Dhruba Nath** has conducted his research on "A Study on Working Capital Management of Nepal Lever Limited". The main objectives of the study were to analyze the liquidity, composition of working capital, assets utilization and profitability position and to examine the relationship between liquidity and profitability of NLL.

#### Major findings of the study are:

- Inventory holds the largest portion of total assets followed by miscellaneous current assets, cash and bank balance and sundry debtors respectively.
- The liquidity position of he company is in increasing trend and satisfactory.

- There is not proper utilization of current assets but inventory turnover is in increasing trend and it looks better during his study period.

To conclude, he stated satisfactory working capital management of NLL.

The above mentioned studies in the context of Nepalese manufacturing companies were done in the past. Many changes have taken place in recent year. Now, Nepal has followed the policy of liberalization, privatization and globalization. Nepal has got the member of WTO. So, it is necessary for Nepalese manufacturing Industries to compete with global market and it is challenging work. Now many more manufacturing industries have been established in Nepal and it is very critical period for the survival of those manufacturing industries because of the political situation of the nation. Many more studies about Nepalese manufacturing industries were done in last decades. But none studies are done about manufacturing Industries situated in Nepalgunj Industrial State & WC aspect of the manufacturing industrial sectors was negligeted. I think that it is necessary to bring out a fresh study of manufacturing industries with respect to WC management which plays vital role for success and failure of firm. This study is based on different variable and tools using latest data and focus only on WC management aspect of selected manufacturing industries situated at Nepalgunj industrial estate.

## **CHAPTER THREE**

### RESEARCH METHODOLOGY

#### 3.1 Introduction

Research methodology is a way to systematically solve the research problem. It may be understood as a science of studying how research is done scientifically. In it we study the various steps that are generally adopted by researcher in studying his research problem along with the logic behind them. The various objectives of this chapter are to show the financial relations from which liquidity, structure of working capital and utilization of working capital of the factory can be measured.

Research methodology refers to the various sequential steps to be adopted by the researcher in studying a problem with certain object in view. (Kothari; 1986:19)

The study about selected listed manufacturing industries situated at Nepalgunj industrial Estate has been already streamlined to some extent in earlier chapter regarding their growth, objective, statement of problem, relevant literature of concerning manufacture in industries have been reviewed in second chapter. This chapter, the focus have been made on research design, nature of data, population and sample, source of data, data collection techniques and tools used for data analysis.

### 3.2 Research Design

Research Design is the plan, structure and strategy of investigation conceived so as to obtain answers to research question and to control variances. The plan is the overact scheme or program of the research. (F.N. Kerlings; 1986:275)

The analysis of this study is based on certain research design keeping in mind on the objective of the study. This study attempts to make composition and establish the relationship between two or more variables, this study to be termed as analytical, informative, descriptive, and challenging and feedback study. For the study of working capital management financial tools, as well as statistical tools as a secondary data, and primary data as qualitative analysis of manufacturing industries are employed to achieve prescribed result.

#### 3.3 Nature and Sources of Data

This research is mainly based on the secondary data but some additional required information has been collected through discussion and personal interviews with key personnel and employees. The secondary data have been collected from annual reports, financial statement, published and unpublished official records of concerned companies and from the official website. All the collected data and information have been properly synthesized, arranged, tabulated and calculated to serve the objectives of the study.

### 3.4 Population and Sampling

This study is concerned with working capital management of manufacturing industries situated at Nepalgunj industrial State. There are altogether 27 industries situated in Nepalgunj industrial State. Out of 27 manufacturing industries only five (18.52%) are taken for this study, which are producing different products. It may help to know the contribution of different manufacturing industries in manufacturing sector. Data are collected for five years to analyze the working capital management of concerned manufacturing industries.

The sample of listed manufacturing industries is given in following table:

S. No.	Name of Companies	Established
1	Vinod Metal Industry (VMI)	2039 B.S.
2	Laxmi Plastic Industry (LPI)	2039 B.S.
3	Modern Doors & Wood Pro. Pvt. Ltd. (MDW)	2039 B.S.
4	Binaya Food Industry (BFI)	2037 B.S.
5	Krishna Kamal Textile (KKT)	2056 B.S.

## 3.5 Data Collection Techniques

The necessary data have been collected from concerned manufacturing industries and central Bureau of statistic. Data are also collected through various articles, journals and published and unpublished reports from different library including T.U. & Mahendra Multiple Campus Library. Similarly some data have been acquired by visiting different websites in internet. Besides, if study requires

the indirect and informal talk, interviewing with some professors, teachers and persons of the concerned field have also been made.

### 3.6 Methods of Data Analysis

The main purpose of analyzing the data is to change it from an unprocessed form to an understandable presentation. The analysis of data consists of organizing, tabulating and performing statistical analysis. Here, the collected data has been classified, tabulated and analyzed through the quantitative and qualitative method and result are presented and analyzed by using diagram and chart adhere necessary.

Quantitative method and qualitative method are applied for analyzing the working capital management of manufacturing industries situated at Nepalgunj industrial Estate.

- a. Quantitative Method
  - Financial Tools
  - Statistical Tools

### b. Qualitative Method

### 3.6.1 Quantitative Method

In quantitative method, for measuring the effectiveness of working capital management of manufacturing industries, two important tools can be applied. They are financial tools and statistical tools.

#### 3.61.1 Financial Tools

A widely used tool for the financial analysis is ratio analysis. An arithmetical relationship between two figures is known as ratio. Ratio analysis is a technique of analysis and interpretation of financial statement. Ratio analysis is widely used tolls for financial analysis, which establishes the numerical or quantitative relationship between two items.

Under the ratio analysis, the following ratios can be analyzed to determine financial position of an organization.

# I. Liquidity Ratio

Liquidity ratios measure the ability of the firm to meet its current obligations. A firm should ensure that it does not suffer from lack of liquidity, and also that it is not too much highly liquid.

The most common ratio which indicates the extent of liquidity or lack of it is:
a) Current ratio (CR)

The current ratio is calculated by dividing current assets by current liabilities. This shows the solvency and financial strength of the firm. It is basic yardstick of measuring the solvency and liquidity position of the firm. It is determined by the following way.

Current assets include cash, and those assets which can be converted into cash within a year, such as debtor, receivable, cash and bank balance, prepaid expenses inventory etc. Current liabilities mean all obligations maturing with in a year. Under the current liabilities include secondary creditor, provision for taxation, bank loan, miscellaneous current liabilities and provision.

The higher ratio indicates the position of the company is in liquid and able to pay its bills. Generally, the current ratio of 2:1 is considered to be satisfactory. Higher ratio indicates the greater amount of working capital and less ratio viceversa.

## b) Quick Ratio

Quick ratio establishes a relationship between quick or liquid assets and current liabilities. An asset is liquid if it can be converted into cash immediately or reasonably soon without a loss of value. Cash is the most liquid asset. Other assets which are considered to by relatively liquid and included in quick assets are book debts and marketable securities. Thus, QA includes the all or current assets except inventory or stock. Inventory

can not be converted into cash immediately. This quick ration can be found out by dividing the total of quick assets by total current liabilities.

#### II. Profitability Ratio

A company should earn profits to survive and grow over a long period of time. The profitability ratios are used as a measure to judge the operating efficiency (success or failure) of an organization. Following profitability ratios have been used in the present study:

#### a) Return on Current Assets:

This ratio analysis is the earning power of the current assets of the study. This ratio is calculated by dividing net profit by total current assets.

## b) Return on Net Working Capital:

This ratio measures the profitability of net working capital and also shows the efficiency of working capital. This ratio is obtained by dividing the net profit by net working capital.

## III. Activity/Turnover Ratio:

The relationship between sales and assets are indicated by turnover ratios. Activity ratios are employed to evaluate the efficiency with which the firm manages and utilizes its assets. There are following turnover ratios calculated.

## a) Inventory Turnover Ratio (ITR):

The inventory turnover ratio measures how quickly inventory can be converted into sales. It is calculated as:

$$ITR = \frac{Sales}{Inventory}$$

Higher turnover indicates the good inventory management of the company.

### b) Receivable/Debtor Turnover Ratio (RTR):

It indicates the number of times the debtors rotate in a year and is calculated as:

$$\begin{array}{c} \text{Debtors turnover} = & \frac{\text{Credit Sales}}{\text{Average Debtors}} \end{array}$$

Unless it is excessively high, higher ratio is preferable then lower ratio as it reflects better management of debtors or receivables.

### c) Total Assets Turnover Ratio:

This ratio shows the effectiveness in utilization of total assets along with the adequacy or inadequacy of assets to support sales or operation. The appearance of this ratio is as:

Total assets turnover ratio = 
$$\frac{\text{Sales}}{\text{Total}}$$
 Assets

### **Cash Conversion Cycle (CCC)**

Cash conversion cycle refers to the length of time require to convert raw materials into finished goods and than to receive cash by selling these goods. It is the length of time from the payment for the purchase of raw materials to the collection of accounts receivable generated by the sale of the final product.

$$CCC = ICP + RCP - PDP$$

Cash conversion cycle shows how much of time does cash generally collected by the firm. The CCC consists of the following period.

(I) Inventory Conversion Period (ICP): It is length of time required to convert raw materials into finished goods and then to sell these goods.

$$ICP = \frac{Inventory}{Cost of goods sold/360}$$

(II) Receivable Conversion Period (RCP): It is the length of time required to convert the firm's receivable into cash, that is, to collect cash following a sales.

RCP = 
$$\frac{\text{Receivable s}}{\text{Sales/360}}$$

(III) Payable Conversion Period (PCP): It is the length of time between the purchase of raw materials and labor and the payment of cash from them.

$$PCP = \frac{Payable}{Cost of goods sold/360}$$

The firm's goal should be to shorten its CCC as much as possible without hurting operations. By reducing ICP and RCP and lengthening the PCP, CCC can be shortening. This would improve profit, because the shorten the CCC the smaller the need for external financing and thus the lower the cost of such financing.

#### 3.6.1.2 Statistical Tools

The help of statistical tools is essential to measure the relationship of two or more variable. In this study, the following statistical tools are used.

#### I. Standard Deviation (SD)

The standard deviation is the square root of the average of the square distances of the observation from the mean. The standard deviation enables us to determine, with a great deal of accuracy, where the values of a frequency distribution are located in relation to the mean. Different formulae are used to calculate standard deviation; among them following formulae has been use here:

S.D (
$$\exists$$
) =  $\sqrt{\frac{(x Z x)2}{N}}$ 

## II) Co-efficient of Variation (CV)

The relative measure of dispersion based on the standard deviation is known as the coefficient of standard deviation. The percentage of measure of co-efficient of standard deviation is called co-efficient of variation.

$$C.V = \frac{S.D}{Mean} \times 100$$

It is used for comparing the homogeneity and the uniformity of two or more distributions.

#### III. Coefficient of Correlation (r)

Correlation analysis is the statistical tool that we can use to describe the degree to which one variable is linearly related to other variables. Two or more variables are said to be correlated if change in the value of one variable appears to be related or linked with the change in the other variables. Correlation is an analysis of the covariance between two or more variables and correlation analysis deals to determine the degree of relationship between two or more variables. It refers the closeness of the relationship between two or more variables. It says just degree of relationship between two or more variables. It does not tell us anything about cause and effect relationship i.e. if there is a high degree of correlation between two variables, we cannot say which is the cause and which is the effect.

Correlation co-efficient is defined as the association between the dependent variable and independent variable. It is a method of determining the relationship between these two variables.

Properties of Simple Correlation Coefficient

- (1) Correlation coefficient lies between -1 and +1.
- (2) Correlation coefficient is independent of change of origin and scale.
- (3) Correlation coefficient is symmetric in two variables.
- (4) Correlation coefficient is a pure number independent of the unit of measurement.
- (5) Correlation coefficient is the geometric mean between two regression coefficients.

Interpretation of correlation coefficient

- (i) It lies always between +1 and -1
- (ii) Where r = +1, there is perfect positive correlation.
- (iii) Where r = 0, there is no correlation.
- (iv) when r lies between 0.7 to 0.999(or -0.7 to -0.999) there is a high degree of positive (or negative) correlation
- (v) When r lies between 0.5 to 0.699, there us a moderate degree of correlation.
- (vi) when r is less than 0.5, there is low degree of correlation.

