CHAPTER - ONE
INTRODUCTION

1.1 General Background

The financial crisis that arose post 2007 (first major crisis after World War II era) due to the sub-prime lending in US and subsequent non-recovery of those credit in real estate has led to the economic slowdown of almost all developed economies. Liquidity Crisis in financial sector as well as bearish trend in stock market made the confidence of the investors low, resulting in the decrease in aggregate demand (AD) thus the economic growth of the world economies was hampered. That is the only reason that the GDP of the world expanded only by 3.2% in 2008 and 0.8% in 2009. However with the various measures like capital injection and other monetary measures being taken by central banks, government and international financial institutions, the world economy has slowly been recovering by increase of confidence and hence in domestic and external demand. Hence it has been estimated that in 2010 the world economy will grow by 3.9% as per the estimate of IMF. If we look at the growth rate of our neighbourhood countries the economic growth of India and China were 5.6 and 8.7 in 2009. It is estimated that the same will be 7.7% and 10% in 2010.

Table 1.1

World Economic Growth Rate

(Annual Percentage Change)

	2006	2007	2008	Forecast	
				2009	2010
World Output	5.1	5.2	3.2	-1.3	1.9
Advanced Economies	3.0	2.7	0.9	-3.8	0.0
Newly Emerged and developing	8.0	8.3	6.1	1.6	4.0
Developing Asia	9.8	10.6	7.7	4.8	6.1
African Countries	6.1	6.2	5.2	2.0	3.9
Middle-East Countries	5.7	6.3	5.9	2.5	3.5
Newly industrialized Asian	5.6	5.7	1.5	-5.6	0.8

Source: International Monetary Fund (World Economic Outlook), 2009

Table 1.2

Economic Growth Rate of Nepal and Neighbouring (SAARC) Countries

(Annual Percentage Change)

	2006	2007	2008	Forecast	
				2009	2010
China	11.6	13.0	9.0	6.5	7.5
Afghanistan	8.2	12.1	3.4	9.0	7.0
Bangladesh	6.5	6.3	5.6	5.0	5.4
Bhutan	8.8	17.9	6.6	5.7	6.6
India	9.8	9.3	7.3	4.5	5.6
Maldives	18.0	7.2	5.7	-1.3	2.9
Pakistan	6.2	6.0	6.0	2.5	3.5
Srilanka	7.7	6.8	6.0	2.2	3.6
Nepal	3.7	3.2	4.7	3.6	3.3

Source: International Monetary Fund (World Economic Outlook), 2009

Nepalese economy doesn't seem to be directly related with the world economy financially, however through indirect means like trade, tourism and labour. Hence it is evident that the effects of world economy are to be seen in Nepalese Economy through changes in prices, exchange rates, remittance growth etc. The deepening growth of fiscal deficit is one of such signs that prove the relation of Nepalese Economy with the outside world.

If we are to define Nepalese Economy, it can be confined to Agro-based, tourism dependent and remittance driven. It has a sluggish growth rate as compared to its giant neighbours and it was almost negative in 2001/02 with 0.1% growth. Though the projected growth for 2009/10 was estimated to be 5.1% however recent study published by ADB has predicted that it won't be going beyond 3.5%.

Table 1.3

Economic Growth of Nepal

Description	Unit		Fiscal Year						
		2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09*
Economic Activities									
Real GDP * Producers' Price	Annual %age change	0.1	3.9	4.7	3.5	3.4	3.3	5.3	4.7

Source: Economic Survey 2008-09

We went through a decade long conflict due to Maoists movements, faced winning corruption, made good plans without implementation and there were all other sorts of default by the government. There have been security issues in the industries, labour management conflict has been in peak over years and there is little infrastructure development in recent years. Long hour load shedding due to power shortages has been long hampering the economic production as the major power source of Nepal is Hydro Power (about 91%) which fails to produce enough energy during dry seasons.

In spite of all these economic problems, the only sector that has been earning a continuous profit and performing well in all adversaries is the Banking Sector in Nepalese Economy. Banking has a major contribution to the Nepalese Economy as it has been the major player that is channelling the various sources of funds to the investors and entrepreneurs.

According to the recent study around 47% of the total population is currently virtually unemployed with large and long dependence in unproductive agricultural economy. Hence the only option remaining with the people is to go outside the country for cheap labour work and send back some remittance to help support the family. The labour export thus in lack of growth of other industries is the only sole saver from Nepal going into bankrupt country by sending massive amount of remittance. The development of banking sector also goes to the outstanding growth in remittance income to the country which ultimately increased the deposit funds to the banks. The growth of remittance in the past years including the establishment of the new banks/financial institutions and expansion of branches of existing banks/financial institutions led to the growth of deposits. The table below depicts the growth and volume of contribution of remittance to the Nepalese Economy.

Table 1.4

Remittance Inflow Data

Year	Amount (In Billion)	% change
01/02	47.22	
02/03	47.54	0.68
03/04	54.20	14.02
04/05	58.59	8.09
05/06	65.54	11.87
06/07	97.69	49.05
07/08	100.14	2.51
08/09	183.01	82.75
09/10	106.19	12.6
First 6 months		

Source: Economic Survey 2008-09 and Mid-Term Monetary Policy Review

1.2 Concept of Banking

Some young savers stash their cash in shoe boxes or jelly jars. Others use "piggy banks," which today look fancier in many shapes. In any case, the same problem arises. Sooner or later, the piggy bank or jelly jar fills up, and you have to make a decision: Should I spend the money or continue to save? And if I continue to save, should I open a bank account or just find a bigger jar? Maybe you've had to face such a decision yourself. If you decide to keep your money at home, it will just sit there and won't earn any extra money for you. You also run the risk that a burglar, a fire, or some other disaster will wipe out your savings in the wink of an eye.

So in simpler terms, Bank is nothing but an intermediary institution that collects the deposits from the various people who are saving their extra money as well as other corporate/legal person or institutions and pools it into investment through giving loans and advances or otherwise thus earning profit through interest spread between the two. However this is a very simple definition of a Bank, in a wider notion a Bank is a service oriented organization that plays a great role in economy of a country by manufacturing not tangible goods but financial services.

Modern Banks not only accept deposits, make lending, issue and accept cheques, but they are involved in lot more complex businesses like electronic fund transfers, investment banking, forex transactions, merchant banking, insurance, treasury, financial advisory, credit rating, lease financing, export credit, consumer financing, managing retirement plans and lot more.

A Bank is different from any other organization because it deals in the most liquid asset, i.e. Money and thus it is operating in a critical environment. It is involved in creation of money through issue of near money negotiable instruments and giving loans and advances which in turn become the deposit in itself again. If some depositor comes and asks back his money a bank cannot say that you take a cup of tea today, we'll give it to you tomorrow.

Origin

The name *bank* is said to be derived from the Italian word banco "desk/bench", used during the Renaissance by Florentines bankers, who used to make their transactions above a desk covered by a green tablecloth. However, there are traces of banking activity even in ancient times.

In fact, the word traces its origins back to the Ancient Roman Empire, where moneylenders would set up their stalls in the middle of enclosed courtyards called *macella* on a long bench called a *bancu*, from which the words *banco* and *bank* are derived. As a moneychanger, the merchant at the *bancu* did not so much invest money as merely convert the foreign currency into the only legal tender in Rome- that of the Imperial Mint.

There are few other words like "Back" in Germany and "Banke" in French that are also believed to be the origin of the word Bank. No matter whether the world Bank has been derived from any one of the above words, but all these words have the same meaning of joint stock company that collect deposits and provides loan to the public. The first bank Casa de san Giorgio in Genoa was established in 1148 A.D. Bank of Vanice was established in 1147 A.D. In 1401 Bank of Barcelona was established in Barcelona. Modern Bank started to take rapid speed from 7th century. In 1609, the Bank of Amsterdam was established. Likewise in 1610 A.D. Bank of Humburg was

established in Germany. The first central bank was established in 1844 A.D. as "The Bank of England".

In context of Nepal the first bank is Nepal Bank Limited established in 1994 and the central Bank of Nepal, Nepal Rastra Bank (NRB) was established in 2013 only.

Definitions

To further clarify the concept of Bank, here are few standard definitions:
According to Shorter Oxford English Dictionary "A bank is an establishment for the custody of money its essential duty is to pay their draft on it, its profit arises from its use of the money left unemployed by them."

According to G.S. Crowther "A bank is an institution which collects money from those who have in spare or who are saving it out of their income and lends this out to those who require it."

All the various definitions of scholars point out the definition of the bank as a financial or business institution, which plays a role of financial intermediary in the economy of a country.

1.3 Development of Banking Sector in Nepal

The banking sector in Nepal has developed to its current state in a gradual process. From it's evolution that can be traced back to the establishment of "kausi toshi khana" as banking agency during the time of Prithivi Narayan Shah and "Tejarath Adda" to it current expansion of above 260 Financial Institutions, it has come a long way.

History of Banking in Nepal

The History of Banking in Nepal can be summarized in 5 distinct phases:

Ist Phase of Nepalese Banking

The first phase of Banking in Nepal can be traced to very primitive stage when a merchant named Shankhadhar had started the "New Year" Nepal Sambat after freeing all the people of Kathmandu from the debt. This record proves the existence of money

lending function at that time as well. King Jayasthiti Malla had given the responsibility to a caste of society called "Tankadhari" while he had given the name of the castes as per their profession, for the purpose of transaction of money in the society.

Government had established "Tejarath Adda" for the purpose of giving loan to government officials and the people against gold and silver during 1933 B.S. though it didn't accepted the deposit. The establishment of this institution marked the beginning of organized financial institution in Nepal.

2nd Phase of Nepalese Banking

The replacement of "Tejarath Adda" by **Nepal Bank Limited** as the first commercial bank on 30th Kartik 1994 B.S. marked the second phase of Banking Development. Nepal Bank limited was established with an authorized capital of Rs. 10 million. Sadar Muluki Khana of His Majesty's Government brought into circulation of 5, 10 and 100 Rs. Notes. At first Nepal Bank Limited was given the role of central bank with modern banking facilities. However with time, it was necessary to establish separate central bank.

Nepal Rastra Bank was established in 2013 Baisakh 14th in Nepal under NRB Act 2012 which has been replaced now by NRB Act 2058 due to change in scenario now and then. The central bank of Nepal issued notes on 7th Falgun 2016 B.S. for the first time. The then objectives was to replace Indian currency prevalent in that time by Nepalese Note circulation, to stop dual monetary system, to apply monetarism in all part of Nepal, to provided issuance of note, to bring Nepalese currency in use, to manage the monetary system well, to encourage national industry by mobilizing the capital for development and to develop the banking system in Nepal. Its objective has been changed to maintenance of positive balance of payment and maintaining exchange rates as well as regulation, supervision and inspection of Banks and Financial Institution by NRB Act 2058.

Following the established of NBL and NRB, **Rastriya Banijya Bank** was established in 2022 under Banijya Bank Act 2021 according to the recommendation of NRB.

RBB went into problem along with NBL due to high Non Performing Assets and has been slowly recovering with the restructuring program of NRB.

Agriculture Development Bank was established on 7th Magh 2024 to play a positive role in the agricultural development and financing the agricultural finance needs. This was the first institution in agricultural financing.

3rd Phase of Nepalese Banking

There was gap of around 2 decades after that for further establishment of other Banks. It was only in 2040 that the Joint Venture Bank Nepal Arab Bank Limited (NABIL) was established under the Commercial Bank Act 2031 and Companies Act 2021. Further to that two other joint venture banks Nepal Investment Bank Limited (the Nepal Indosuez Bank) and Standard Chartered Bank Limited (then Grindlays Bank Limited) was established in 2042 and 2043.

Many other joint venture banks were established after that like Himalayan Bank Limited (JV of Habib Bank of Pakistan), Nepal SBI Bank Limited (JV of SBI India), Nepal Bangladesh Bank Limited (JV of International Finance Investment and Commerce, Bangladesh), Everest Bank Limited (JV of Punjab National Bank, India), Bank of Kathmandu (JV of Syan Bank of Thailand), Nepal Credit and Commerce (former bank of Ceylon, JV of Srilankan and Nepalese investors). So third phase of Nepalese Banking Development saw the foreign investment in Nepal grow in Banking sector. Along with it grew the other local banks like Lumbini Bank Limited, Machhapuchhre Bank Limited as regional based banks and Laxmi Bank Limited, Siddhartha Bank, Kumari Bank etc in Kathmandu.

4th Phase of Nepalese Banking

With deregulation and liberalization of Banking Sector thus giving the interest fixation capability to the Banks themselves determined by the demand supply chemistry as well as concept of regional banking and development banking, it marked encouraging progress and the massive expansion of various types of banks and thus the 4th Phase of Nepalese Banking. With the promulgation of NRB Act 2058 (Amendment 2063) and Bank and Financial Institutions Act 2063 that categorized the banks into various categories as per the capital requirement and forms of transactions

possible to be done by them, many financial institutions sprouted, at national as well as regional level. The range of financial inclusiveness has widened, environment for capital mobilization eased, and opportunities in the banking sector extended with the expansion of the financial sector. In order to check the sprouting financial institutions, NRB had to revise its licensing policy and increase the capital requirement for various categories of Banks and Financial Institutions.

Current Scenario:

Along with addition of 1 Commercial Bank, 15 Development Banks and 3 Finance Companies in this fiscal year 2066/67 alone, there are total of 27 Commercial Banks, 78 Development Banks, 79 Finance Companies, 18 Microfinance Institutions, 16 Co-Operative Societies and 45 NGOs totalling to 263 Banks and Financial Institutions. In recent 3,4 years we have seen massive growth of financial institutions. Up to Poush 2066, total of branches of commercial banks totalled to 845 with addition of 93 branches in this fiscal year alone. There are more than 25 financial institutions waiting for license from the Central Bank to operate.

Table 1.5

Number of Banks and Financial Institutions

Banks and Financial Institutions	**Mid-July**	**Mid-July**	**Mid-July**	**Mid-April**	**Current**
	2006	2007	2008	2009	2010
Commercial Banks	18	20	25	25	27
Development Banks	29	38	58	61	78
Finance Companies	70	74	78	78	79
Microfinance Institutions	11	12	12	13	18
NRB Licensed Cooperatives					
(limited banking transaction)	19	17	16	16	16
NRB Licensed NGOs (Dealing in					
Microfinance)	47	47	46	45	45
Insurance Companies		21	25	25	25
Employees Provident Fund	1	1	1	1	1
Citizens Investment Trust	1	1	1	1	1
Postal Saving Banks	1	1	1	1	1
Branches of Postal Saving Banks		117	117	117	117
Source: Nepal Rastra Bank					

Table 1.6

Indicators of Financial Expansion and Deepening

	Mid April	Mid April	Mid April	Mid April
	2007	2008	2009	2010
Commercial Bank Branches	546	591	617	845
Population per Branch	47,120.00	44,499.00	42,832.00	31,430.00
Deposits in Commercial Banks (in Million Rs.)	325,770.00	375,590.00	481,440.00	572,730.00
Per Capita Deposit (Rs.)	12,663.00	14,282.00	18,217.00	21,566.57
Loan and Advance of Commercial Banks (in Million Rs.)	324,100.00	387,050.00	47,127.00	463,928.82
Per Capita Loan (Rs.)	12,598.00	14,717.00	17,833.00	17469.56

As the banking business operates at high-risk environment, the degree of risk grows in proportion of its expansion. Hence, scope of regulation and supervision needs to be widened for overall enabling and strengthening of the financial sector by constantly guarding the trend of steadily escalating risk.

With the caps put by the Nepal Rastra Bank through circulars in the Real Estate Lending thus stopping the real estate bubble growth, along with decline in remittance, increase of Cash Reserve Ratio and fixation of CD Ration by NRB, there the financial institutions are going through financial crisis situation. Deepening deficit in Balance of Payment and low economic growth due to Nepal Bandhs, energy crisis etc has further deepened the crisis. There is lack of confidence by the public in financial intermediaries due to liquidity crisis during the period of Dashain Festivals and it is estimated that around 16 billion rupees has gone out of the financial system during the third quarter of F.Y. 2066-67 while there is only 4 % growth in deposits of commercial banks. Informal lending has become prevalent again after many years.

Table 1.7

List of Class 'A' and 'B' Financial Institutions

Class A: Commercial Banks

S.No.	Names	Operation Date	Head Office	Paid up Capital *(Rs. In Million)*
1	Nepal Bank Limited	15/11/1937	Kathmandu	380.4
2	Rastriya Banijya Bank	23/01/1966	Kathmandu	1172.3
3	Agriculture Development Bank Ltd.	02/01/1968	Kathmandu	10777.5
4	Nabil Bank Limited	16/07/1984	Kathmandu	14491
5	Nepal Investment Bank Limited	27/02/1986	Kathmandu	2407.1
6	Standard Chartered Bank Nepal Limited.	30/01/1987	Kathmandu	1398.5
7	Himalayan Bank Limited	18/01/1993	Kathmandu	1600
8	Nepal SBI Bank Limited	07/07/1993	Kathmandu	874.5
9	Nepal Bangladesh Bank Limited	05/06/1994	Kathmandu	1860.3
10	Everest Bank Limited	18/10/1994	Kathmandu	8305
11	Bank of Kathmandu Limited	12/03/1995	Kathmandu	11822
12	Nepal Credit and Commerce Bank Limited	14/10/1996	Rupendehi	1399.6
13	Lumbini Bank Limited	17/07/1998	Narayangadh,Chitawan	1288
14	Nepal Industrial & Commercial Bank Limited	21/07/1998	Biaratnagar,Morang	1391.8
15	Machhapuchhre Bank Limited	03/10/2000	Pokhara, Kaski	1700
16	Kumari Bank Limited	03/04/2001	Kathmandu	1304.9
17	Laxmi Bank Limited	03/04/2002	Birgunj, Parsa	1533.7
18	Siddhartha Bank Limited	24/12/2002	Kathmandu	1230
19	Global Bank Ltd.	02/01/2007	Birgunj, Parsa	1325.1
20	Citizens Bank International Ltd.	21/06/2007	Kathmandu	1159.1
21	Prime Commercial Bank Ltd	24/09/2007	Kathmandu	1163.8
22	Sunrise Bank Ltd.	12/10/2007	Kathmandu	1419.4
23	Bank of Asia Nepal Ltd.	12/10/2007	Kathmandu	1053.2
24	Development Credit Bank Ltd.	2008/5/25	Kamaladi, Kathmandu	1655.3
25	NMB Bank Ltd.	2008/6/5	Babarmahal, Kathmandu	1430
26	Kist Bank Ltd.	21/02/2003	Anamnagar, Kathmandu	2000

27	Janata Bank Ltd.	2010/05/01	Kathmandu	2000

Class B: Development Banks

S.No.	Names	Operation Date (A.D.)	Head Office	Paid up Capital (Rs. In Million)
1	Nepal Industrial Development Corporation	15/06/1959	Durbar Marg, Kathmandu	415.8
2	Nepal Development Bank Ltd.	31/01/1999	Kamaladi, Kathmandu	320
3	Uddyam Development Bank Ltd.	22/02/1999	Tandi, Chitawan	35
4	Malika Development Bank Ltd.	27/12/1998	Dhangadhi, Kailali	125.8
5	Siddhartha Development Bank Ltd.	20/08/1998	Butawal-11, Rupandehi	645
6	United Development Bank Ltd.	16/03/2002	Jeetpur, Bara	77.2
7	Manakamana Development Bank Ltd.	19/06/2001	Heritage Plaza, Kathmandu	700
8	Narayani Development Bank Ltd.	17/10/2001	Ratna Nagar-1, Chitawan	35
9	Pashimanchal Development Bank Ltd.	02/03/2003	Butawal-8, Rupandehi	126.5
10	Sahayogi Bikas Bank Ltd.	21/10/2003	Janakpurdham	36
11	Pashupati Development Bank Ltd.	01/01/2004	Banepa, Kavre	200
12	Karnali Bikash Bank Ltd.	14/02/2004	Nepalgunj, Banke	31.7
13	Triveni Development Bank Limited	26/07/2004	Bharatpur, Chitawan	58.5
14	Annapurna Development Bank Limited	23/08/2004	Banepa, Kavre	210
15	Bhrikuti Bikas Bank Limited	19/08/2004	Butawal, Rupandehi	211.5
16	Shubhechchha Bikas Bank Limited	14/09/2004	Narayangadh, Chitawan	46.4
17	Bageshowri Development Bank Limited	19/10/2004	Nepalgunj, Banke	49.5
18	Sanima Bikas Bank Limited	26/11/2004	Nagpokhari, Kathmandu	806.4
19	Gaurishankar Bikas Bittiya Sanstha Ltd.	29/11/2004	Kawasoti, Nawalparasi	140
20	Gorkha Bikas Bank Limited	01/12/2004	Putalisadak, Kathmandu	600
21	Gandaki Bikas Bank Ltd.	19/01/2005	Pokhara, Kaski	100
22	Infrastructure Development Bank Ltd.	29/04/2005	Banepa, Kavre	320
23	Business Development Bank Ltd.	10/05/2005	Pokhara, Kaski	210
24	Biratlaxmi Bikas Bank Limited	11/05/2005	Biratnagar, Morang	55
25	Excel Development Bank Ltd.	21/07/2005	Anarmani,Jhapa	80