Correlation coefficient (r) can be calculated as follows:

$$r = \frac{xy}{\sqrt{x \cdot 2 \cdot y \cdot 2}}$$

Where,

$$x = (x - x)$$
 & 
$$x = (y - y)$$

#### IV) Probable Error (PE) of the Coefficient of Correlation

The probable error (PE) is used to measure the reliability and test of significance of correlation coefficient. It is calculated by the following formula:

P.E. = 
$$\frac{0.6745 (1-r2)}{\sqrt{n}}$$

If 'r' is less than its PE, it is not at all significant. If 'r' is more than PE there is correlation. If 'r' is more than 6 times its PE and greater than +0.5 then it is considered significant.

# V. Simple Linear Regression Model

Simple linear regression analysis a single variable is used to predict another variable on the assumption of linear regression (i.e. relationship of the type defined by y=a+bx) between the given variables. The variable to be predicting is called the dependent variable and the variable on which the prediction is called the independent variable.

A simple regression equation, which is used in this research study, is given below:

The regression equation of x or y

$$x - \in x = r \frac{\exists x}{\exists y} (y Z y)$$

Similarly, the regression equation of y on x

$$y - = r \frac{\dagger y}{\dagger x} (x Z x)$$

Where,

r = simple correlation coefficient between x and y

 $\exists x = \text{standard deviation of } x$ 

 $\exists y = \text{standard deviation of } y$ 

 $\triangleq$  mean of x series

€y= mean of y series

x = dependent variable

y = independent variable

## 3.6.2 Qualitative Method

Whenever quantitative method is insufficient, opinion survey method should be used to make study more qualitative. A list of questions will be asked to the selected persons of the sample industries; on the basis of their replies analysis can be made.

# 3.7 Definition of Key Terms

To avoid confusion and misunderstanding, the key terms used in this study have been defined as follows:

**I. Current Assets:** Current assets include cash and those assets which can be converted into cash within a year such as marketable securities, debtors and stock, prepaid expenses.

**II.** Current Liabilities: Current liabilities include those liabilities which are with short-term maturing obligation to be met within a year. It includes account payable,

loan and advance, provision of taxation and miscellaneous current liabilities and provision.

- **III. Gross Working Capital:** Total investment in the current assets of the firm is called gross working capital.
- IV. Net Working Capital: The difference between current assets and current liabilities is called net working capital.
- **V. Fixed Assets:** It consists of the assets of the company like land and building, plant and machinery, furniture & fixture, long term investments, vehicles and miscellaneous assets related to administration and construction works in progress.
- **VI. Total Assets:** It is the total of assets side of Balance sheet i.e. sum of CA and fixed assets.
- VII. Cash and Bank Balance: It includes the cash-in-hand and cash-at-bank.
- **VIII. Receivable:** A receivable is that amount of tied up money in sales which is not yet recovered. It includes trade and other debtors.
- **IX. Inventory:** It includes the stock of raw materials, work-in-progress, finished goods as well as other operating goods and spares.
- **X. Payable:** It includes the amount of sundry creditors, which the companies have to pay with in a year.

## **CHAPTER - FOUR**

### DATA PRESENTATION AND ANALYSIS

#### 4.1 Introduction

The data, after collection, has to be processed and analyzed in accordance with the outline laid down for the purpose of the time of developing the research plan. So, this chapter is concerned with presentation, analysis and interpretation of collected data. This chapter is the main body of this study which consists of presentation and analysis of empirical data.

In order to analyze the working capital management practice of manufacturing industries, the necessary information and data are collected through audited financial statement, annual reports and direct contact process. The major variables of this study are current assets, current liabilities, net profit, sales, total assets, cost, etc. which are very sensitive and pertinent for the study. Only collecting and presenting the data are not sufficient for the study purpose. So, for this, various financial and statistical tools are to be applied to examine the working capital management of manufacturing industries situated at Nepalgunj Industrial Estate. Firstly, it is attempted to deal about the working capital policies followed by listed manufacturing industries and then financial position of success/failure industries has been analyzed applying various method. This study is based on both primary and secondary data.

# **4.2 Working Capital Policy**

Working capital policy refers to the firm's basic policies regarding the target level for each category of current assets and liabilities. Working capital policy can be categorized into three categories viz. aggressive, moderate and conservative policy. Every firm can adopt different working capital policies according to the financial managers' attitude towards the risk return trade-off. One of the most

important decisions of financial managers is how much current liabilities should be used to finance current assets. Hence, it is tried to analyze on the basis of various variables and ratios of the sample manufacturing industries taking five years data to indicate working capital policy followed by selected manufacturing industries situated at Nepalgunj Industrial Estate. The researcher makes analysis of this section by dividing two aspect i.e. individual industry wise analyses for different period and different industry wise analysis in the same period. The analysis process is organized and described systematic manner as follows.

### 4.2.1 Analysis based on Variables of Working Capital

First the variables of working capital have been examined to analyze the working capital policy which is followed by the manufacturing industries. For this the variables of working capital have to be examined and described, separately lack of the calculated industrial average and other economic indicators with respect to working capital management, here, industry-wise and period-wise analyzing process are taken as standard.

#### 4.2.1.1 Level of Current Assets and Current Liabilities

Every firm has to maintain the appropriate level of current assets to run the business smoothly because the success/failure of any firm depends upon the proper management of current assets. A company or firm finances its current assets and current liabilities conservatively or aggressively. An aggressive management policy leads to lower level of current assets and higher level of current liabilities and the conservative policy has just the opposite effects.

Current liabilities are the integral part of the working capital policy; current liabilities are defined as all the payment that has to be paid by the company within in accounting period generally within one fiscal year. Firms should maintain the optimum level of liquidity in order to enable the organization to meet the current liabilities.

This section has been broken down into single company-wise analysis for each period and different company-wise analysis in the same and different period. The position of current assets and current liabilities of selected manufacturing industries are given in following table:

Table 4.1: Level of Total Current Assets

(Rs.'00,000)

Year	2060/61	2061/62	2062/63	2063/64	2064/65	Total	Average
Industry							
VMI	542.51	603.32	642.67	504.21	696.31	2989.02	597.80
LPI	292.35	382.72	405.21	310.32	314.62	1705.22	341.04
MDW	114.23	125.31	127.58	112.34	116.81	596.27	119.25
BFI	32.53	38.12	54.27	42.13	44.58	211.63	42.33
KKT	22.35	25.24	45.33	47.72	52.23	192.87	38.57
Total	1003.97	1174.71	1275.06	1016.72	1224.55	5695.01	1139.00
Average	200.79	234.94	255.01	203.34	244.91	1139.00	227.80

Source: Annex-1

Table 4.2: Level of Total Current Liabilities

(Rs. '00,000)

Year	2060/61	2061/62	2062/63	2063/64	2064/65	Total	Average
Industry							
VMI	202.19	232.63	301.96	189.79	334.21	1260.78	252.16
LPI	140.97	176.88	106.63	91.88	117.24	633.6	126.72
MDW	45.81	62.14	63.43	37.23	59.58	268.19	53.64
BFI	12.91	11.81	17.97	19.49	22.52	84.7	16.95
KKT	16.13	14.52	21.85	18.09	26.83	97.42	19.48
Total	418.01	497.98	511.84	356.48	560.38	2344.69	468.94
Average	83.60	99.60	102.37	71.3	112.08	468.94	93.79

Source: Annex-2

### I. Single Industry in Different Period

Table no. 4.1 shows that there is wide variation of the current assets level within individual Industries. The table shows that current asset varies from Rs. 504.21 lakh to Rs696.31 lakh for VMI, Rs. 292.35 lakh to Rs. 405.21 lakh for LPI, Rs. 112.34 lakh to 127.58 lakh for MDW, Rs. 32.53 lakh to Rs. 54.27 lakh for BFI and Rs. 22.35 lakh to Rs. 52.23 lakh for KKT. It shows that manufacturing industries are not able to maintain consistency in holding of current assets. The average level of CAs of VMI is Rs. 597.80 lakh, LPI is 341.04 lakh, MDW is Rs 119.25 lakh, BFI is Rs 42.33 lakh and KKT is 38.57 lakh .The average level of current assets of all industries is Rs 227.80 lakh.

Similarly, table no. 4.2 shows that there is also wide variation in the level of CLs for the individual industries. The current liabilities varies from Rs 189.79 lakh to 334.21 lakh in VMI, 91.88 to 176.88 in LPI, 37.23 to 63.43 in MDW, 11.81 to 22.52 in BFI and 14.52 to 26.83 in KKT. The level of current liabilities during the study period increasing trends in VMI, BFI & KKT and decreasing trends in LPI but in MDW increases up to F/Y 2062/63. Then decreases in 063/64 and again increase in 2064/65.

According to the above 2 tables in all industries current assets is higher then current liabilities. Thus all the selected industry has adopted conservative assets management approach.

#### II. Different Industries in Same Period

The industries' yearly average of CAs in F/Y 2060/61 to 2064/65 are Rs. 200.79 lakh, Rs. 234.94 lakh, Rs. 255.01 lakh, Rs. 203.34 lakh and Rs. 244.91 lakh respectively, which is shown in table no 4.1 CAs level in F/Y 2061/62, 2062/63 & 2064/65 are higher than companies yearly average of respective year, But current asset level in F/Y 2060/61 & 2063/64 have lower than yearly average of respective year. Similarly, according to the analysis of the level of CLs there is wide variability in the size of CLs between selected manufacturing industries. Such variability seems to be inconsistent WC policy of manufacturing companies. The industries yearly average of CLs in F/Y 2060/61 to 2064/65 is 83.60, 99.6, 102.37, 71.3 & 112.08 respectively and average is 93.79 lakh. According to the table no. 4.2 industries yearly average of CLs slightly increasing trends.

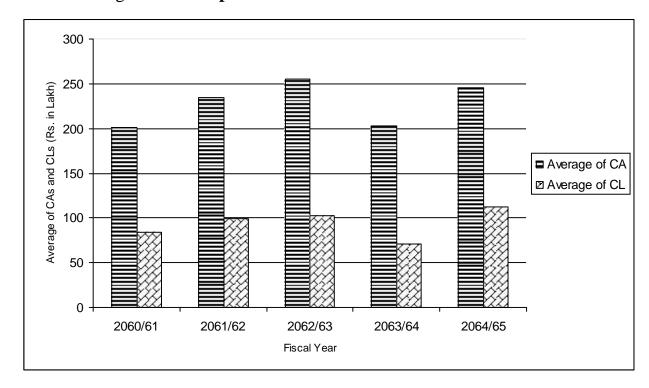


Figure 4.1: Graphic Presentation of Level of CAs and CLs

The above figure 4.1 shows that the yearly average of level of CAs and CLs of selected manufacturing industries is in increasing order but yearly average is lower than industry overall average.

## 4.2.1.2 Cash Conversion Cycle

Cash conversion cycle is the length of time between paying for purchase and receiving cash from the sale of finished goods. Cash conversion cycle helps to analyze the cash flow of the firm. A cash conversion cycle reflects the net time interval in days between actual cash expenditures of the firm on productive resources and the ultimate recovery of the cash. The cash conversion cycle is calculated as follows:

**Cash Conversion Cycle** = Inventory conversion period + receivable conversion period - payable deferral period.

**Inventory Conversion Period:** Inventory conversion period is the average length of time required to convert material into finished goods and then to sell those goods.

Inventory conversion period (ICP) = 
$$\frac{\text{Inventory}}{\text{COGs}/360}$$

**Receivable Conversion Period:** The receivable conversion period is the average length of time required to convert the firm's receivable into cash.

Receivable conversion period (RCP) = 
$$\frac{\text{Re } ceivable}{Sales/360}$$

**Payable Deferral Period:** The payable deferral period is the average length time between the purchase of raw materials and labor and the payment of cash for this.

Payable Deferral Period (PDP) = 
$$\frac{\text{Accounts Payable}}{\text{COGS}/360}$$

Table 4.3: Cash Conversion Cycle of Selected Manufacturing Industries

[In days]

Year Industry	2060/61	2061/62	2062/63	2063/64	2064/65	Total	Average
VMI	67.45	32.60	33.34	25.85	52.43	211.67	42.33
LPI	64.41	32.57	20.61	11.09	37.80	166.48	33.30
MDW	25.27	36.44	29.86	22.77	28.23	142.57	28.51
BFI	54.17	20.37	6.68	26.37	11.31	118.90	23.78
KKT	88.66	71.85	102.28	58.87	67.42	389.08	77.82
Total	299.96	193.83	192.77	144.95	197.19	1028.70	205.70
Average	60	38.77	38.55	28.99	39.44	205.74	41.15

Source: Annex-9, 10 & 11

The above table 4.3 shows the CCC of selected manufacturing industries, the overall average CCC is 41.15 days. This represents the CCC of manufacturing industries situated in Nepalgunj industrial estate. CCC is not satisfactory for industries. Cash conversion cycle shows how much of time does cash generally collected by the firm. It is affected receivable conversion period, inventory conversion period and payable deferral period.