26	Western Development Bank Ltd.	15/09/2005	Dang	27
27	Himchuli Bikas Bank Limited	07/11/2005	Pokhara, Kaski	168.3
28	Arniko Development Bank Ltd.	06/07/2006	Dhulekhel, Kavre	102
29	Nepal Dev. and Employment Promotion Bank Ltd.	17/07/2006	Kamaladi, Kathmandu	480
30	Clean Energy Development Bank Ltd.	06/09/2006	Sitapaila, Kathmandu	320
31	Mitery Development Bank Ltd.	13/10/2006	Mahendrapath, Dharan	45.1
32	Tinau Bikas Bank Ltd.	13/10/2006	Sangampath, Butwol	62.6
33	Rising Development Bank Ltd.	18/12/2006	Navalparasi, Gaindakot	129.6
34	Muktinath Bikas Bank Ltd.	18/12/2006	Pokhara, Kaski	65
35	Sewa Bikas Bank Ltd.	25/02/2007	Butawal, Rupandehi	60
36	Kankai Bikas Bank Ltd.	04/05/2007	Damak , Jhapa	28
37	Public Development Bank Ltd.	07/06/2007	Birjunj , Parsa	150
38	Ace Development Bank Ltd.	15/08/1995	Narayanchaur, Kathmandu	750.5
39	Mahakali Bikas Bank Ltd.	18/08/2007	Mahendranagar, Kanchanpur	20
40	Sangrila Bikas Bank Ltd.	26/08/2007	Pokhara, Kaski	130
41	Bhargab Bikas Bank Ltd.	30/08/2007	Nepalgunj, Banke	12
42	Vibor Bikas Bank Ltd.	04/10/2007	Tripureshwor, Kathmadu	680
43	Resunga Bikas Bank Ltd.	26/09/2007	Tamghas, Gulmi	21.4
44	Rara Bikas Bank Ltd.	30/09/2007	Birendranagar, Surkhet	10
45	Diyalo Bikas Bank Ltd.	01/10/2007	Banepa, Kavre	65
46	Country Development Bank Ltd.	04/10/2007	Banepa, Kavre	128.5
47	Kasthamandap Development Bank Ltd.	25/10/2007	New Road, Kathmandu	224
48	Alpine Development Bank Ltd.	05/10/2007	Hetauda, Makawanpur	67
49	Nilgiri Bikas Bank Ltd.	25/10/2007	Beni, Maygdi	35
50	Corporate Development Bank Ltd.	25/10/2007	Birjung, Parsa	70
51	Kamana Bikas Bank Ltd.	29/09/2007	Lekhnath, Kaski	65
52	City Development Bank Ltd.	19/10/2007	Pokhara, Kaski	140
53	Garima Bikas Bank Ltd.	23/11/2007	Sangja	106
54	Biswo Bikas Bank Ltd.	21/11/2007	Pokhara, Kaski	146.4
55	Pathibhara Bikas Bank	21/11/2007	Urlabari, Morang	50
56	Professional Bikas Bank Ltd.	17/10/2007	Banepa, Kavre	35
57	Kabeli Bikas Bank Ltd.	15/11/2007	Dhankuta	12
58	Purnima Bikas Bank Ltd.	20/05/2008	Sidhardhanagar, Rupandehi	35

59	Jyoti Development Bank Ltd.	25/08/2008	Kamalpokhari, Kathmandu	259
60	Shine Development Bank Ltd.	22/02/2009	Butawal, Rupandehi	60
61	Bagmati Development Bank Ltd.	23/03/2009	Hariwon,Sarlahi	14
62	Hamro Bikas Bank Ltd.	19/04/2009	Nuwokot	21
63	Kakre Bihar Bikas Bank Ltd.	15/05/2009	Surkhet	12
64	Pacific Development Bank Ltd.	20/05/2008	Beshishahar, Lamjung	19.5
55	Civic Development Bank Ltd.	25/08/2008	Dhadingbesi, Dhading	14
66	International Development Bank Ltd.	22/02/2009	Taku, Kathmandu	448
67	Kanchan Development Bank Ltd.	23/03/2009	Mahendranagar, Kanchanpur	70
68	Gulmi Bikas Bank Ltd.	19/04/2009	Tamghas, Gulmi	14
69	Bright Development Bank Ltd.	14/05/2009	Panuti, Kavre	98
70	Matribhumi Bikas Bank Ltd.	15/05/2009	Sindhulimadi, Sindhuli	15.4
71	Innovative Development Bank Ltd.	13/11/2009	Sidhardhanagar, Rupandehi	71
72	Jhimruk Bikas Bank Ltd.	08/12/2009	Pyuthan	15.4
73	Metro Development Bank Ltd.	16/12/2009	Pokhara, Kaski	70

Source: Nepal Rastra Bank

Banking in Pokhara:

Among 27 Commercial Banks, 25 Commercial Banks' 42 Branches are operating in Pokhara. There are 18 Branches of 13 Finance Companies among which 7 are Head Quartered in Pokhara. Also 6 Microfinance Institutions are working in Pokhara Valley. The most of all, there are more than 40 branches of 14 Development Bank among which 8 are Head Quartered in Pokhara. There are more than 85 financial institutions alone in the New Road and more than 120 financial institution's branches in Pokhara serving the Population of Pokhara Valley.

Because of large no. of people working in British and India Armies, there has been a great amount of remittance income into Pokhara valley which is fuelling the Deposit Growth of the Valley. In last ten years there has been a increase of more than 8 fold and in last year alone there was 31 Billion Rupees of Deposit Collection and 33 Billion of Loan Mobilization. As on Aswin 2066, there was total Deposit Collection of 33.59 Billion and Loan Mobilization of 34.76 Billion as per the data of NRB Pokhara.

1.4 About Shangri-la Development Bank Ltd.

Shangrila Development Bank Limited is the development bank headquartered in Kaski, Pokhara which came into operation from 9th Bhadra 2064 with the theme slogan of *Bank for Every Body*. Shangrila is more a dream project rather than just another bank in the wall of all the existing banks which has been promoted by Chartered Accountants, Engineers, Academicians, renowned Social Workers and local Business Men. Within a short span of time, it has been able to show positive impact in its regional economy. Established as the 39th Development Bank, it has come into forefront in many terms like Deposit Mobilization, No. of Customers and Return on Equity.

Outreach

Shangrila Development Bank has the second largest outreach in terms of branches within the Development Banks after Gurkha Development Bank. It has altogether 12 branches within and outside of Pokhara Valley.

Figure 1.1:

Approved Districts of Shangri-la Development Bank Limited

Branches Within Pokhara

- New Road, Pokhara (Head Office)
- Bhadrakali Branch, Pokhara (First All Women Branch)
- Naya Buspark Branch, Pokhara (Second All Women Branch)
- Rambazar Branch, Pokhara
- Birauta Branch, Pokhara
- Zero KM Branch, Pokhara

- Ranipauwa Branch, Pokhara

Branches Outside Pokhara

- Butwal Regional Branch, Traffic Chowk, Butwal
- Dulegauda Branch, Tanahun
- Hetauda Branch, Seema Chowk, Hetauda
- Narayangadh Branch, Lions Chowk, Narayangadh
- Baglung Branch, Dhaulagiri Chowk, Baglung

In terms of its performance, the Bank has been able to be a leading deposit mobilising financial institution with more that 1.43 Billion Deposit in its short span of operation and it has been entrusted by more than 21,000 customers of various castes, gender, age groups, and sectors and has really become the Bank for Everybody.

Recent Annual General Meeting of Shangri-la Development Bank Limited has decided to increase the current capital of Rs. 7.98 Crores to 32 Crores within the fiscal year 2066-67 and become a national level bank by increasing it to 64 Crores through right issue of 32 crores in fiscal year 2067-68. It has been running in the long term goal achievement by development of 7 year strategic plan and has set forth benchmarks for it which till now has been successfully achieved.

1.5 Products and Services of Shangri-La Development Bank Ltd.

SHANGRI-LA PREPAID

As the name suggests, Shangri-la Prepaid basically is a fixed deposit account where upon the customer is entitled to receive the interest amount as prepayment either in cash or as another fixed deposit receipt immediately.

SHANGRI-LA LAKH YOJANA

Shangri-la Lakh Yojana is a deposit product of SDBL where upon if the customer deposits 65,000 which will grow to Rs. 100,000 at the end of 5 year. The annual interest rate will be 11.34% on your deposited amount.

SHANGRI-LA BAL BHABISYA

Targeted for the secured future of your children, it’s the deposit product that will help you save for future expenses of your children. Various facilities and attractive features are available in this account.

SHANGRI-LA SUVA LAXMI

Considering the need of empowering women with their stable savings, Shangri-la Shuva Laxmi Bachat is a customized product with various additional features.

SHANGRI-LA SPECIAL SAVING A/C

Shangri-la Special Saving A/C is a saving the account with special features like additional interest rates of up to 7% and personalized services which has been preferred by most of our customers.

SHANGRI-LA GURKHA BACHAT

Shangri-la Gurkha Bachat is a saving deposit product of SDBL basically in honor of the Brave Gurkha’s who have kept the name of Nepal high with their bravery. It’s main feature is the insurance of the lives of account holders.

SHANGRI-LA JESTHA NAGARIK

Shangri-la Jestha Nagarik is a deposit product of SDBL basically for the people above the age of 50 Years. Its main feature is the monthly posting of interest so that the senior people can withdraw the amount accruing in their account when they need the most.

365 Days Banking

We understand that banking is a basic service that shouldn't be stopped. So being in par with other financial institutions, we are providing all year round services from our Head Office.