The industry must be reduced its cash conversion cycle if possible. It can be shortened by reducing ICP by processing and selling goods more quickly, RCP can be reduced by speeding up collection and by lengthening PDP by slowing down the firm's own payment. To reduce the CCC, manufacturing companies must reduce their ICP by processing and selling goods more quickly.

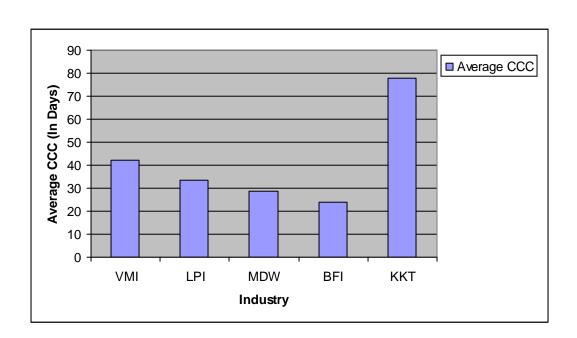


Figure 4.2. Graphic Presentation of Cash Conversion Cycle

## 4.2.1.3 Level of Net Working Capital

The net working capital of a firm is the difference between their total CAs and total CLs of a year. The net working capital indicates the margin of safety provided to the creditors. It also measures the level of CAs and CLs because liquidity position is closely related with the net WC. Higher the net WC indicated the higher level of CAs and lower level of CLs and vice versa. The positive NWC indicated the higher level of CAs than CLs and negative NWC indicates the higher level of CLs than CAs and the negative NWC shows the parts of the fixed assets

also inventing form the short term funds. The net working capital position of selected manufacturing industries is given below.

Table 4.4: Level of Net Working Capital of Selected Manufacturing Industries
(Rs in '00,000)

Year	2060/61	2061/62	2062/63	2063/64	2064/65	Total	Average
Industry	2000/01	2001/02	2002/03	2003/04	2004/03	Total	Average
VMI	340.32	370.69	340.71	314.42	362.1	1728.24	345.65
LPI	151.38	205.84	298.58	218.44	197.38	1071.62	214.32
MDW	68.42	63.17	64.15	75.11	57.23	328.08	65.62
BFI	19.62	26.31	36.30	22.64	22.06	126.93	25.39
KKT	6.22	10.72	23.48	29.63	25.40	95.45	19.09
Total	585.56	676.73	763.22	660.24	664.17	3350.32	670.06
Average	117.19	135.35	152.64	132.05	132.83	670.06	134.01

Source: Annex-1 & 2

The above table 4.4 shows the level of net WC of selected listed manufacturing industries of the study period. It is widely varied within and among the companies. All the years' industries have positive WC position. The highest level of WC is Rs. 370.69 lakh of VMI in 2061/62 and the lowest level of WC is Rs. 6.22 lakh of KKT in 2060/61. The overall average net WC is Rs. 134.01 lakh. The company average column of the table shows that the highest amount of NWC is Rs. 345065 lakh of VMI and lowest level of NWC is Rs. 19.09 lakh of KKT.

The table shows that the yearly average of NWC is fluctuating trend during the study period. The lowest yearly average was Rs. 117.19 lakh in 2060/61 and the highest level of NWC was Rs 152.64 lakh in 2062/63. The trend of NWC during the study period is shown by graphic method.

180 160 Average Net WC (Rs. in Lakh) 140 120 100 ■ Average Net WC 80 60 40 20 0 2060/61 2061/62 2062/63 2063/64 2064/65 Fiscal Year

Figure 4.3. Graphic Presentation of NWC

### 4.2.2 Analysis Based on Liquidity Ratio

Liquidity position is one of the crucial factors that make firm's day to day operation easier. It indicates the ability to pay its short term obligations. Liquidity position on the firm depends on its working capital policy. If the firm follows aggressive policy, it has low liquidity position while conservative policy has high liquidity position. One of the main objectives of working capital management is to keep good liquidity position. Ratio analysis is one of the tools to measure the financial performance of any companies. Hence, liquidity position of selected manufacturing industries is analyzed with the help of following ratio:

#### (I) Current Ratio

Current ratio measures the short-term solvency of the firm. For analyzing the liquidity position, firm's current ratio is taken as major factors. This ratio is calculated by dividing current assets by current liabilities. As a conventional rule, a current ratio of 2:1 is considered satisfactory. Higher the current ratio, better the liquidity position. Higher the liquidity position, the lesser the need for additional working capital, since it will be better for them to have the best use of existing liquidity position. On the other hand, manufacturing industries having lower

liquidity position must raise the amount of working capital to save themselves from serious future liquidity crises. The current ratio of sample manufacturing industries is shown under the table:

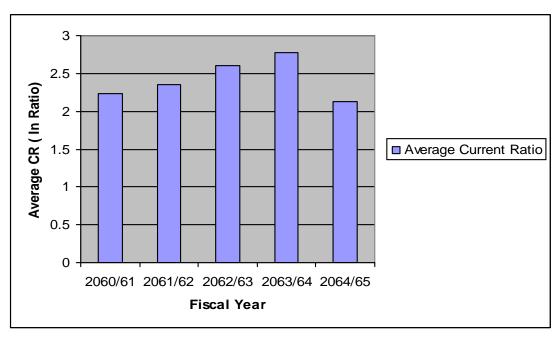
**Table 4.5: Current Ratio of Selected Manufacturing Industries** 

Year Industry	2060/61	2061/62	2062/63	2063/64	2064/65	Average
VMI	2.68	2.59	2.13	2.68	2.08	2.43
LPI	2.07	2.16	3.80	3.38	2.68	2.82
MDW	2.59	2.02	2.01	3.02	1.96	2.30
BFI	2.52	3.23	3.02	2.16	1.99	2.58
KKT	1.39	1.74	2.07	2.64	1.95	1.96
Average	2.23	2.35	2.61	2.78	2.13	2.42

Source: Annex-1 & 2

The above table 4.5 shows the current ratio of selected manufacturing industries of the study period. The company average current ratio is 2.42, which is above standard ratio. The highest ratio is 2.82 of LPI and lowest ratio is 1.92 of KKT. The overall current ratio of the company is not satisfactory. So By analyzing average CR it can be conclude that all the manufacturing industries follow conservative WC policy because they have used more CAs than CLs. If there is low CR, company should increase the WC and vice-versa.

Figure 4.4. Graphic Presentation of current Ratio of selected Industries



## 4.3 Composition of Working Capital

For the smooth operation of any business, two kinds of assets are needed; they are fixed assets and current assets. Fixed assets is long term nature but for day to day operation business firm needed to invest their some portion of capital (fund) in current assets. Here composition of working capital means the variables of current assets. The investment and composition of current assets i.e. working capital of selected manufacturing industries is analyzed below.

#### **4.3.1 Investment in Current Assets**

The success and failure of any business firm depends upon proper management of available resource and their best utilization. To run day to day operation smoothly every manufacturing industry has to maintain appropriate level of current assets i.e. gross working capital. So each of the components of current assets should be managed efficiently and effectively.

A high level of current assets in total assets structure does not always convey a high liquidity position because current assets consist of cash, receivable and inventories. Besides cash, receivable and inventories have to wait for conversion into cash. Therefore they are less liquid. Cash is hundred percent liquid assets and it has zero conversion periods. Generally a high ration of cash to current assets indicate more liquidity position of current assets but it is also an indication of poor cash management because an idle cash reserve involves an opportunity cost. For analyzing the position of current assets, its components and its composition should be seriously examine separately i.e. position of cash, receivables and inventories to its total current assets level.

Table 4.6: Company Average Ratio of Cash, Receivable and Inventory to Current Assets of 2064/65

Industry	Receivable to CAs	Cash to CAs	Inventories to CAs
VMI	0.27	0.05	0.45
LPI	0.45	0.07	0.26
MDW	0.24	0.19	0.37
BFI	0.24	0.13	0.27
KKT	0.38	0.11	0.40
Overall Company	0.32	0.11	0.35
Average			

Source: Annex-1, 3 & 4

#### (i) Ratio of Receivable to Current Assets

This ratio shows what percentage of current assets is in the form of receivables. An increase the ratio shows that the management of receivables has an important bearing on the performance of the industry. Higher receivable to CAs ratio indicates the liberal credit policy of the company. The ratio of receivable to CAs is widely varied within and among the selected manufacturing industries during the study period.

The above table 4.6 shows overall average ratio of receivable to CA is 0.32. The average ratio of receivable to CA of VMI, LPI, MDW, BFI and KKT are 0.27, 0.45, 0.24, 0.24 and 0.38 respectively. The highest ratio is 0.45, which is hold by LPI and lowest ratio is 0.24 of MDW and BFI. The variability of ratio of receivable to current assets indicates that the companies have inconsistent credit policy of selected manufacturing companies.

### (ii) Ratio of Cash to Current Assets (CAs)

The ratio states, what percentage of current assets is in the form of cash. The higher ratio indicates the higher investment in cash which means the higher level of idle fund remains in the company that increases the opportunity cost and decreases the profitability of the industry. On the other hand, lower level of cash balance means loosing the opportunities and unable to meet obligations on time. Here, this ratio analyzing by two ways i.e. the manufacturing industry-wise average of cash to CAs and yearly average of cash to CAs.

The above table 4.6 shows industries overall average of cash to current assets are 0.11 i.e. 11.30%. It means the companies use the cash 11.30% of current assets. The lowest holding of cash is 0.05 by VMI and MDW holds the highest cash by 0.19 of current assets.

### (iii) Ratio of Inventories to Current Assets

This ratio shows that percentage of CAs is in the form of inventories. The increase in the ratio is an indication of liberal inventory policy, followed by the companies. Higher percentage of inventory to CAs means higher level of inventory holdings by the industries. Higher percentage of inventory holding causes higher holding cost of inventory, lower than profitability and lower inventories turnover. It is the sigh of poor inventory management.

The above table 4.6 shows overall company average ratio of inventory to CA is Rs. 0.35. The average ratio of inventory to CA of VMI, LPI, MDW, BFI and KKT is 0.45, 0.26, 0.37, 0.27 and 0.40 respectively. The highest ratio is 0.45, which is hold by VMI and lowest ratio is 0.26 of LPI. Higher inventory holding causes higher carrying cost and lowers profitability as well as lower inventories turnover. It is also the result of less efficiency inventory management. Inventory depends upon the nature and type of business. Due to the less efficient inventory management, the company average ratio of inventory to CA is inconsistent during the study period.

#### 4.3.2 Ratio of Current Assets to Total Assets

Current assets are the assets which can be converted into cash within a fiscal year from operating activities. Current assets include cash and bank balance, marketable securities, account receivable, bills receivable, inventories, prepaid expenses, accrued income and loan advances. Total assets include the total of fixed assets and total current assets.

This ratio indicates what percentage of the companies' total assets is current. Higher the level of current assets indicates good liquidity position of the company but at the same time it reversely affects on the profitability and risk would decrease. The percentage of current assets to total assets has been analyzed with the help of cross section analysis method under following:

Table 4.7: Ratio of current Assets to Total Assets

Year	2060/61	2061/62	2062/63	2063/64	2064/65	Total	Average
Industry							
VMI	0.739	0.711	0.708	0.801	0.793	3.752	0.75
LPI	0.460	0.489	0.524	0.505	0.567	2.545	0.51
MDW	0.745	0.699	0.801	0.842	0.875	3.962	0.79
BFI	0.332	0.304	0.342	0.369	0.390	1.737	0.35
KKT	0.829	0.843	0.859	0.838	0.866	4.235	0.85
Total	3.105	3.046	3.234	3.355	3.490	16.231	3.25
Average	0.62	0.61	0.65	0.67	0.70	3.25	0.65

Source: Annex-1

The above table 4.7 shows that the percentage of CAs to total assets is widely varied within the selected manufacturing industries. The highest ratio is 0.875 of MDW in F/Y 2064/65 and the lowest ratio is 0.304 of BFI in F/Y 2061/62. To make easy for analyzing the ratio is classified into company wise average and yearly average.