Shangrila SMS Banking

Bank has currently started SMS Banking through which the customers can make their Balance Inquiry, Statement Request, Cheque Book Request, Banking Hours Inquiry, and get customized E-Alerts.

ABBS

Keeping in mind of all customer needs, we've introduced Any Branch Banking System with an objective to provide our customer with the most convenient service possible. Now, they can withdraw or deposit cash, receive information about the balance in their A/C or obtain a statement of accounts from any of our branch.

PROMPT SERVICES

We have seen that the best of the banks have got their customers wait long queues. No more long hours or queues, work gets over in just a few minutes is what we claim and working towards streamlining services. We are continuously looking towards giving best attention to our clients and trying to keep without being unattended.

FINANCIAL ADVISORY

Good financial planning may make or break a business. We believe that our success is measured upon the successes of our clients. Our team consists of experts who can provide assistance to clients in need of consultancy for financial planning. Providing timely pointers on the proper source of financing, terms and conditions, structure of debt and equity, and even recommending sound financial tips are the strengths of Shangri-La Development Bank. Our evaluation teams help the client in making sound financial decisions. We takes pride in assisting clients requiring any type of financial advisory services.

LOAN ADVISORY

Shangri-La Development Bank facilitates a wide range of fund requirement with various credit schemes. However we feel that the financial health of our client is of the utmost importance. A slight mismatch in funds and timing of credit can affect our client. Our credit/loan team is able to provide sound advice to clients on how to manage their funds. Based on a strong project evaluation foundation, our team is able to advise the client on a favourable loan schedule. We believe in working with our clients and working on a loan scheme that is in the best interest of the client.

LOAN FACILITIES

Various load products are available tailored to the need of the customers ranging from personal loans to the corporate loans which will fulfil all of your needs. Our interest rates and repayment structures are best suited to the customers' returns and convenience. Few Loan products of SDBL are Education Loan, Gold Silver Loan,

Hire Purchase Loan, Housing Loan, Working Capital Loan, Share Loan, Easy Revolving Loan etc.

1.6 Statement of Problem

As mentioned in details earlier there has been massive growth in the financial institution after the economic liberalization policy of 1990. Recently there is still more trend of opening maximum no. of branches by all the financial institutions resulting in massive expansion. In such scenario where to remain competitive in the market on one side high deposit rate and low lending rate are inevitable and on other side there is obvious mounting increase in operating costs.

The financial results of the financial institutions are the most transparent as it is continuously monitored by the central bank as well as it has to be regularly published to the public. In such situation the banks to keep their competitive position intact and retain customers have to continuously perform better in terms of profit. More over the bank management has the responsibility towards the investors and promoters to make a maximum return to their investment through bonus or cash dividend so that the current market price remains high. In that view as well profit is always important.

Success is said not to be a matter of chance and profit obviously doesn't happen but it should be planned and managed. Cost Volume Profit Analysis or Break Even Analysis is one of the major tools of Profit Planning and Control (PPC) which helps to analyse the cost structure, define its nature, find the return pattern and determine the single point where the bank can obtain the no-profit no-loss state. With this determination of break-even point, the bank can set targets for sales, cost reduction, product pricing so that the required amount of profit can be obtained.

This study would be focusing thus on the important analysis of Break Even and various factors affecting it and in meantime it will try to answer the following question:

1. What is the current trend of usage of CVP analysis in profit planning, organizing, decision making and controlling function in banking sector as a whole and in Shangri-la Development Bank in particular?

2. What are the different costs of banking industry?
3. What difficulties would be faced in application of CVP analysis in banking industry?
4. How would CVP analysis be applied to the banking operations so that there can be effective usage of it in profit planning thus improving competitiveness and performance?
5. What is the current state of various cost and return as well as volume of business thus analyzing whether it is optimal or is there chances of improvement.

1.7 Objective of the Study

Setting of objective of the study is important to give proper direction to the study and reach a fruitful conclusion. CVP Analysis or Break Even Analysis has the sole objective of studying the cost structure and categorizing it into various categories according to it nature like variable, semi-variable and fixed costs and then analysing the yield or return pattern thus knowing the relationship between them and finding a common meeting point. This helps to plan and manage the profit for the organization.

The objectives of study paper can be further enumerated in following points:

- To study the relationship between various types of costs, sales volume as well as return and profit by means of applicable tools of analysis.
- To differentiate appropriately the costs into fixed and variable to make the analysis.
- To find the income level where the bank is in no profit no loss position
- To know the trend of other factors like contribution margin, margin of safety etc.
- To identify the various factors affecting profitability and thus finding the inter relationship between these factors
- To help improve the margin of safety.
- To provide relevant suggestions based on the study to enlighten on hidden aspects of CVP and help increase the competitive state by Shangri-la Development Bank Ltd.
- To find out the profitability studies of various ventures of Bank like extension counter, branches or ATMs or a New Products.

1.8 Significance of the Study

The signification of cost and management accounting in banking sector is widely accepted principle. The concept of cost of a product is important for its several decisions needed to be taken from time to time. Banking industry being a service industry, the product of this industry is the services made available to its customers.

We can find a whole lot of work done in the field of manufacturing concerns. In spite of the similar cost concept between manufacturing and banking concerns, their application differs in various angles. The cost of funds for a bank is the same as the cost of sales in an industrial undertaking. But there is an important distinction between the costs of banking operation and production processes. Manufacturing cost per unit generally tend to fall as production increases on account of getting economies of scale in the resources. The cost of sales in a bank i.e. its cost of funds is not directly related to the amount of loans which it provides, not necessarily to the rate it changes on industrial loans and over draft facilities. Cost volume profit analysis provides a sweeping financial overview of the planning process. It examines the behaviours of total revenues and total costs as changes occur in the output levels, selling price, variable cost and fixed costs. C.V. P. Analysis can be used to find out how various variables being considered by a decision maker affect operating profit.

1.9 Limitations of the Study

Flawless study is never possible as always there are assumptions and limitation to make any study possible. Following limitations are observed in this study:

- Due to recent inception the study would be based only on last two and half years data.
- Cost segregation into fixed and variable is never always perfectly made as many costs by nature are neither totally fixed nor totally variable.
- Due to limited time a comprehensive study of all the factors was never possible along with application of many tools and techniques.
- CVP analysis is based on the assumption of linear relationship between the variable costs and sales whereas in real terms there is never a perfectly linear relationship existing.

- The quality of study depends upon the data provided by the bank and its management.

1.10 Organization of the Study

This study has been organized as follows;

Chapter one deals with introduction. It covers introduction of background of the study, statement of problems, objectives of the study, limitations of the study and organization of the study.

Chapter two comprises the review of literature. It is divided into two parts. The first part of the review deals mainly with the theoretical and historical information related to development banks in Nepal. The next part covers the review of related literature from books, journals, seminar papers and publications relating to Development banks.

Chapter three deals with research methodology that consists of research design, source of data, population and sample, statistical tools and method of analysis.

Chapter four includes data presentation and analysis.

Chapter five is concerned of the summary, conclusion and recommendations of the study.

CHAPTER - TWO
REVIEW OF LITERATURE

2.1 Conceptual Framework

An organization is established to achieve some goals. It has its own objectives. To achieve the goals of organization, its objectives should be clear mention. “In this competitive globalize business age an organization whether it is public or private, profit is essential. Profit is not chance, it is result of successful management. The management of an enterprise requires continuing performances of certain managerial responsibilities collectively are called the function of management. Planning, organizing, staffing, and human resource management, Leading and interpersonal influence and controlling are major functions of management. Planning is process of developing enterprises objectives and selecting future course of action to accomplish them. It reduces uncertainty and provides effective direction to the employee by determining the course of action in advance. Controlling means evaluating the firm’s activities against the plan and deciding what should be done if the plan is not being followed” (Lynch and William, 1995:18). In business organization there may involve various parties like, competitors, employees and trade union, Government community representative, Investment analysis, suppliers, lender/Bankers, Managers, Owners, and Customers etc. These all parties require various types of information for decision making. Actual position of the enterprises can be found from financial statement. It shows the clear picture of enterprises profit and loss position, financial position etc. These are not sufficient to measure the firm’s performance and plan. There are various tools and technique that can be effectively applied to measure and analyze the financial performance. Cost Volume Profit Analysis (CVPA) in one the major and popular tools to analyze the relevant data for management decision. It is one of the important portion of profit planning and control and budgeting.

2.1.1 Profit

Every organization is established to make profit. Success of any organization is primarily measured by profit because it is acid test of individual firm’s operation. That organization is thought to be a successful, which can generate profit. The

existence of all the resources employed in the enterprise is possible only when there is profit. Profit doesn't just happen but it is managed. If a firm cannot make profit, it cannot generate capital for future. Profit is the excess or residual income left after cost of production or the payment of the contractual reward to other for production. But the term profit is controversial and interpreted as thus:

- An economist says that profit is the reward for entrepreneurship for risk taking.
- A labor leader might say that it is a measure of how efficiently labor produced and that it provides a base for negotiating a wage increase.
- An investor will view it as a gauge of the return on his money
- Through the accountants measuring stick, profit is a tangible expression of the goals it has set for the firm.
- A yardstick for judging the competence and efficiency of the management. (Maheshwari, 2000:171).
- A mean of maintaining the health, growth and continuity of the company. (Lynch, 1993: 100)

For the dynamic manufacturing industries, the most telling concept of profits, they are the gains in national income that are generated by the managerial drive for distinction through creative innovation." (Myres, 1994:250).

"Thus, economic theories of profit may be put in three broad groups. The first look open profit is the reward for bearing risk and uncertainty, the second view of profit as the consequences of fraction and imperfection in the competitive adjustment of economy to dynamic changes; the third see profit as the reward for successful innovation. "(Dean, 1992:3)

2.2 Profit planning

Profit planning is the central theme of management planning, without proper planning, profit will not just happen. So every activity needs to be systematically planned for profit generation. Profit plan covers all the major aspects of business activities toward the achievement of business objective, which is profit, various functional budgets are the basic tools for proper planning of profit control over them. A profit plan is a financial and narrative expression of the expected result from

planning decision. It is called profit plan because it explicitly set the goals in terms of time for each major segment of entity. Glenn A. Welsch has used the descriptive term comprehensive profit planning and control. Other terms used in the same context are business budgeting, managerial budgeting and budgeting. The profit planning model includes the following activities:

- The development and application of broad and long range objectives of the enterprise.
- The specification of the tactical short range project plan with assign responsibility.
- The development of strategic long-range profit plan in broad terms.
- The specification of enterprises goals.
- The development of follow up process.
- Establishment of a system of periodic performance reports detailed by assigned responsibility.

Profit planning is one of the most important management tool used to plan business operation budget or profit plans are financial plans prepared as a guide to and control of future operation. (Gupta, 1992: 521)

Profit planning is one of the most important approaches that have been developing to facilitate effective performance of the management process. The most relevant aspect of profit planning concept:

I) Profit planning requires major planning decisions by management.
II) Profit planning recognizes many of the critical behavioral implications throughout the organization. (Glenn A. Welsch, 1992:31).

Profit planning is a detail plan of action during a period of one year or less. Profit planning helps a firm's financial manager to regulate flow of undoes which is his primary concern. (Pandey, 1997:223).

Profit plan is a short-term financial plan. It is an action plan to guide managers in achieving the objective of a firm. A profit plan is a comprehensive and coordinated plan of resource of an enterprise for some specific period in future. So, profit planning is a part of an overall planning process and is an area in which, the financial function plays a major role. (Myers, 1995: 250).

Profit plan is a detail expression of the expected result from the planning decision. Profit planning is an important approach develops to facilitate for effective performance of management process like planning, organizing, staffing and controlling. So, it is carried out to fulfill the responsibility of forward thinking and future operation of the organization.

2.3 Concept of Cost-Volume-Profit Analysis:

Cost volume profit analysis is the process of examining the relationships among revenues cost and profits for a relevant range of an activity within a particulars time frame. It is one of the most important and powerful tools that manager have at their command in short term planning. It helps managers understand inter relationship between cost volume and profit in an organization by focusing on interaction between the following given elements.

- Price of product
- Volume or level of activity
- Per unit variables costs
- Mix product sold

"CVP analysis can be extended to cover the effects on profits of changes in selling price/service fees, cost, income tax rate, product mix etc. It estimate total cost, total revenue and profit at various sales volume. It provides only an overview of the effects on revenue and costs of all kinds of short run financial changes. It is related to profit, sales volume and cost" (Munakarmi, 2003:401).

"Cost volume profit analysis examines the behavior of total revenues total cost and operation income as changes occur in the output level, the selling price, the variables cost per unit and or fixed cost of a product" (Homgren Datar and Foster,2003:15).

"Cost volume profit analysis is a systematic method of examining the relationship between changes in activity (i.e. output) and changes in total sales revenue, expenses and net profit. As a model of their relationship CVP analysis simplifies the real world conditions that a firm will face like most models which are abstractions from reality,

CVP analysis is subject to number of underlying assumptions and limitations. Nevertheless it is powerful tool for decision making in certain situations" (Drury, 2000:112).

"Most of the business fails after a few years sometimes months of starting because they tend to do anything for volume without thinking how it's going to affect the bottom line. CVPA is a management accounting tool to show the relationship between the elements of profit planning. Profit planning is a function of the selling price of product demand, variable costs. Fixed cost taxes etc. The whole picture of profit planning is associated with coat volume profit interrelationships" (Bajracharya, Ojha, Goet and Sharma, 2004:225).

The key motive of business enterprises is to make and maximize profit. Profit does not happen by chance. It is to be managed. Cost volume profit analysis is supplementary tool of planning for profit. CVP is immensely helpful for developing alternative strategies in sales planning and cost estimation. Cost volume profit analysis is an accounting technique showing the relationship between variables. It is equally applicable for nonprofit making organization to allocate scare economic resources most effectively among the completing alternative. Allocation of scare resource among the various demanding sectors is the most important part of national planning.

A popular technique to study CVP relationship is break even analysis (BEP). Break even analysis is concerned with the study of revenues and cost in relation to sales at which the firm's revenues and total cost will be exactly equal or the net income will zero. It is no profit no loss sales. This point is cornerstone of profit planning, Cost volume profit analysis (CVPA) is popular analysis tool of management. It is very useful in profit planning and control, management decision cost control, budgeting etc.

2.4 Importance of CVP Analysis

"Planning controlling and decision making are the essential management functions CVPA helps the manager to plan for profit to control cost and make decision"." It helps (Munakarmi, 2003:401-402):

• To determine the breakeven point in terms of unit or sales value.
• To ascertain the margin of safety.
• To estimate profits or losses at various level of output.
• To assess the likely effect of management decisions such as an increase or decrease in selling price adoption of new method of production to reduce direct labor cost and increase output.

- To help management to find the most profitable combination of costs and volume.
- To determine the optimum selling price.
- To determine the sales volume at which the profit goal of the firm will be achieved.
- To determine the maximum sales volume to avoid losses.
- To determine most profitable and least profitable product.
- To determine most profitable and least profitable product.
- To determine new breakeven point for changes on fixed or variable cost. Generally CVP analysis provides information regarding "(Munakarmi, 2003:402).
- Minimum level of sales to avoid losses.
- Sales level to earn target profit.
- Effects of changes in prices, costs and volume of profits.
- New breakeven point for changes.
- Effects of changes in sales mix in profit.
- Impact of expansion plan on CVP relationship.
- Products those are most profitable and least profitable.
- Whether to continue or discontinue the sales of product or operation of plan.
- Effect on operating profit with the increase in fixed cost.
- Whether to close or not the firm for a short term."

2.5 Application of Cost Volume Profit Analysis

"Cost volume profit analysis is applied specially for break even analysis and profit planning. Profit planning is fundamental aspect of overall management function. Profit planning can be done only when the management has the information about the fixed and variable cost of product and selling price of the product. The most important factors that affect the planning for profit are costs fixed and variable costs and volume of sales. CVP analysis can be applied in the following respects"(Dangol,2004:120).

- It helps in fixation of selling price.
- It is helpful in cost control.
- It also assists the management in understanding the behaviors of cost and helps in budgeting control.
- It helps in determining the level of output where all the costs can be met.
- It assists the management in profit planning.
- It also assists the management in performance evaluation for the purpose of management control.
- It helps very much in making managerial decisions such as make or buy a part, drop or continue a department or product line, accept or reject a special order, selection of profitable product mix etc.

2.6 Contribution Margin Analysis

Contribution Margin is the excess of sales revenue over variable costs, so contribution margin means how much is left from sales revenue after covering variable expenses that are contributed toward profit for the period. Contribution margin is used to first cover the fixed expenses and then whatever remains, after the fixed expenses are covered, goes toward profit. If the contribution margin is not sufficient to cover the fixed expenses then a loss occurs for the period. Basically contribution margin indicates why operating income changes as the volume of sales changes. It can be expressed as:

Contribution Margin = sales – variable cost or

Contribution Margin = Fixed cost + profit

Contribution Margin Per unit (CMPU) = Selling price – Variable cost per unit

2.6.1 Contribution Margin Ratio (C/M Ratio)

Contribution Margin Ratio (C/M Ratio) is also known as profit volume ratio (P/V Ratio). C/M Ratio is equal to contribution margin divided by revenue. The analysis of relationship between profit & volume is known as profit volume analysis, profit/volume ratio (P/V ratio) or C/M ratio establishes a relationship between the contribution & sales value. Percentage of contribution margin to total sales is referred to as the C/M ratio. C/M ratio can be calculated by using either per unit or total revenue minus total variable cost.

$$\text{C/M Ratio} = \frac{\text{Sales revenue - Variable cost}}{\text{Sales Revenue}}$$

$$\text{C/V ratio or C/M ratio} = \frac{\text{SPPU - VCPU}}{\text{SPPU}}$$

It is also the remaining percent of the variable cost ratio: P/V or C/M ratio = 1 – Variable cost ratio

$$\text{P/V or C/M ratio} = \frac{\text{1- Variable Cost}}{\text{Sales Revenue}}$$

Since fixed costs do not changes within the relevant range in the short run, net profit change by the same amount as the contribution margin changes?

$$\text{P/V Ratio} = \frac{\text{Changes in Contribution Margin}}{\text{Changes in Sales Revenue}}$$

Or,

$$\text{P/V Ratio} = \frac{\text{Changing Net Profit}}{\text{Changing Sales}}$$

This ratio is helpful for determination of the desired level of output or profit and for the calculation of variable costs for any value of sales. The variable cost can be expressed by using the following equation:

VC= sales (1-P/V ratio)

Comparison of different C/M ratio is usually made by the management to * find out which product is more profitable. Management tries to increase the value of the ratio by reducing the variable cost or by increasing the selling price.

The variables usually used in cost volume profit analysis are:

a) Sales value: The sale value is actually includes the quality of total sales multiply by selling price pre unit or sales rupees. Total sales revenue refers to income of the company.

b) Variable cost: Variable cost is that cost which is directly affected by change in the activity level. Direct material, direct labor cost and variable overhead etc, are variable cost. Per unit variable cost always remains constant. If the output increases variable cost also increases and if it decreases variable cost also decreases, Changes of variable cost effects P/V ratio, BEP and Net income.

c) Fixed cost: Fixed cost remains constant in total amount even if the level of output changes Depreciation, rent, interests etc. are fixed costs. It is also called capacity cost. Per unit fixed cost changes but total fixed cost remains constant.

d) Mixed cost: Mixed cost contains both variable and fixed cost. Repair and maintenance electricity charge, telephone, supervision etc. are examples of Mixed Costs. These costs can't be categorized as purely fixed or variable. Mixed cost is known as semi variable cost, semi variable costs should be separated to find total variable and fixed cost.

e) Jumping Cost: Some costs remain fixed over a wide range of activity but jump to a different amount for activity level outside that range. Such costs are called jumping costs or step fixed cost or moving fixed cost or ladder fixed costs.