# (i) Yearly Average Ratio of CAs to Total Assets

The overall yearly average ratio of CAs to total assets during the study period from F/Y 2060/61 to 2064/65 is 0.65 which is shown in table 4.7. The yearly average ratio is lowest 0.61 in 2061/62 and highest 0.70 in 2064/65. The yearly average ratio of CA to total asset is in increasing trend during the study period.

## (ii) Industry Average Ratio of CAs to Total Assets

The above table 4.7 shows the company average ratio of current assets to total assets of selected manufacturing companies. The overall company average ratio is 0.65. It means that the manufacturing industry uses 3.25 CA to total assets. The highest ratio of CA to total assets is 0.85 of KKT and the lowest ratio is 0.35 of BFI.

The company average ratio of CA to total assets is fluctuating during the study period. VMI, MDW and KKT have maintained the industry average ratio greater than overall company average ratio whereas other have lower ratio than overall company average ratio. Higher level of CA indicated good liquidity position of the firm but at the same time it aversely affects the profitability.

### 4.4 Analysis of Turnover Position

Turnover or activity ratios are used to evaluate the efficiency and speed with which assets are being converted into cash. The behaviors of working capital utilization and improvement can be analyzed with the help of turnover ratio. The relationship between sales and assets are indicated by turnover ratios. This ratio reflects how effectively the company is managing its resources. Thus, this ratio measures the degree of effectiveness in use of resources or funds by a firm. With the help of these ratios current assets turnover, receivable turnover, inventory turnover and net working capital turnover are analyzed below:

#### **4.4.1 Current Assets Turnover Ratio (CATR)**

The current assets turnover ratio indicates the adequacy of sales in relation to the investment in current assets. Generally a high current assets turnover ratio indicates the maximum utilization of current assets during the year. For finding out the utilization of current assets of manufacturing industries, the current assets turnover ratio has been calculated and presented as below:

**Table 4.8: Current Assets Turnover Ratio** 

(in times)

,	Year	2060/61	2061/62	2062/63	2063/64	2064/65	Total	Average
Industry								
VMI		1.55	1.63	1.67	2.28	1.17	8.83	1.77
LPI		1.84	2.20	2.19	2.89	2.97	12.09	2.42
MDW		1.93	1.85	1.88	2.20	2.34	10.20	2.04
BFI		1.69	1.48	1.74	2.77	3.14	10.82	2.16
KKT		1.46	1.51	1.42	1.30	1.76	7.45	1.49
Total		8.47	8.67	8.90	11.44	11.91	49.39	9.88
Average		1.69	1.73	1.78	2.29	2.38	9.88	1.98

Source: Annex-1 & 7

## (i) Industry Average of Current Assets Turnover Ratio:

The company average of current assets turnover ratio of the selected manufacturing companies in table 4.8. The overall company average for the study period is 1.98 times. The highest turnover ratio is 2.42 times of LPI and lowest turnover ratio is 1.49 times of KKT. The trend of industry average of current assets turnover ratio is fluctuating. Only LPI, MDW and BFI have their company average

of CA turnover ratio grater than the overall ratio but the industries VMI & KKT have lower ratio than the overall ratio. Higher current assets turnover ratio indicates the higher utilization of current assets and lower turnover ratio indicates that the industries have poor current assets management.

### (ii) Yearly Average of Current Assets Turnover Ratio:

The above table (4.8) shows the yearly average current assets turnover ratio during the study period from F/Y 2060/61 to 2064/65. The overall yearly average turnover ratio is 1.92 times. The highest turnover ratio is 2.38 times in year 2064/65 and lowest is 1.69 times in 2060/61. The yearly average ratio during the study period is not so fluctuating.

#### 4.4.2 Receivable Turnover Ratio

Receivable is one of the major components of current assets. So, its degree of liquidity plays a vital role in the liquidity position of the firm. Thus, the measure of actual liquidity position of the firm remains incomplete without the analysis of the liquidity of receivables. So, receivable turnover has been used to measure the liquidity position of receivable. It indicates the number of times the receivable is turned out during the year. Higher turnover shows the higher degree of liquidity of receivable and vice-versa.

Table 4.9: Receivable Turnover Ratio

(in times)

	Year	2060/61	2061/62	2062/63	2063/64	2064/65	Total	Average
Industry								
VMI		5.97	8.88	5.95	5.95	6.49	33.24	6.65
LPI		6.48	8.33	9.81	8.94	6.65	40.21	8.04
MDW		10.23	5.11	4.76	8.27	9.88	38.25	7.65
BFI		9.83	9.80	19.59	9.95	13.21	62.38	12.48
KKT		4.46	3.99	3.26	3.69	4.60	20.00	4.00
Total		36.97	36.11	43.37	36.80	40.83	194.10	38.82
Average		7.39	7.22	8.67	7.36	8.17	38.82	7.76

Source: Annex-3 & 7

Here, the table (4.9) shows the industries' average of receivable turnover ratio of selected manufacturing industries. The companies' overall average turnover ratio is 7.76 times. The average turnover ratio of VMI, LPI, MDW, BFI and KKT is 6.65, 8.04, 7.65, 12.48 and 4.00 times respectively. The highest turnover ratio is 12.48 times, which is hold by BFI, and the lowest turnover ratio is 4.00 times which is hold by KKT. Lower turnover indicates that the companies are not able to collect debt within short period of time. Hence, the lower ratio is not good for industry.

## 4.4.3 Inventory Turnover Ratio

Inventories are the stock of the product, a industry manufactures for the sales and component that make up a product. The shortage of required inventory results irregular production and hamper of the production process. On the other hand excess inventory causes unnecessary holding of capital and results into increasing in the carrying costs. Inventory turnover ratio measures the liquidity of inventory.

Table 4.10: **Inventory Turnover Ratio** 

(In times)

	Year	2060/61	2061/62	2062/63	2063/64	2064/65	Total	Average
Industry								
VMI		4.04	4.82	5.28	9.95	3.77	27.86	5.57
LPI		3.84	5.72	11.84	24.54	11.43	57.38	11.48
MDW		6.38	5.74	7.40	19.52	6.32	45.35	9.07
BFI		10.32	15.18	21.40	13.72	11.72	72.25	14.45
KKT		3.78	4.21	4.10	5.30	4.40	21.79	4.38
Total		28.27	35.66	50.02	73.03	37.64	224.62	44.92
Average		5.65	7.13	10.00	14.61	7.53	44.92	8.98

Source: Annex-4 & 7

The table (4.10) shows the inventory turnover ratio of the manufacturing industries. The overall average of the industries is 8.98 times. LPI, MDW and BFI have higher turnover ratio than overall average i.e. 11.48, 9.07 and 14.45 times respectively. The higher turnover shows the higher degree of liquidity of inventory and vice-versa.

# 4.4.4 Net Working Capital Turnover Ratio (NWCTR)

The net working capital turnover ratio indicates the number of times the average net working capital is turned over during the year. The working capital needs for manufacturing industries also depends upon the turnover rate i.e. the time taken to convert current assets into cash. Any organization with higher turnover of working capital (CAs) needs lesser working capital compared to this firm having lower turnover. So we can say that if the firm uses lower level of working capital, the turnover is high and this firm has to follow aggressive working capital approach.

Table 4.11: **Net Working Capital Turnover Ratio** 

(In times)

	Year	2060/61	2061/62	2062/63	2063/64	2064/65	Total	Average
Industry								
VMI		2.48	2.66	3.16	3.65	3.26	15.21	3.04
LPI		3.55	4.08	2.97	4.10	4.74	19.45	3.89
MDW		3.22	3.66	3.74	3.30	4.77	18.69	3.74
BFI		2.80	2.15	2.61	5.15	6.35	19.05	3.81
KKT		5.26	3.56	2.74	2.09	3.62	17.26	3.45
Total		17.31	16.11	15.22	18.29	22.74	89.67	17.93
Average		3.46	3.22	3.04	3.66	4.55	17.93	3.59

The above table (4.11) shows that all five manufacturing industries has positive average net working capital turnover ratio. So, these companies enjoy positive net WC. the average net working capital turn over ratio of the industries is 3.39 highest is 3.89 of LPI and lowest is 3.04 of VMI. Yearly highest average is 4.55 in F/Y 2064/65 and lowest is 3.04 in F/Y 2062/63. Adequate turnover itself is sufficient to generate additional WC so; these industries need not search for addition WC.

#### 4.5 Analysis of Profitability Position

The profitability position of a firm can be measured by its profitability ratio. Profitability is a measure of operating efficiency and the search for it provides an incentive to achieve efficiency. For our analysis profitability can be measured with the help of the ratio, such as, profit margin ratio, return to total assets and return on net working capital and the analysis of net profit position of the selected manufacturing industries.

### 4.5.1 Net Profit (Loss) Margin Ratio

Net profit is obtained when operating expenses, interest and taxes are subtracted from the gross profit. The profit (loss) margin ratio measures the relationship between net profit and net sales of the enterprises and indicates the cost price effectiveness of the operation. The calculated net profit margin ration of selected manufacturing industries is given below:

Table 4.12: **Net Profit Margin Ratio** 

(In percentage)

Year Industry	2060/61	2061/62	2062/63	2063/64	2064/65	Total	Average
VMI	2.30	1.87	1.98	2.40	2.00	10.55	2.11
LPI	7.72	4.59	5.90	5.04	5.91	29.16	5.83
MDW	7.74	6.09	8.15	9.78	10.01	41.78	8.36
BFI	2.40	2.74	1.91	1.45	2.09	10.59	2.12
KKT	6.61	6.27	3.50	3.95	3.71	24.04	4.81
Total	26.77	21.56	21.44	22.62	23.72	116.11	23.22
Average	5.35	4.31	4.27	4.52	4.74	23.22	4.64

Source: Annex-7 & 8

The above table (4.12) shows the ratio of net profit to sales. The ratio is varied during the study period. All five industries have operation on profit. The highest profit ratio is 8.36% by MDW and the lowest profit is 2.11% by VMI. The year wise average profitability of manufacturing industries shows that they are in profit of all industries. The highest percentage of yearly profit is 5.35% in F/Y 2060/61 and lowest percentage profit is 4.27% in F/Y 2062/63. The profit of the manufacturing industries is satisfactory and If they tried to improve their management and control their costs, they will success to earn more profit in coming fiscal year.

## **4.5.2 Return on Total Assets (ROA)**

This ratio measures the profitability of the firm by establishing the relationship between net profit after taxes and total assets. It gives the earning

power of the firm from utilization its total investment. The return on total assets has been presented below in table.

Table 4.13: Net Profit to Total Assets Position

(In percentage)

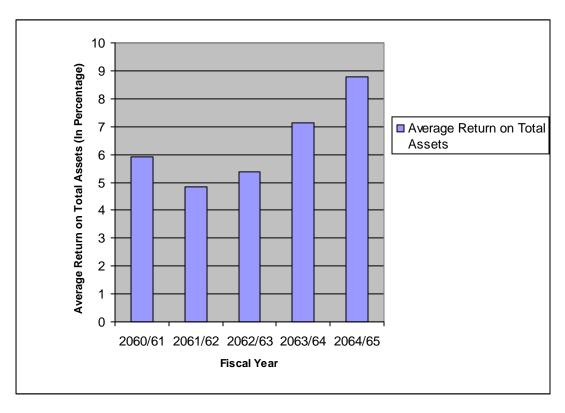
Year Industry	2060/61	2061/62	2062/63	2063/64	2064/65	Total	Average
VMI	2.64	2.17	2.35	4.38	2.69	14.23	2.85
LPI	6.53	4.93	6.77	7.34	9.96	35.55	7.11
MDW	11.13	7.87	12.27	18.15	23.92	73.33	14.67
BFI	1.35	1.24	1.14	1.48	1.68	6.88	1.38
KKT	8.01	7.98	4.26	4.30	5.65	30.21	6.04
Total	29.66	24.19	26.79	35.65	43.90	160.19	32.04
Average	5.93	4.84	5.36	7.13	8.78	32.04	6.41

Source: Annex-1 & 8

The above table (4.13) shows the ratio of net profit to total assets. This ratio is widely varied with in and among the selected manufacturing companies. All the years of the industries are in position of profit. The overall company average of ROA for the study period is 6.41%. The highest company average ROA is 14.67% of MDW and that of lowest is 1.38% of BFI.. The trend of company average of return on assets is much fluctuating in nature. The higher positive industry average of ROA is always desirable. The overall yearly average of ROA is 6.41%. During the study period, the highest return is 8.78% in the F/Y 2064/65 and that of lowest is 4.84% in the F/Y 2061/62.