2.7 Break Even Analysis

"Break even analysis, more precisely the breakeven point tells the quantity sales sold at which total sales revenues equal total costs. Breakeven point is that quantity of sales sold at which the operation income is zero. Cost volume profit analysis is sometimes referred to simply as a break even analysis. This may be misleading because break even analysis is just one aspect of the entire CVP concept. It is always taken as an important aspect of profit planning as it gives the planner many insights

into the data with which he or she is working. Profit planning of each firm begins from break even analysis. Profit begins from the breakeven point. It is survival point where all firms must at least remain to sustain or continue the business. Business firm running under BEP can be justified only under the following circumstance" (Bajracharya, Ojha, Goet and Sharma, 2004:23)

2.7.1 Approaches to Break-Even Analysis

The breakeven point can be identified through different approaches. Mainly the breakeven point and other required cost volume profit relationships can be explained through contribution margin approaches or graphic approach or equation/formula approach. A contribution margins statement is a variable costing income statement where philosophy is that all fixed costs are period cost which should be deducted from the contribution margin of the same period. Most often, the equations approach can be used to identify break even sales instead of the graph or the income statement.

a) Contribution Margin Approach

The contribution margin approach to CVP analysis allows the preparation of proforma statement from the available information. BEP and other required CVP relationships can be explained through a contribution margin statement. A contribution margin statement is the variable costing income statement whose philosophy is that all fixed costs are period costs that should be deducted from the contribution margin of the same period. Only the variable costs vary proportionately with the level of output or sales.

b) Formula Approach

"The most popular practiced approach to the breakeven point and cost volume profit analysis is the formula also known as the equation. The formula approach used an algebraic equation to calculate the breakeven point. The answer provided by solving the equation may, sometimes, need to be rounded to whole numbers of units or lot sizes. The rounding of breakeven point units is always dine upward because this will provide a small profit rather than the small loss that would be shown from rounding downward" (Rainbom,Barfield and Kinney,1993:124)

The calculation in the equation approach is similar to that of the contribution margin statement approach. The equation is merely a resettlement of expenses and contribution margin. To development the cost volume profit equation.

Table 2.1

Contribution Margin Approach Symbol or Equation

Contribution Margin Approach	Symbol or Equation
Sales Volume (Units)	Q
Selling Price Per Unit	P
Sales Revenue (Rest)	Q × P
Less: Variable Costs	Q ×VCUP
Contribution Margin	Q × P-Q×VCPU
Less: Fixed Costs	FC
Net Profit	Q × P-Q×VCPU-FC

Source: Rainbom, Barfield and Kinney, 1993:126)

Sales- Variable expenses-fixed expenses = Net profit

Or, Sales= Variable expenses+ Fixed Cost + Net Profit

Or, Q × P=Q×VCPU+FC+ Profit

Therefore,

$$Q = \frac{FC+Profit}{CMPU}$$

Where, SPPU-VCPU=CMPU

$$\text{Break even (BEP Units)} = \frac{Fixed\ cost}{CMPU} \text{ and BEP (Rs) } \frac{Fixed\ cost}{C/MRatio}$$

There is no profit no loss at BEP.

$$\text{Required Sales unit} = \frac{Fixed\ cost + Target profit}{CMPU}$$

$$\text{Requirement sales for desired profit after tax (In units)} = \frac{Fixed\ cost + \frac{DPAT}{1-TaxRate}}{CMPU}$$

$$\text{And required sales (Rs)} = \frac{Fixed\ cost + \dfrac{DPAT}{1 - TaxRate}}{C/M}$$

The contribution margin & equation approaches are two equivalent techniques for finding the BEP. Both methods provide the same conclusion, so, personal preference dictates which approach should be used. Yet it is especially useful in situation in which unit price & unit variable costs are not clearly identifiable.

c) The Graphic Approach

The BEP can also be computed graphically. A break-even chart portrays a pictorial view of the relationship between costs, volume, and profit. The BEP indicates in the chart will be one at which the total cost line and total sales line intersect.

Figure 2.1

Break-even Chart

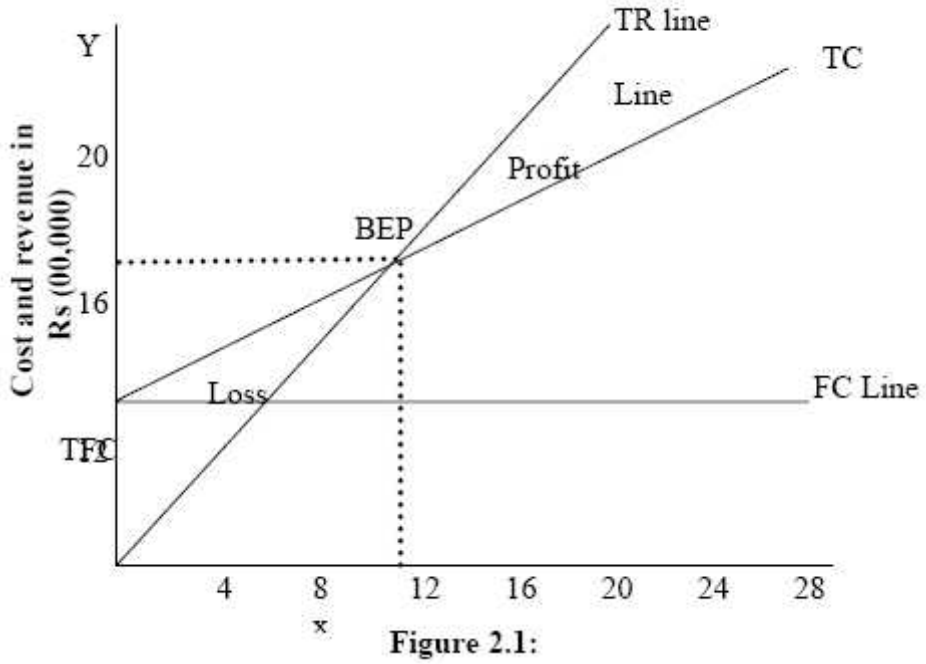


Figure 2.1:

Source: Rainbom, Barfield and Kinney, 1993 sales in Rs. (00,000)

The following steps are involved in constructing the BE Chart (For cost and revenue approach)" (Matz and Usry, 1976:745-746):

1. Sales Line: sales volume is plotted on horizontal axis; Sales volume may be expressed in terms of rupees, units or as a percentage of capacity. Equal distances are made along the horizontal line to show sales volume at different activity levels.

2. Cost and Revenue Lines: The vertical axis is used to represent revenue and fixed and variable costs. A similar vertical line may be drawn on the right hand side of the chart to complete the squire.

3. Fixed Cost Line: The total sales and total line can be drawn by making budget level for of total cost Rs.12,00,000 on the right hand vertical line. To draw total sales, the zero sales point should be connected with the sales budget point (Rs.1, 200, 000) on the right hand vertical line. Similarly total cost budget point (Rs. 12,00,000) on the right –hand vertical line.

4. Sales and Cost Line: The total sales and total cost line can be drawn by making budget level of total sales, Rs.12,00,000 and total cost Rs.12,00,000 on the right hand vertical line. To draw total sales, the zero sales point should be connected with the sales budget point (Rs.12,00,000) on the right hand vertical line, similarly total cost line can be drawn by connecting fixed costs point(Rs.400,000) with the total cost budget point (Rs.1200,000) on the right-hand vertical line.

5. Angle of 45^0: If the vertical and horizontal lines are spaced equally with the same distances, sales line will be connected with the opposite corners of the graph at angle of 45 degree.

The point of intersection between sales and total cost lines is the BEP. The angle formed by the intersection of sales and total costs lines is known as the angle of incidence. Larges this angle, lower the BEP and vice-versa. The area to the left of the BEP is the loss area and represents the uncovered fixed costs while to the right of it, there is the profit area. The variable cost is the gap between the total cost and the fixed cost. BEP can be computed by contribution approach as:

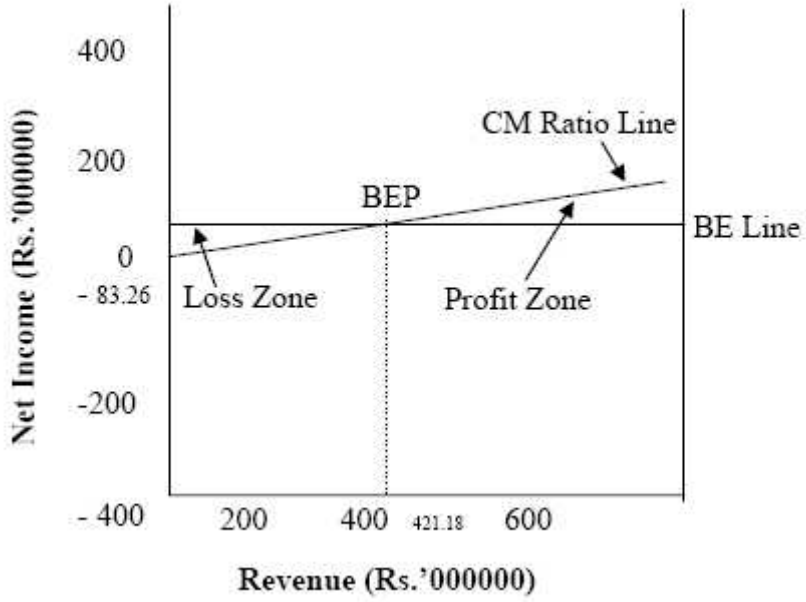
a) Break-even Line: The break even line, parallel to the horizontal axis can be drawn through the zero contribution point.

b) Fixed Cost: The fixed are located in the negative vertical line.

c) Contribution Line: It is drawn from the fixed cost point and forwarded by intersecting BE line where BEP lies.

Figure 2.2

BE Graph by Contribution Approach



Source: Matz and Usry,1976

2.7.2 Application of Break even Analysis

"Break even concept can be used to formulate different policies in a business enterprise; some of this application is:

- Determination of Profit at different level of sales and margin of safety.
- To find the level of output to get the desisted profit.
- Effect of price reduction on sales volume and changes in sale mix.
- Effect of fixed cost or variable cost changes on sales volume.
- Selection of most profitable alternative, make or buy decision and drop and or add decisions" (Maheshwari,2000:182)

2.7.3 Assumption of Break Even Analysis

"Contribution analysis and break even analysis are based on a specific set of assumptions that should be clearly understood. These underlying assumptions are:

- All cost can be classified into two parts; fixed cost and variable cost, there are no costs other than fixed and variable.

- There is a relevant range of validity (Activity) for using the result s of the analysis and sales change.
- There is only one product or in case of multi products, the sales mix among the products remains constant.
- Basic management policy about operation will not change materially in short run.
- The general price level (Inflation defilation) will remain essentially stable in the short run.
- Sales and production levels are synchronized, that is inventory remains essentially constant or zero.
- Efficiency and productivity per person will remain essentially unchanged in the short run"(Maheshwari, 2000:182-183).

  If any of the above assumption were changed, revised budget would be needed for a new analysis.