The Trend of Return on Total Assets during the Study Period is given by Graphic Method.

Figure 4.5: Graphic Presentation of Net Profit to total Asset Position



### 4.5.3 Return on Net Working Capital

Return on NWC is one of the determinants of WC needs of manufacturing industries. Higher the return on net working capital means lesser the needs for additional working capital. If there is higher level of NWC then ROW is low that means the firm adept conservative approach of WC. Firm's profitability greatly affects their WC needs because net profit is also a major source of WC. The return on net WC of selected manufacturing industries situated in Nepalgunj industrial estate is given below:

Table 4.14: Return on Net Working Capital

Year Industry	2060/61	2061/62	2062/63	2063/64	2064/65	Total	Average
VMI	5.70	4.98	6.25	8.77	6.52	32.22	6.44
LPI	27.43	18.76	17.55	20.66	28.00	112.40	22.48
MDW	24.93	22.32	30.46	32.25	47.77	157.73	31.55
BFI	6.73	5.89	4.99	7.46	8.70	33.77	6.75
KKT	34.73	22.29	9.58	8.27	13.43	88.30	17.66
Total	99.52	74.24	68.83	77.41	104.42	424.42	84.88
Average	19.90	14.85	13.77	15.48	20.88	84.88	16.98

Source: Annex-8

The above table (4.14) shows the company average and yearly average of return on NWC of the selected manufacturing industries. The overall company average of return on NWC is 16.98%. MDW has the highest company average of return on NWC with 31.55% whereas VMI has the lowest return of NWC is 6.44%. During the study period, the highest return is 20.88% in F/Y 2064/65 and that of lowest is 13.77% in F/Y 2062/63.

There is high variability in return on NWC. It shows that the working capital policy is not specific. The yearly average of return on NWC is lower than the overall average return on NWC in the F/Y 2061/62, 2062/63 & 2063/64 and there is highest in the rest years.

The trend of Return on net Working Capital during the study period is given by Graphic method.

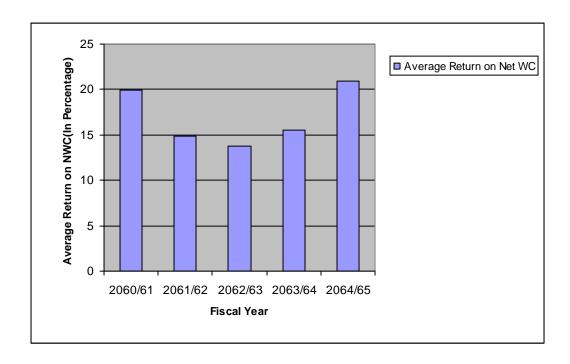


Figure 4.6: Graphic Presentation of Return on Net Working Capital

### 4.5.4 Size of Net Profit

Profit is the most essential factor for smooth operation and growth of every company. All of the business enterprises are established with the main objective of profit maximization. Profit can be categorized into two type's gross and net profit. Gross profit can be obtained by subtracting cost of goods sold from sales and net profit is the difference between gross profit and other expenses including taxes. The position of net profit of selected manufacturing industries is shown in table.

Table 4.15: Position of Net Profit of Selected Manufacturing Industries

(Rs in '00,000)

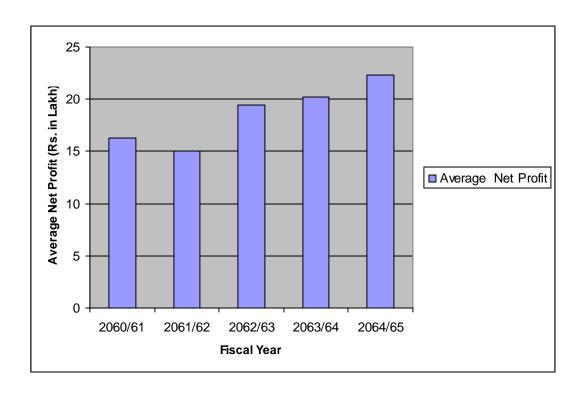
Year Industry	2060/61	2061/62	2062/63	2063/64	2064/65	Total	Average
VMI	19.39	18.45	21.29	27.58	23.62	110.33	22.07
LPI	41.53	38.62	52.39	45.13	55.27	232.94	46.59
MDW	17.06	14.10	19.54	24.22	27.34	102.26	20.45
BFI	1.32	1.55	1.81	1.69	1.92	8.29	1.66
KKT	2.16	2.39	2.25	2.45	3.41	12.66	2.53
Total	81.46	75.11	97.28	101.07	111.56	466.48	93.3
Average	16.29	15.02	19.46	20.21	22.31	93.3	18.66

Source: Annex-8

The above table (4.15) shows that all the industries both yearly and company average profit is positive. All the Industries profit is in increasing trends and they have earned reasonable profit. The highest profit earned during the study is Rs. 55.27 lakh in F/Y 2064/65 of LPI and lowest profit during the study period is 1.32 lakh of BFI in F/Y 2060/61. The overall average profit is positive i.e. Rs 18.66 lakh which shows that the overall profitability of selected industries is satisfactory. Positive overall profitability of industry shows that the financial position is sound.

The yearly average of Nepalese manufacturing industries during the study period is given in figure.

Figure 4.7 Graphic Presentation of Net Profit.



The above figure clearly shows that all the industries have positive net profit. Positive net profit is the indicator of better financial position.

## 4.6 Analysis of the Relationship between Working Capital Variables

The use of financial tools has already given in previous section for analysis of various variables which determines the working capital management. But to make the analysis more meaningful certain statistical tools have been used to see how for the relationship between variables provided meaningful implication or not. To analyze the relationship of working capital variables, statistical tools have been used because statistical tools help to define relationship between various variables and it help to predict unknown variables with the help of known variables. Here, the researcher has used correlation coefficient, regression coefficient and probable error to show the relationship between the following.

#### (I) Relationship between Current Assets and Current Liabilities

The correlation coefficient is used to measure the relationship between current assets and current liabilities whereas regression analysis is used to estimate the likely value of dependent variables i.e. current assets denoted by X from the known value of independent variable i.e. current liabilities denoted by Y. The analysis is used to find out the cause and effect relationship between the variables.

Table 4.16: Relationship between CAs and CLs

Correlation Coefficient (r)	P.E (r)	6 PE (r)	Regression Equation
0.89	0.063	0.378	X=101.38+1.35 Y

Source: Annex-11

The value of r is + 0.89 as shown in table 4.16, it indicates the CA and CL are very highly and positively correlated. So the increases in CA definitely lead to increase in CL.

Since r > 6 PE (r), the value of 'r' is highly significant. There is no doubt that the increase in CA leads to increase in CL and vice-versa. In the regression equation, the regression coefficient 'b' is positive i.e. +1.35 which indicates that Rs. one lakh increase in CL leads to average increase in CA by Rs. 1.35 lakh.

## (II) Relationship between Sales and Receivables

The correlation coefficient is used to measure the relationship between sales and receivable. The analysis is used to find out the cause and effect relationship between the variables.

Table 4.17

Correlation Coefficient (r)	P.E (r)	6 PE (r)	Regression Equation
0.93	0.041	0.245	X=2.2+0.138Y

Source: Annex-12

The above table (4.17) shows that the value of r is + 0.93, it indicates the sales and receivable are positively correlated. Since r>6PE (r), the value of r is significant. It is sure that the increase in sales leads to increase in receivable and

vice-versa. According to regression equation, the regression coefficient 'b' is positive i.e. to 0.138. It indicates that the increase of Rs. one lakh in receivable leads to average increase in sales by Rs. 0.138 lakh.

#### (III) Relationship between Sales and Net WC

The correlation coefficient is used to measure the relationship between sales and net WC. The analysis is used to find out the cause and effect relationship between the variables.

Table 4.18

Correlation Coefficient (r)	P.E (r)	6 PE (r)	Regression Equation
0.58	0.20	1.20	X=88.24+0.10Y

Source: Annex-16

The above table (4.18) shows that the value of r is +0.58, it indicates the sales and net WC are positively correlated. So the increase in sales leads to increase in net WC. Since r < 6PE(r), the value of 'r' is not significant, which means, however, the variables are correlated, it is not sure that if sales/net WC increase the level of net WC/sales also will increase or vice-versa. In regression equation, the regression coefficient 'b' is 0.10. It indicates that the increase of Rs. one lakh in sales to average increase in net WC by Rs. 0.10 lakh.

## (IV) Relationship between Sales and Inventory

The correlation coefficient is used to measure relationship between sales and inventories. The analysis is used to find out the cause and effect relationship between the variables.

Table 4.19

Correlation Coefficient (r)	P.E (r)	6 PE (r)	Regression Equation
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-0.16	0.657	3.94	X=93.28-0.048Y

Source: Annex-13

Table (4.19) shows that the value of r is -0.16, it indicates the sales and inventories are negatively correlated. So the increase in sales brings decrease in inventories. Since r<6PE (r), the value of r is not significant. It is not sure that the increase in sales leads to decrease in inventory and vice-versa. In the regression equation, the regression coefficient 'b' is -0.048 which indicate that Rs. one lakh increase in inventory leads to average decrease the sales by Rs. 0.048 lakh.

## (V) Relationship between Current Assets and Sales

The correlation coefficient is used to measure the relationship between current assets and sales. The analysis is used to find out the cause and effect relationship between the variables.

Table 4.20

Correlation Coefficient (r)	P.E (r)	6 PE (r)	Regression Equation
0.52	0.22	1.32	X=194.03+0.075y

Source: Annex-14

The above table (4.20) shows that the value of 'r' is + 0.52, it means CA and sales are positively correlated. The positive correlation indicates that increase in CA leads to increase in sales.

Since r < 6 PE (r), the value of r is not significant which means, however, the variables are correlated, it is not sure that if CA/sales increases the level of sales/CA also will increase or vice-versa. According to regression equation, the regression coefficient 'b' is +0.075, it indicates that Rs. one lakh increase in sales leads to average increase in CA by Rs. 0.075 lakh. The value of constant 'a' is 194.03 i.e. CA is Rs. 194.03 lakh when sales is zero.

#### (VI) Relationship between Net Profit and Net Working Capital

The correlation coefficient is used to measure the relationship between net profit and net working capital. The analysis is used to find out the cause and effect relationship between the variables.

Table 4.21

Correlation Coefficient (r)	P.E (r)	6 PE (r)	Regression Equation
0.28	0.28	1.67	X=9.85+0.066y

Source: Annex-15

The above table (4.21) shows that the value of r is + 0.28, it indicates that the net profit and net WC are positively correlated. So the increase in net profit results into increase in net WC.

Since r < 6 PE (r), the value of r is not significant. On considering PE, the increase in net WC may not sure increase net profit and vice-versa. According to regression equation, the regression coefficient 'b' is positive i.e. +0.066 which indicates that the increase Rs. one lakh in NWC leads to average increase the net profit by Rs. 0.066 lakh. The value of constant 'a' i.e. 9.85 lakh indicates that net profit is Rs. 9.85 lakh when NWC is zero. It indicates that the net WC management of the companies is good up to some extent but not much profitable.

#### 4.7 Major Findings of the Study

The major finding of the study during the period of five years of five selected manufacturing industries situated in Nepalgunj industrial estate is summarized as followed:

1. All the selected manufacturing industries have followed a conservative working capital policy. It is concluded that manufacturing industries have high level of CAs and their cash conversion cycle is long. All the selected manufacturing industries operate with higher level of expenses and their earning is low. Most of them have lower level of return by taking high level of risk. The net WC turnover ratio is not satisfactory in Nepalese industries. Though all

- manufacturing industries have followed conservative approach of working capital.
- 2. Liquidity position of Nepalese manufacturing industries is not so good. The overall average current ratio is 2.42:1, which is higher as compared to standard ratio 2:1. KKT is operating with nearly to standard ratio but other industries are operating with above standard. So it is not satisfactory.
- 3. The ratio of cash to current assets is varied among the manufacturing companies during the study period. The overall ratio of cash to current assets is 0.11 times. Maximum holding ratio of cash to current assets is 0.19 times of MDW and minimum holding ratio is 0.05 times of VMI. Here, the higher investment in cash means higher idle fund in the company and the lowest investment in cash means unable to meet its maturing liabilities on times.

The ratio of receivable to current assets is also widely varied among the companies. The overall company average of receivable to CAs ratio is 0.32 times. The analysis shows that LPI has the highest ratio of receivable to CAs and MDW & BFI has lowest ratio. Similarly, the overall company average of inventory to current assets ratio is 0.35 times. The highest ratio is 0.45 times of VMI and lowest is 0.26 times of LPI. According to this the portion of inventory is higher as compared to cash and receivable in composition of current assets and then followed by receivable and cash respectively.

- 4. The overall industry's average of current assets to total assets is 0.65 times i.e. 65%. The highest ratio is 0.85 of KKI and the lowest ratio is 0.35 of MDW. Higher level of current assets indicates good liquidity position of the firm but at the same time it reversibly affects on the profitability of the firm if CA remains as idle fund. Net working capital of manufacturing industries is satisfactory. The overall average level of net working capital is 134.01 lakh. VMI has higher level of net WC and KKT has lower level of net WC.
- 5. The company average of current assets turnover ratio for the study period is 1.98 times. The highest current assets turnover ratio is 2.42 times of LPI and the

lowest ratio is 1.49 times of KKT. Highest turnover of current assets is always desirable as it indicates the maximum utilization of current assets. Similarly overall average inventory ratio is 8.98 times. The highest inventory turnover ratio is 14.45 times of BFI and the lowest ratio is 4.38 times of KKT.

Similarly overall average receivable turnover ratio is 7.76 times. The highest receivable turnover ratio is 12.48 times of BFI and the lowest ratio is 4.00 times of KKT. Most of the industries receivable turnover ratio is lower than average which shows that the industries are not able to collect debt within short period of times.

- 6. The overall average percentage of net profit to sales is 4.64. The highest percentage is 8.36 of MDW and the lowest percentage is 2.11 of VMI. The overall industry's average of return on total assets is 6.41%. The highest percentage is 14.67 of MDW and lowest is 1.38 of BFI. Similarly, the overall company average percentage return on Net WC is 16.98. The highest percentage is 31.55 of MDW and the lowest is 6.44 of VMI.
- 7. The overall cash conversion cycle is 41.15 days, the highest CCC is 77.82 days of KKT the lowest is 23.78 days of BFI. The higher and lower cash conversion period is not good for the company. Such volatile cash conversion cycle shows that there is no consistent working capital policy in manufacturing industries.
- 8. Under the statistical analysis, the correlation coefficient between CAs and CLs, receivables and sales are high degree of positive correlation & coefficient of correlation is also greater than 6 times of probable error. So their coefficient of correlation is significant. Correlation coefficient of current asset & sales and net WC & sales are moderate degree of correlation and their correlation is less then 6 times of probable error. So, their correlation coefficient is not significant. Coefficient of correlation between net profit & net working capital is low degree of correlation and their correlation is not significant because their correlation is less then 6 times of probable error. Correlation between inventory & sales is low degree of negative correlation and also its correlation coefficient is less then 6 times probable error. So, it is not significant. In other all cases correlation coefficient (r) is grater than 6 times PE (r). This indicates that the correlation coefficients are statistically significant.

#### **CHAPTER-FIVE**

## SUMMARY, CONCLUSION AND RECOMMENDATION

This chapter summarized the whole study, draws the major conclusions and forwards the recommendation for efficient working capital management of manufacturing industries situated in Nepalgunj industrial estate related to this study.

#### **5.1 SUMMARY**

The study of working capital management of manufacturing industries situated at Nepalgunj industrial estate is exciting and challenging. The working capital policy and practices are different among the industries. The study is concentrated on the various aspects of the working capital management with special reference to the selected listed manufacturing industries of Nepalgunj industrial estate. It includes the data of five manufacturing industries and covers the period of five fiscal years form 2060/61 to 2064/65. For the shake of simplicity, the overall study is divided into different chapters.

The first chapter focuses the brief introduction of the study and the overall view of listed manufacturing companies. It has also attempted to set the objective, statement of problems, limitations and significance of the study. Finally, it presents the organizational structure of the study.

The third chapter deals with the research methodology to analyze the data. This chapter includes research design, nature and sources of data, data collection and processing techniques using financial and statistical tools. The necessary data and other various information are collected from the financial statements of the individual industries and related websites. Financial ratios like current ratio, current assets to total assets, cash and bank balance, inventory and receivable to current assets as well as different turnover ratios and profitability ratios have been used. Karl Pearson's coefficient of correlation, probable error and regression analysis have been used to analyze the relationship between different working capital variables.

Presentation and analysis of data are studied in the fourth chapter. In this chapter, the generated data were presented in tabular form and analyzed systematically as per requirement. This study has focused on the working capital

policy followed by different industries, liquidity position and analysis of success/failure of manufacturing industries. Besides this various statistical techniques have been used to analyze the collected facts in order to examine their relationships to each other. The overall average of working capital policy used by the manufacturing industries is moderate policy. The company average of turnover and profitability ratio is not consistent among the industries. In the analysis of relation between working capital variables, the correlation is highly positive and it is highly significant only between current assets and current liabilities, receivables and sales.

Industrialization is considered essential for economic development of the country. As a developing country like Nepal, industrialization is the major instrument of progress, modernization and social development. Manufacturing industry is one of the main income and employment generating sectors of Nepal but the role of Nepalese manufacturing industries in the national economy is not satisfactory. The main purpose of this study is to present and analyze the WC management and its practice in manufacturing industries situated in Nepalgunj industrial estate. The inefficient management of working capital leads to less profit in the short run but it ultimately leads to the downfall of the companies in the long run. For this study covers the period of five year and includes the data of five manufacturing industries as sample. The necessary data and information are collected from secondary collection process.

The level and position of working capital and its components are widely varied and fluctuating trends within and among the selected industries which shows that they do not take WC management seriously. It is found that there is lack of proper co-operation among the various department within manufacturing industries which leads them to high level of cost and reducing the sales level. The turnover and position of various ratios relating to working capitals are not so good and cash conversion cycle is also long because of lack of proper financial plan. So management should forecast its financial requirement and its allocation field by developing financial plan with the help of up to date data information.

#### 5.2 CONCLUSION

An inconsistent scenario has been experience in the application of working capital policy by the manufacturing industries. It can be concluded that the management of WC can not be neglected by manufacturing industries. It plays the vital role in the daily operation of any firm, thus managers should understand the importance of WC for manufacturing sectors. It is necessary to understand about the factors affecting the WC needs, which help them to have proper management of WC. Most of the manufacturing companies of Nepal are suffering from losses. Proper management plan and lack of forecasting capacity, negligence of administrative work, ineffective management system and lack of appropriate financial plan and lack of suitable WC policy are main causes of failure of the Nepalese manufacturing industries.

Because of changeable economic policies and strategies of the country, some industries are facing the problem to manage their tax provision whereas some of them are facing problem of handle their loans and advances. Due to the competitive marketing scenario of this modern business age and globalization concept, most of the industries are making outflow of their goods in credit and facing great problem in the collection of debtors. Most of the manufacturing industries are operating in lower profitability than overall average.

The correlation coefficient of the WC variables of manufacturing industries for the statistical analysis is found highly positive to each other. A positive correlation means both of the variables are moving towards the same direction. The simple regression analysis proved that the theoretical relationship among the variables is supported by secondary data.

The manufacturing industries, in the present context, are facing certain policy issues like inefficient financial planning, negligence of WC management, deviation between liquidity turnovers, etc. These policy issues can be overcome if listed manufacturing industries undertake measures like identification of needed funds,

regular supervision and monitoring, development of management information system, positive attitude towards risk and profit determinations, right combination of short-term and long-term sources of funds to finance working capital needs, appropriate combination of investment in current assets, minimizing operating cost, preparing effective sales plan, specific working capital policy, improving liquidity position and by improving financial performance.

Finally, it can be concluded that WC management is very essential as well as the most important aspect of financial management having great impact on risk and profitability of the industries. The top level management of company should be very much sensitive and responsible for the better management of WC because the negligence on implementation of WC policy mainly serious to erode their financial viability.

#### **5.3 RECOMMENDATION**

The following commendable recommendations for the overall improvement of the working capital management of manufacturing industries situated in Nepalgunj industrial estate are forwarded on the basis of findings of the study:

- 1. The level of WC is widely varied and trend is fluctuating with in companies which show the manufacturing industries don't take WC management seriously. It is necessary of formulation of appropriate WC policy because lack of target WC level holding in long run and absence of source of financing, the financial condition of industries is going to be downfall. The industries should adopt such kind of CAs policy that the holding of CAs neither be excessive nor inadequate. So, the components of CAs (cash, receivable and inventory) must be managed effectively.
- 2. Optimum level of cash balance should be maintained throughout the year, many ways for effective management of cash can be followed in the manufacturing

industries such as minimization of collection float, better synchronization of cash flows, slowing disbursement and more frequent requisitioning of cash to branches. The requirement of cash should be estimated and if the cash appears more than requirement, the company should invest such idle funds in marketable securities.

- 3. The investment in inventory made by manufacturing industries is highly fluctuated which shows that there is no specific policy related with inventory management. The management of working capital is highly depended upon the effective inventory management. The industries should make effective sales plan which help of immediate marketability which certainly decreases the problem of overstocking. As a result, investment in inventories and the total cost of holding inventory will decrease. The management must give attention towards capacity utilization, carrying cost, ordering cost and lead time for effective inventory management. So the attention must be paid to the factors determining the size of inventory.
- 4. Manufacturing industries are suffering from high cost. Management should try to find out the major cause of high level express, such as unnecessary expenses, misuse of facilities, overstaffing, purchasing process, use of old technology and high level of overhead expenses. To solve these problems a industry should develop the cost control mechanism and provide training to the staff of production department and use new technology in the field of production to sales level. Manufacturing industries operate under capacity which increases their cost. So to reduce cost a company should utilize their full capacity because mass production automatically reduces per unit cost.
- 5. The liquidity positions of the manufacturing industries are inconsistent and are facing liquidity crises. So the stickiness in the inventories should be controlled by co-ordination between schedule of raw materials requirement and production

with consumer demand. Credit of the industries is to be re-examined and tightened up to reduce the firms level of accounts receivable. Long-term (capital) expenditure to be reduced. Short term or long term debt or equity is to be issued to maintain appropriate liquidity position.

- 6. Sales directly affect to the need of current assets or working capital. The level of WC will increase if sales level increase. So, to forecast the level of CAs, level of sales will be forecasted. To survive in competitive market condition, effective sales management will be required and for it, market and production situation should also be analyze. Manufacturing industries situated at Nepalgunj industrial estate adopt conservative WC policy so, they incurring less profit continuously though they bear high risk. Industries should develop portfolio investment policy to reduce risk.
- 7. The efficiency of higher and lower level employees of manufacturing industries should be increased. Trainings, seminars, workshops etc. must be organized for increasing the efficiency and should be provided to the higher and lower level employees time to time. The skilled manpower decreases the operating costs and increases the profitability as compared to unskilled manpower. So skill development programs are to be launched in the manufacturing industries.
- 8. The current assets turnover of some manufacturing industry low as well as net working capital which indicates that the utilization of current assets and net working capital during the study period is low. Manufacturing industries with higher turnover of assets need lesser working capital as compared to the manufacturing industries having lower turnover. For this, trainings, participation in the management conferences, foreign enterprises visit programs, etc. are to be managed for managerial level employees to develop the managerial ability. So the plans meeting ongoing turnover problems should be prepared as a part of working capital policy.

- 9. The cash conversion cycle of manufacturing industries situated at Nepalgunj is high. The long ICP leads to long operating cycle. It is necessary to Nepalese manufacturing sectors to reduce their CCC. It can be shortened by reducing ICP by processing and selling goods more quickly, by reducing RCP by speeding up collection and by lengthening PDP by slowing down the industry's own payment. By better utilization and efficient management of inventory and receivable the operating cycle is reduce and it helps to improve overall CCC of manufacturing industries.
- 10. Management information system should be used in the manufacturing industries with the help of MIS two way communications can be maintained. Timely reports are to be prepared which helps in determining the amount of working capital needs. Most of the successful executives use to make their decisions based on adequate, accurate and timely information.