2.7.4 Limitation of Break-even Analysis

Break even analysis in many business situations can be used for effective decision making but there are many short comings or limitations in its analysis & interpretations." Some of these can be listed as;

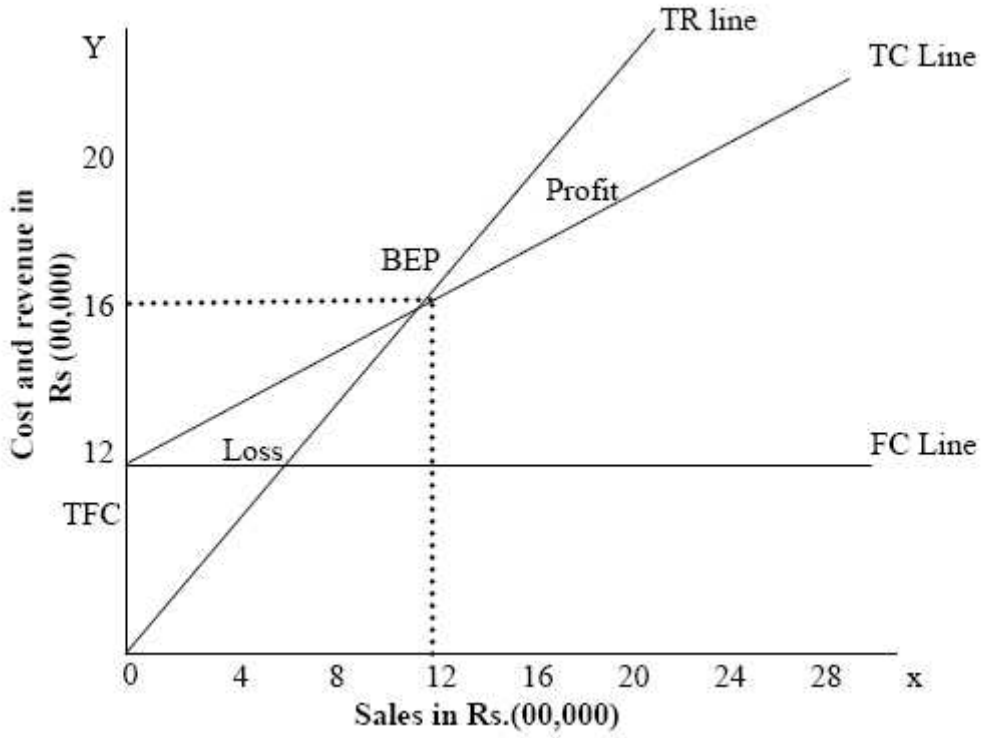
- The assumptions of producer's market phenomenon not hold goods for all types of commodities.
- The fixed cost may remain constant as well as the variable costs may not vary n fixed proportions at different levels of output.
- With variation in the prices of the items or services which also depend on the factors affecting the demand and supply will certainly affect the demand of the commodity. This phenomenon is not covered in even analysis.
- Identification of fixed and variable costs involved in production process is very complicated. A shift in product mix may change the break even point.
- Customers may be given certain discount on purchase to promote sales. This revenue may not be perfectly variable with level of sales output"(Maheswari,2000: 183-184).

2.8 Economic Characteristics of Cost Volume Profit Analysis

"Where volume profit analysis cost is reasonable accurate, they can help management decision making. Essentially, CVP analysis offer greater insight into the economic characteristics of a company and may be used to determine the approximate effect of various alternatives. CVP analysis is based on estimates, however, the alternatives. CVP analysis is based on estimates, however, the arithmetical manipulations generally involve averages, and hence the result should never be interpreted as precise. Rather, the analysis may be characterized approximately as a 'slide-rule' approach that may be used to develop and test, with a minimum of effort, the approximate effect on costs and profits or several types of management decisions"(Welsch 1979:467-468).

Figure 2.3

CVP Chart



Source: Welsch.1979

Above break even chart with economic characteristic indicate few of the economic cartelistic of a business, "which are:

- Fixed cost, variable costs and total coasts at varying volumes.
- The profit and loss potential before & after income taxes at varying volumes.
- The margin of safety is the relationship of budget volume to break even volume.
- The preferred dividend or danger point the point below which preferred dividends are not earned.
- The deal point, the point where management earns only the "going" rate on the investment.
- The common dividend or unhealthy points below earnings are insufficient to pay the preferred dividend and the expected dividend on the common stock" (Welsch,1979:468).

All these points and as other can be completed if data are developed for cost volume profit purpose.

2.9 Margin of Safety

"Margin of safety is the excess of budget or actual sales over the break-even sales volume. It is the difference between the budgeted or actual sales revenue. It is a position above the BEP. It states the amount by which sales can drop before losses begin to in cure. It gives management a feel for how dose projected operations are to be organization break even point. Manager often consider the size of the company's margin of safety decisions about various business opportunities Margins of safety is the amount that sales can drop before reaching the break even point and thus provides a certain amount of 'cushion' from losses. The margin of safety can be expressed as units, value or a percentage" (Munakarmi, 2003: 405). "Formulae are:

i. Margin of Safety = Actual sales-BE sales (Units & Value)

ii. Margin of safety (in value)= $\frac{\text{Pr}\,ofit}{P/VRatio}$

iii. Margin of safety(in units)= $\frac{\text{Pr}\,ofit}{UCM}$

iv. Margin of safety Ratio= $\frac{ActualSales - BESales}{ActualSales}$

v. Margin of safety Raito= $\frac{M\,\text{arg}\,inofSafety}{ActualSales} \times 100\%$

The larger is the safety margin the greater the chance for the company to earn profit(i.e. larger the margin of safety safer the company). A high margin of safety is particularly significant in times of depression when the demand for the company's or firm's product is falling. Low margin of safety may result of firm which has low contribution ratio. When both the margin of safety may result of firm which has low contribution ratio are low, management should think the possibilities of increasing the selling price it does not adversely affect the sales volume or reducing variables costs by bringing improvement in manufacturing process"(munakarmi,2003:407).

The following steps are needed to rectify margin of safety:

- With increasing selling price.
- With increasing sales volume, if the capacity of fixed cost is not fully utilized.
- With reducing fixed cost if possible.
- With reducing variable cost (with reducing the cost of raw materials, wages and other direct cost).
- With substituting product like by more profitable one.

2.10. Cost volume Profit Analysis for Multi Product Firms

"Sale mix can be defined as the relative combination of two or more product represented in total. It is not only the sales revenue that makes profit. The proportion of sales contributed by different product greatly changes the amount of profit. Managers try to achiever that combination or mix that will yield the greatest amount of profit. If a company sells more than one product, these may not be equally profitable. So, the company's profit will depend upon the ratio of each products sale to total sales revenues.

Profit will be greater if high margin item make up a relatively large proportion of total sales than if sales consist mostly of low margin items. Changes in sales mix can cause great variations in a company's profit. A shift to low margin item can cause the total profit to decrease even though total sales increase on the contrary, a shift in the sales mix from low margin items to high margin item can cause the reserve effect total profit may increase even though total sales decrease"(Bajracharya, Ojha, Goet & Sharma,2004:260).

To calculate BEP for sales mix or multi products:

- Calculate contribution margin or profit volume ratio for each product.
- Calculate production of sale mix in units or values are as follows:

$$\text{Sales Mix} = \frac{Individual\ Product's\ Sales\ Units\ or\ Value}{Total\ of\ All\ Product's\ Sales units\ or\ Value}$$

Calculate weighted average for all products as follows:

- Weighted average= (sales mix(units)×unit contribution margin)
  = [sales mix (Value) × P/V ratio]

Calculate Break-even point (BEP):

$$\text{Breakeven Point} = \frac{\text{Total Fixed Cost}}{\text{Weighted Average CM}}$$

2.11. Cost Volume Profit Analysis and Limiting Factors

Because of some critical factors like, raw materials or labor or finishing machine the firm can not produce any number of output of it choices. So, profit planning & decision making of the firm will affect while CVPA is done.

2.11.1 CVP Analysis with a Single Constraint

"Scarce resources should be efficiently allocated in order to maximize the contribution margin. A particulars simple and instructive situation arises when there is only one constraining resource.

This occur if the firm products are all produced on a single machine and output is limited by hours available on this machine. In the same way, single resource constraint for a scarce resource to have alternative uses. Then the available capacity for such scarce resource should be allocated to the alternative uses on the basis of contribution pre scarce resource" (Munakarmi, 2003:146).

2.11.2 CVP Analysis with Multiple Constraints

"Where more than one scarce resource exists the optimum production programmed can't easily be established by the simple process applied in single resource constraint. Under the circumstances simple allocation of resource or the basis of contribution margin per unit is neither feasible nor desirable. Contribution margin per unit of scared resource may be different for different ranking of product, because production processes are affected by many constrains factors rather than single constraint. In such situation, linear programming technique may used to optimize product mix. The linear programming formulation is required to determine a production plan which maximizes contribution from the product mix Linear programming is mathematical technique which shows how to arrive the optimum results, allocation available resources in a meaningful manner. It is basically concerned with the problem of allocating limit resources among competitive activities in an optimum manner. It is a technique to optimize the allocation of scarce resources in product mix problems which provides a valuable extension to cost volume profit analysis" (Munakarmi, 2003:148).

2.12. CVP Analysis under Condition of Uncertainty

CVP analysis can be used for various purposes such as choosing between machine and products, planning of profit and mist significant fixing up of selling price. Management uses this as a convenient tool of profit planning with giving consideration of risk and uncertainty involved in it.

Although, margin of safety ratio explains the degree of sensitivity of the project and product in general but it fails to explain certainty un the product and also between the alternatives. To overcome such a difficulty risk and uncertainty analysis like in any other management decision making can also be used in CVP analysis. The objective in CVP analysis under condition of uncertainty is to assess the probability distribution of the profit volume under given distribution of one or more factors, sales price or profits. "Profitability distribution approach is a simple statistical tool which may be used to measure the risk and uncertainty involved in CVP analysis. A probability distribution theory normally suggests for postulation of various possibility of happening of the event in consideration. This may be done either taking into considerations of the experience in the pat or may be done by considering the personal

intuition of the persons doing so .In business reference of past experience are hardly available not a person is likely to behave in the same manner in the similar situation in different time. Therefore, personal judgments plays significant role in the management decision making. The conditions thus postulated are assigned probability (i.e. ones judgments towards likeliness of happening of the condition forecasted). It must be understood that probability assigned here is a subjective probability based in personal judgments of the man making such an analysis' (Pandey, 2003: 17).