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# **APPENDIXES**

Annex: 1

## **Total Current Asset**

(Rs. in 00,000)

Year	2060/61	2061/62	2062/62	2062/64	2064/65	Total	Average
Industry	2060/61	2061/62	2062/63	2063/64	2064/65	Total	Average
VMI	542.51	603.32	642.67	504.21	696.31	2989.02	597.80
LPI	292.35	382.72	405.21	310.32	314.62	1705.22	341.04
MDW	114.23	125.31	127.58	112.34	116.81	596.27	119.25
BFI	32.53	38.12	54.27	42.13	44.58	211.63	42.33
KKT	22.35	25.24	45.33	47.72	52.23	192.87	38.57
Total	1003.97	1174.71	1275.06	1016.72	1224.55	5695.01	1139.00
Average	200.79	234.94	255.01	203.34	244.91	1139.00	227.80

# Annex: 2

## **Total Current Liabilities**

(Rs. in 00,000)

Year Industry	2060/61	2061/62	2062/63	2063/64	2064/65	Total	Average
VMI	202.19	232.63	301.96	189.79	334.21	1260.78	252.16
LPI	140.97	176.88	106.63	91.88	117.24	633.6	126.72
MDW	45.81	62.14	63.43	37.23	59.58	268.19	53.64
BFI	12.91	11.81	17.97	19.49	22.52	84.7	16.95
KKT	16.13	14.52	21.85	18.09	26.83	97.42	19.48
Total	418.01	497.98	511.84	356.48	560.38	2344.69	468.94
Average	83.60	99.60	102.37	71.3	112.08	468.94	93.79

## Receivables

(Rs. in 00,000)

Year Industry	2060/61	2061/62	2062/63	2063/64	2064/65	Average
VMI	141.22	111.04	180.88	192.91	182.12	161.63
LPI	82.97	100.87	90.47	100.25	140.73	103.06
MDW	21.53	45.27	50.39	29.95	27.66	34.96
BFI	5.59	5.76	4.83	11.72	10.60	7.7
KKT	7.33	9.54	19.71	16.81	19.99	14.68
Average	51.73	54.46	69.26	70.33	76.22	64.41

## Annex: 4

# Inventory

(Rs. in 00,000)

Year Industry	2060/61	2061/62	2062/63	2063/64	2064/65	Average
VMI	208.56	204.79	203.82	115.31	313.34	209.16
LPI	140.21	146.85	74.95	36.52	81.8	96.07
MDW	34.56	40.35	32.39	12.69	43.22	32.64
BFI	5.37	3.72	4.42	8.5	11.95	6.79
KKT	8.65	9.06	15.68	11.69	20.89	13.19
Average	79.47	80.95	66.25	36.94	94.24	71.57

## Annex: 5

# Payable

(Rs. in 00,000)

Year	2060/61	2061/62	2062/63	2063/64	2064/65	Average
Industry						
VMI	194.65	220.99	282.86	181.35	322.1	240.39
LPI	128.93	166.23	97.31	88.86	111.38	118.54
MDW	39.29	57.38	57.01	22.77	48.27	44.94
BFI	3.81	5.46	6.52	10.79	17.32	8.78
KKT	8.04	10.64	16.74	16.56	22.96	14.99
Average	74.94	92.14	92.09	64.07	104.41	85.53

## Cost of Goods Sold

(Rs. in 00,000)

Year Industry	2060/61	2061/62	2062/63	2063/64	2064/65	Average
VMI	697.6	735.4	1045.7	686	1023.8	837.7
LPI	457.23	655.68	665.59	645.7	650.5	614.94
MDW	171.84	180.55	193.32	203.27	221.25	194.05
BFI	31.8	38.15	64.4	83.95	121.11	67.88
KKT	27.75	31.24	46.88	45.26	69.21	44.07
Average	277.24	328.20	403.18	332.84	417.17	351.73

## Annex: 7

# Sales

(Rs. in 00,000)

						, ,
Year Industry	2060/61	2061/62	2062/63	2063/64	2064/65	Average
VMI	843.5	986.3	1075.4	1147.7	1181.1	1046.8
LPI	537.9	840.6	887.45	896.23	935.25	819.49
MDW	220.32	231.47	239.61	247.68	273.15	242.45
BFI	54.94	56.47	94.61	116.61	140.05	92.54
KKT	32.7	38.1	64.23	62	92	57.81
Average	337.87	430.59	472.26	494.04	524.31	451.82

## Annex: 8

## Net Profit

(Rs in '00,000)

Year Industry	2060/61	2061/62	2062/63	2063/64	2064/65	Total	Average
VMI	19.39	18.45	21.29	27.58	23.62	110.33	22.07
LPI	41.53	38.62	52.39	45.13	55.27	232.94	46.59
MDW	17.06	14.10	19.54	24.22	27.34	102.26	20.45
BFI	1.32	1.55	1.81	1.69	1.92	8.29	1.66
KKT	2.16	2.39	2.25	2.45	3.41	12.66	2.53
Total	81.46	75.11	97.28	101.07	111.56	466.48	93.3
Average	16.29	15.02	19.46	20.21	22.31	93.3	18.66

# Inventory Conversion Period

(in Percentage)

Year Industry	2060/61	2061/62	2062/63	2063/64	2064/65	Average
VMI	107.63	100.25	70.17	60.51	110.18	89.75
LPI	110.39	80.64	40.54	20.36	45.27	59.44
MDW	72.41	80.45	60.32	22.47	70.32	61.19
BFI	60.74	35.14	24.73	36.45	35.53	38.51
KKT	112.2	104.35	120.40	93	108.64	107.72
Average	92.67	80.17	63.23	46.56	73.99	71.32

## Annex: 10

## Receivable Conversion Period

(in Percentage)

						`
Year Industry	2060/61	2061/62	2062/63	2063/64	2064/65	Average
VMI	60.27	40.53	60.55	60.51	55.51	55.47
LPI	55.53	43.2	36.70	40.27	54.17	45.97
MDW	35.18	70.41	75.71	40.62	36.45	51.67
BFI	36.60	36.74	18.37	36.18	27.25	31.03
KKT	80.71	90.12	110.45	97.6	78.23	91.42
Average	53.66	56.2	60.36	55.04	50.32	55.12

## Annex: 11

# Payable Deferrable Period

(in Percentage)

Year Industry	2060/61	2061/62	2062/63	2063/64	2064/65	Average
VMI	100.45	108.18	97.38	95.17	113.26	102.89
LPI	101.51	91.27	52.63	49.54	61.64	71.32
MDW	82.32	114.42	106.17	40.32	78.54	84.32
BFI	43.17	51.51	36.42	46.26	51.47	45.77
KKT	104.25	122.62	128.57	131.73	119.45	121.32
Average	86.34	97.60	84.23	72.60	84.87	85.13

Annex: 12

Relationship between Current Assets and Current Liabilities

Year	CAs (X)	CLs	x=	y=	$X^2$	$Y^2$	XY
		(Y)	$(XZ\overline{X})$	$(YZ\overline{Y})$			
2060/61	200.79	83.6	-27.01	-10.19	729.54	103.84	275.23
2061/62	234.94	99.6	7.14	5.81	50.98	33.76	41.48
2062/63	255.01	102.37	27.21	8.58	740.38	73.62	233.46
2063/64	203.34	71.3	-24.46	-22.49	598.29	505.80	550.11
2064/65	244.91	112.08	17.11	18.29	292.75	334.52	312.94
n=5	$\overline{X} =$	$\overline{\overline{\mathbf{Y}}} =$			$X^2 =$	$Y^2 =$	xy X
	227.80	93.79			2411.94	1051.53	1413.22

Karl Pearson's formula to find out correlation coefficient: Now,

$$\exists_{x} | X| \sqrt{\frac{(X Z \overline{X})^{2}}{n}} | X| \sqrt{\frac{2411.94}{5}} | X| \Lambda KPLO$$

$$\exists_{y} | X| \sqrt{\frac{(Y Z \overline{Y})^{2}}{n}} | X| \sqrt{\frac{1051.53}{5}} X| KNEE |$$

Correlation coefficient (r) = 
$$\frac{XY}{\sqrt{X^2 \cdot Y^2}} = \frac{1413.22}{\sqrt{2411.94 \times 1051.53}}$$
  
=  $\frac{1413.22}{1592.55} = 0.89$ 

Now,

P.E. (r) = 
$$\frac{0.6745(1 \,\mathrm{Zr}^2)}{\sqrt{n}} = \frac{0.6745 \,[1 \,\mathrm{Z}(0.89)^2]}{\sqrt{5}} = 0.0627$$
  
6 P.E. (r) = 0.376

Again,

$$(XZ\overline{X}) = r\frac{\exists x}{\exists y}(Y - \overline{Y})$$

or, X-363.58 = 
$$0.89 \times \frac{21.96}{14.5}$$
 (Y - 93.79)

Annex: 13

## Relationship between Receivable and Sales

Year	Receiva	Sales	x=	y=	$X^2$	$Y^2$	XY
	ble (X)	(Y)	$(XZ\overline{X})$	$(YZ\overline{Y})$			
2060/61	51.73	337.87	-12.68	-113.95	160.78	12984.60	1444.89
2061/62	54.46	430.59	-9.95	-21.23	99.00	450.71	211.24
2062/63	69.26	472.26	4.85	20.44	23.52	417.79	99.13
2063/64	70.33	494.04	5.92	42.22	35.05	1782.53	249.94
2064/65	76.22	524.31	11.81	72.49	139.48	5254.80	856.11
n=5	$\overline{X} =$	$\overline{Y} =$			$X^2 =$	$Y^2 =$	xy X
	64.41	451.82			457.83	20890.44	2861.31

Now,

$$\begin{split} &\exists_x | X | \sqrt{\frac{-(X\,Z\overline{X})^2}{n}} \, | X | \sqrt{\frac{457.83}{5}} \, | X | \Sigma \text{FETT} \\ &\exists_y | X | \sqrt{\frac{-(Y\,Z\overline{Y})^2}{n}} \, | X | \sqrt{\frac{20890.44}{5}} \, X | \text{ONON} \end{split}$$

Correlation coefficient (r) = 
$$\frac{XY}{\sqrt{X^2 \cdot Y^2}} = \frac{2861.31}{\sqrt{457.83 \times 20890.44}}$$
  
=  $\frac{2861.31}{3092.62} = 0.93$ 

Now,

P.E. (r) = 
$$\frac{0.6745 (1 \text{ Zr}^2)}{\sqrt{n}} = \frac{0.6745 [1 \text{ Z}(0.93)^2]}{\sqrt{5}} = 0.041$$
  
6 P.E. (r) = 0.245

Again,

$$(XZ\overline{X}) = r\frac{\exists x}{\exists y}(Y-\overline{Y})$$

or, X- 64.41 = 0.93 
$$x \frac{9.57}{64.64}$$
 (Y - 451.82)

or, 
$$X-64.41 = 0.138(Y-451.82)$$
  
 $X = 2.2 + 0.138Y$ 

Annex: 14

### Relationship between Inventory and sales

Year	Inventory	Sales (Y)	x=	y=	$X^2$	$\mathbf{Y}^2$	XY
	(X)		$(XZ\overline{X})$	$(YZ\overline{Y})$			
2060/61	79.47	337.87	7.88	-113.95	62.09	12984.60	-897.73
2061/62	80.95	430.59	8.92	-21.23	79.57	450.71	-189.37
2062/63	66.25	472.26	-5.32	20.44	28.30	417.79	-108.74
2063/64	36.94	494.04	-34.63	42.22	1199.24	1782.53	-
							1462.08
2064/65	94.24	524.31	22.67	72.49	513.93	5254.80	1643.35
n=5	$\overline{X} =$	$\overline{\overline{Y}} =$			$X^2 =$	$Y^2 =$	ху Х-
	71.57	451.82			1883.13	20890.44	1014.77

Now,

$$\exists_{x} |X| \sqrt{\frac{(X Z \overline{X})^{2}}{n}} |X| \sqrt{\frac{1883.13}{5}} |X| K \Sigma K$$

$$\sqrt{(X Z \overline{X})^{2}} \sqrt{20890.44}$$

$$\exists_y |X| \sqrt{\frac{(Y \, Z \, \overline{Y})^2}{n}} \, |X| \sqrt{\frac{20890.44}{5}} \, X| \text{CNON}$$

Correlation coefficient (r) = 
$$\frac{XY}{\sqrt{X^2 \cdot Y^2}} = \frac{Z1014.77}{\sqrt{1883.13 \times 20890.44}} = -0.16$$

Now,

P.E. (r) = 
$$\frac{0.6745 (1 \text{ Zr}^2)}{\sqrt{n}} = \frac{0.6745 [1 \text{ Z}(0.16)^2]}{\sqrt{5}} = 0.657$$
  
6 P.E. (r) = 3.94

Again,

$$(XZ\overline{X}) = r\frac{\exists x}{\exists y}(Y - \overline{Y})$$

or, X-71.57 = Z0.16 
$$x \frac{19.41}{64.64}$$
 (Y-451.82)

or, 
$$X = 93.28 - 0.048y$$

#### Relationship between Current Assets and Sales

Year	Current	Sales (Y)	x=	y=	$X^2$	$Y^2$	XY
	Assets (X)		$(XZ\overline{X})$	$(YZ\overline{Y})$			
2060/61	200.79	337.87	-27.01	-113.95	729.54	12984.60	3077.79
2061/62	234.94	430.59	7.14	-21.23	50.98	450.71	-151.58
2062/63	255.01	472.26	27.21	20.44	740.38	417.79	556.17
2063/64	203.34	494.04	-24.46	42.22	598.29	1782.53	-1032.70
2064/65	244.91	524.31	17.11	72.49	292.75	5254.80	1240.30
n=5	$\overline{X} =$	$\overline{\overline{Y}} =$			$X^2 =$	$Y^2 =$	xy X
	227.80	451.82			2411.94	20890.44	3689.98

Now,

$$\begin{split} &\exists_x |X| \sqrt{\frac{(X\,Z\,\overline{X})^2}{n}} \, |X| \sqrt{\frac{2411.94}{5}} \, |X| |\text{LNEO} \\ &\exists_y |X| \sqrt{\frac{(Y\,Z\,\overline{Y})^2}{n}} \, |X| \sqrt{\frac{20890.44}{5}} \, |X| |\text{ONON} \end{split}$$

Correlation coefficient (r) = 
$$\frac{XY}{\sqrt{X^2.Y^2}} = \frac{3689.98}{\sqrt{2411.94 \times 20890.44}} = 0.52$$

Now,

P.E. (r) = 
$$\frac{0.6745 (1 \text{ Zr}^2)}{\sqrt{n}} = \frac{0.6745 [1 \text{ Z}(0.52)^2]}{\sqrt{5}} = 0.22$$
  
6 P.E. (r) = 1.32

Again,

$$(XZ\overline{X}) = r\frac{\exists x}{\exists y}(Y - \overline{Y})$$

or, 
$$X-363.58 = 0.22 \ x \frac{21.96}{64.64} (Y-451.82)$$

or, 
$$X-227.8 = 0.075Y - 33.77$$

or, 
$$X = 194.03 + 0.075Y$$

## Relationship between Net Profit and Net Working Capital

Year	Net	Net	x=	y=	$X^2$	$Y^2$	XY
	Profit	WC	$(XZ\overline{X})$	$(YZ\overline{Y})$			
	(X)	(Y)					
2060/61	16.29	117.19	-2.37	-16.82	5.62	282.91	39.86
2061/62	15.02	135.35	-3.64	1.34	13.25	1.8	-4.88
2062/63	19.46	152.64	0.8	18.63	0.64	347.08	14.90
2063/64	20.21	132.05	1.55	-1.96	2.40	3.84	-3.04
2064/65	22.31	132.83	3.65	-1.18	13.32	1.39	-4.31
	$\overline{X} =$	$\overline{\overline{\mathbf{Y}}} =$			$X^2 =$	$Y^2 =$	xy X
	18.66	134.01			35.23	637.02	42.54

Now,

$$\begin{split} &\exists_x |X| \sqrt{\frac{(X\,Z\overline{X})^2}{n}} \, |X| \sqrt{\frac{35.23}{5}} \, |X| \text{AMDE} \\ &\exists_y |X| \sqrt{\frac{(Y\,Z\overline{Y})^2}{n}} \, |X| \sqrt{\frac{637.02}{5}} \, X| \text{KKHDS} \end{split}$$

Correlation coefficient (r) = 
$$\frac{XY}{\sqrt{X^2 \cdot Y^2}} = \frac{42.54}{\sqrt{35.23 \times 637.02}} = 0.28$$

Now,

P.E. (r) = 
$$\frac{0.6745 (1 \text{ Zr}^2)}{\sqrt{n}} = \frac{0.6745 [1 \text{ Z}(0.28)^2]}{\sqrt{5}} = 0.28$$
  
6 P.E. (r) = 1.67

Again,

$$(XZ\overline{X}) = r\frac{\exists x}{\exists y}(Y - \overline{Y})$$

or, X - 18.66 = 0.28 
$$x \frac{2.65}{11.29}$$
 (Y -134.01)

or, 
$$X - 18.66 = -8.81 + 0.066Y$$

or, 
$$X = 9.85 + 0.066Y$$

#### Relationship between sales and Net WC

Year	Net WC	Sales	x=	y=	$X^2$	$Y^2$	XY
	(X)	(Y)	$(XZ\overline{X})$	$(YZ\overline{Y})$			
2060/61	117.19	337.87	-16.82	-113.95	282.91	12984.60	1916.64
2061/62	135.35	430.59	1.34	-21.23	1.80	450.71	-28.45
2062/63	152.64	472.26	18.63	20.44	347.08	417.79	380.80
2063/64	132.05	494.04	-1.96	42.22	3.84	1782.53	-82.75
2064/65	132.83	524.31	-1.18	72.49	1.39	5254.80	-85.54
	$\overline{X} =$	$\overline{\overline{\mathbf{Y}}} =$			$X^2 =$	$Y^2 =$	xy X
	134.01	451.82			637.02	20890.44	2100.70

Now,

$$\begin{split} &\exists_x | X | \sqrt{\frac{-(X\,Z\overline{X})^2}{n}} \, | X | \sqrt{\frac{637.02}{5}} \, | X | \text{KKHS} \\ &\exists_y | X | \sqrt{\frac{-(Y\,Z\overline{Y})^2}{n}} \, | X | \sqrt{\frac{20890.44}{5}} \, X | \text{CNON} \end{split}$$

Correlation coefficient (r) = 
$$\frac{XY}{\sqrt{X^2 - Y^2}} = \frac{2100.7}{\sqrt{637.02 \times 20890.44}} = 0.58$$

Now,

P.E. (r) = 
$$\frac{0.6745 (1 \, \text{Zr}^2)}{\sqrt{n}} = \frac{0.6745 [1 \, \text{Z}(0.58)^2]}{\sqrt{5}} = 0.20$$
  
6 P.E. (r) = 1.20

Again,

$$(XZ\overline{X}) = r\frac{\exists x}{\exists y}(Y - \overline{Y})$$

or, X - 134.01 = 0.58 
$$x \frac{11.29}{64.64}$$
 (Y - 451.82)

or, 
$$X - 134.01 = -45.77 + 0.10Y$$

or, 
$$X = 88.24 + 0.10Y$$

# Total Asset

(Rs. in 00,000)

Year Industry	2060/61	2061/62	2062/63	2063/64	2064/65	Total	Average
VMI	734.11	848.55	907.73	629.48	878.07	3997.94	799.59
LPI	635.54	782.66	773.30	614.50	554.89	3360.89	672.18
MDW	153.33	179.27	159.28	133.42	133.50	758.8	151.76
BFI	97.98	125.39	158.68	114.17	114.31	610.53	122.11
KKT	26.96	29.94	52.77	56.96	60.31	226.94	45.39
Total	1647.92	1965.81	2051.76	1548.53	1741.08	8955.10	1791.02
Average	329.58	393.16	410.35	309.71	348.21	1791.02	358.20

# Questionnaire

## **Interview Schedule**

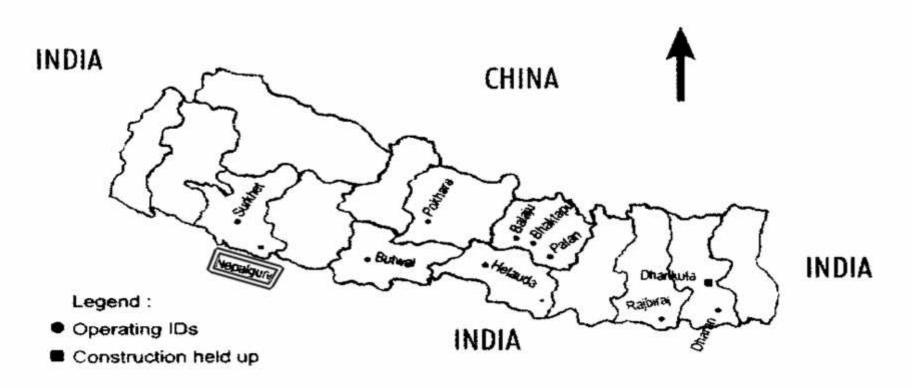
Working Capita Management Practice of manufacturing industries situated at Nepalgunj Industrial Estate

Information			
Interview date:	Na	ame of Industry:	
Working Location:	•		
1. Name of the Interviewee	:		
Ethnicity/Caste:	Sex:	Age:	Qualification:
Marital status:		Main occupation	n:
2. How long have you been	working	in this Industry?	
3. In which responsibility do	o you per	form in this Industry	/?
4. How many owners are in	your Indu	ıstry?	
5. When your industry was s	set-up?		
Year	Month		Date
6. Is your industry registered	d in Nepal	gunj Industrial Esta	te?
A. ( ) Ye	es	В. (	) No
7. Do you have received any	y training	on production and	cost control System?
8. What types of training do	o you hav	e received from you	ır Industry?
a)		b)	
9. Which training did you h	elp to inc	rease your and you	r organizational?
10. Which one you feel more	effective	and useful for day	to day work?
11. What types of system, m	nanual, gu	ideline do you have	to use in daily?
12. How you proud that you	r Industrie	s has good working	g capital concept?
13. What is major reason of	yearly Pro	duction deviation w	rith original plan?
14. What are the raw materia	als and ma	ain product of your	industry?
15. Which working capital po	olicy perfo	rms by your industr	y?
A) Relaxed working capi	tal	B) Restrictive	e working capital

- C) Moderate working capital
- 16. In which year your industry is in loss position?

Thank You.

# LOCATION OF INDUSTRIAL DISTRICTS NEPAL



## **Curriculum Vita**

Name : Ganesh Man Acharya

Date of Birth : 1977 April 13

Fathers Name : Purna Bahadur Acharya

Permanent Address : Dasharathpur VDC -7, Surkhet

Temporary Address : District Post Office Banke, Nepalgunj

Sex : Male
Religion : Hindu
Nationality : Nepali
Marital Status : Married

**Education and Qualification** 

SN	University or	Level	Passed	Percentage	Division	Major Subjects
	Board		Year			
1	Nepal Board	SLC	2049	62.71	1st	Science, Opt
						Math
2	TU	I Sc	2055	44.1	Pass	Physical Group
3	TU	BBS	2060	45.57	2nd	Account
4	TU	MBS	Thesis Not Submitted			

Experience: - 1. Working as a non-gozetted official at District Post Office Banke Since 2056 B.S.

2. Teaching experience of about 4 years since 2052 to 2056 BS in Jana Jyoti Secondary School Jhinni, Maintada Surkhet.

Training:-New 1. Computer Basic Course (DOS, WP, Lotus, D-base etc.) From

Creative Computer Institute Birendranagar, Surkhet.

- 2. Computer Basic Course (Fundamental of MS-dos, MS-Windows XP, MS Word 2003, MS-Power point 2003 & Email & Internet) From LB Computer Education Nepalgunj, Banke on 2061 B.S.
- 3. Basic Computer Course (35 days) organized by National Information Technology Center (NITC) & conducted by Computer Point Nepal, Kathmandu on 2063 B.S.

#### Additional Information:-

- Language: Nepali, English, Hindi and Abadhi (Both Written & Spoken)
- 2. Hobbies: (i) Playing with Computer in different websites
  - (ii) Sports: To watch Football, Crecate and Tennis
  - (iii) Interest: Helping the Helpless