2.13 Assumptions Underlying CVP Analysis

"Break even analysis is the most useful techniques of profit planning and control. It is a device to explain the relationship between cost volume and profit. The discussion of the CVP analysis (or Break even analysis) so far is based on the following assumptions;

- Cost Segregation: The total cost can be separated into fixed and variable components. Constant fixed cost is the total fixed cost that remains unchanged with changes in sales volume. Constant unit variable cost is the variable cost per unit and total variable cost changes in direct proportion to the sales volume.
- Constant Selling price: The selling price per unit remains the constant that it does not change with volume or because of other factors.
- Constant sale mix: The firm manufactures only one product or if there are multiple products, the sales mix does not change.
- Synchronized production and sales; production and sales are synchronized, that is inventories remain the same" (Pandey, 1994: 241).

2.14 Limitation CVP Analysis

Assumption limits the utility ad general applicability of the CVP analysis. Therefore the analysis should recognize these limitations and adjust data, wherever possible, to get meaningful results.

"The CVP analysis suffers from the following limitations:

- It is difficult to separate costs into fixed and variable components.
- It is not correct to assume that total fixed cost would remain unchanged over the entire range of volume.
- The assumptions of constant selling price and unit variable cost are not valid.

- It is difficult to use the break even analysis for a multi product firms.
- The break even analysis is a break run concept and has a limited use in long range planning.
- The break even analysis is a static tool" (Pandey, 1999:214).

2.15 Special Problems in Cost Volume Profit Analysis

"Cost volume profit analysis is applied to individual products or parts of a business and all the product or activities combined. In later case, there are three special problems may be encountered" (Welsch, Hilton and Gordon, 2001:513-518).

2.15.1 The Activity Base

When two or more products or activities are combined is combined for break even analysis the activity base must be in additive units using a common denominator of volume or output in multiple products. Therefore for the company as a whole, net sales amount are usually the only satisfactory common denominator because manufacturing, selling and administrative activities are expressed in combination.

2.15.2 The Change in Inventory

Usually the budgeted changes in inventories (i.e. finished goods and work in progress) are in material in amount and thus may be disregarded in cist volume profit analysis. On the other hand, when the change in budgeted inventory is significant, it should be included in the analysis. Including the effect of inventory changes in CVP analysis requires subjective judgment about what management might do (about making inventory changes) at different volume, levels and the conceptual precision that is desired. Management considers two practical approaches or policies in inventory changes of used a) Disregard and inventory changes b) include the inventory changes.

2.15.3 The Non Operating Income and Expenses

Non operating income (grains) and expenses (loss) and extra ordinary gains and losses of material in amount cause another problem in CVP analysis. The basic issue is whether they should be included or excluded. Extra ordinary gains and losses are none recurring and unusual, therefore they should be excluded. Non-operating incomes and

expenses are recurring but they are not related to ongoing operations. Management considers the policy may be to (a) include the non operating incomes and expenses.

2.16 Sensitivity Analysis

Sensitivity analysis is the measurement of elasticity of the change in CVP factors in break -even point or given profit. The strategist should focus more on the factor, which is more sensitive or responsive for profit. To measure the sensitivity of CVP factors one can see the impact of certain percentage or amount change in volume price or cost factors on net profit. In other word, sensitivity analysis is the measurement of responsiveness in outcome with the changes in determinant variables. We know that the goal of a business enterprise is to maximize profit. Profit is the excess of revenue over the total costs.

Profit = Total sales revenue-Total costs

Net profit = Sales units x SPPU - Sales units x VCPU – fixed cost-taxes

So that, profit = FC (sales volume, selling price, VC, FC, taxes and so on.

“But none of the factors remain unchanged: sometimes the manager can intentionally change the price and cost factors as a part of strategic decision. But the strategy should focus more on the factor, which is the more sensitive or responsive for profit. SO to measure the sensitivity of CVP factors, we can see the impact of certain percentage or amount change in volume, price or cost factors on net profit” (Bajracharaya, Ojha, Goet & Sharma 2004:245).

2.17 Risk Measurement: The Operating Leverage and Break Even Point

Operating leverage tells us how profit change in sales. It is evident that profit changes more rapidly than sales. Why do profit change more rapidly than the sales? It is because some costs do not change say if sales decline variable costs also decline in the same ratio so that contribution margin also decline proportionately. But fixed costs do not decline so, the net operating income decline more rapidly. The something applies in the case of increase well. Sales revenues changes but some parts of costs,

known as fixed costs, remain unchanged. This usually not operating income changes more rapidly. This change is called the operating leverage.

"Operating leverage can be measured in terms of the "Degree of operating leverage" (DOL).

DOL shows the times of percentage change in net operating income of the given percentage change in sales. DOL may be defined as the percentage change in net operating income (N0I) or EBIT associated with a given percentage change in sales" (Pandey, Ojha, Geot and Sharma,

2004).

$$DOL = \frac{\text{Percentage Change in Net Operating income}}{\text{Percentage change in sales}}$$

Alternatively

$$DOL = \frac{\text{Contribution Margin}}{\text{Net Operating income}}$$

$$DOL = \frac{(SP - VCPU)}{Q\,(SP - VCPU) - \text{fixed cost}}$$

Where, Q = Total demand in unites

SP= Selling price per unit

VCPU = Variable cost per unit

As we know, $BEP\ (units) = \frac{\text{Fixed Cost}}{SP - VCPU}$

Leverage decision is meant to substitute variable cost by the fixed costs. To create a degree of operating leverage means the employment of higher amount of fixed cost which eventually increases the breakeven point also. No DOL is to be said when the DOL occur '1' and in this situation BEP comes to 'O'.

"Higher fixed costs increase the DOL and they also increase the breakeven point, so there is close relationship between the degree of operating leverage and the breakeven point. A high DOL and high BEP both are the indicators of higher risk" (Bajracharya, Ojha, Goet and Sharma. 2004:249)

2.18 Impact of Changes on Profits

"Profit is the functions of variety of factors it is affected by changes in volume, costs & price, profits may be affected by the changes in the following factors:

- Effect of volume changes: A change in volume not accompanied with a change in the selling price and or costs, will not affect P/;V ratio. As a result the breakeven point remains unchanged. Profit will increase with a increase in volume and will be reduced with a decreases in volume.
- Effect of price and volume changes: A change in price invariable affects volume. A price reduction may increase demand of the product and consequently, may result in increased volume. On the other hand, increase in price may adversely affect the demand and thus, reduce volume. The impact on profits under these circumstances in not obvious. Profit may increase with a price reduction of volume increase substantially. Similarly, a price rise may reduce profits if there is material fall in volume.
- Effect of changes in variable costs: The impact of the changes in variables costs on profit is straight forward if it does not cause any change in selling price and or volume. An increase in variable costs will lower P/V ratio will increase BEP will be increased and profit would rise.
- Effect of change in fixed costs: A changes in fixed cost does not influence P/V ratio. Other factor remaining unchanged, a fall in the fixed costs caused either due to some external factors or due to some changes in management policy, will raise the BEP. Increase in factory rent or insurance and taxes are examples of external factors, while increased depreciation or salaries of managers may be the result of management decision.
- Effect of Changes in a combination of Factors: The financial manager of the management accountant, evaluating the profit plans or budgets, must realize that a change in one factors leads to a changes in another factors. Therefore, all such their net impact on profit must be seen" (Pandey, 1999:203-208).

2.19 Review of the Previous Thesis

Review of literature is an essential part of all studies. It is way 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. Review of

literature provides the foundation for developing a comprehensive theoretical frame work from which hypothesis can be developed for testing. It also minimizes the risk of pursuing the dead ends in research. But there are very few research paper concerning comparative cost volume profit analysis has been conducted. Few dissertations have been submitted relating to cost volume profit analysis & the study is limited of various constraints. So this study is attempted to review the previous research work on profit planning & control as well as management accounting. As CVP analysis is one of the major tools of PPC are reviewed which will helpful to further study.

Ojha, Khagendra Prasad (1995) has done a research on "profit planning and control in manufacturing public enterprises in Nepal". For case study he has selected two public enterprises namely Royal Drugs limited (RDL) & Herbs production & processing company limited (HPPCL). His research was in partial fulfillment of MBA, submitted to the central Department of Management, Tribhuvan University. The study has covered a five years period from FY 3046/47 to 2050/51.

The objectives of study were:

• To analyze the trend of Profit planning.

• To compare between production and sales plan.

• To examine the variation between production plan and actual production.

Ojha has pointed out various finding based on the analysis of data and information. Some of the major findings were as follows:

- Objectives of Nepalese public enterprise are not clear, conflict between social objective and profit objectives are hindering profit planning program of PEs
- Inadequate planning's of profit due to lack of skilled planner.
- Inadequate authority and responsibility to planning department.
- Failure due to inadequate forecasting system.
- Cost volume profit (Price-cost-volume) relationships are not considered when developing sales and pricing strategy.
- Lack of entrepreneurship and commercial concept in overall operations of the enterprises.
- In adequate planning of profit due to lack of skilled manpower.
- Inadequate evaluation of internal and external variables.

Thakur, Gajendra Kumar (2001) has conducted research work on topic of "cost control mechanism of Janakpur cigarette factory limited" for partial fulfillment of MBA, submitted to the central department of management, Tribhuvan University. The study has covered five years of period from FY 2051/52 to 2055/56. The general objective of the study was to evaluate the cost control technique of JCF has for various finding by Thakur.

The objectives of the study were:

• To analyze the budget and cost control mechanism for the company.
• To analyze the problems faced by company in terms of budget formulation.
• To analyze the cost and profit trend of the company in the light of Budget.
• To analyze the cost- volume-profit analysis for the company
• To provide suggestions for improving the budgeting problems.

Major Finding:

- The cost volume profit analysis has indicated that contribution margin of JFC is not sufficient to meet all its fixed costs. The factory's break even sales during the study period always exceeded the actual sales volume. It is absorbed that the company has not sufficient margin of safety, which was loss figure. The high proportion of variable cost contribution margin was not able to met increasing fixed costs. In the JCF observing the data loss was occurring yearly but sale figure was fluctuating trend. It means decreased sales over total cost did not bring profit but invite losses.
- Overtime, idle time and absenteeism are found most responsible for labour cost increasing.
- JFC was funning in loss during study period due to high production cost, high selling distributing cost, excess labor cost and material cost. So JCF has to make proper plan to control unusual cost. It should bent rusted with responsibility of categorizing the costs on product wise basis.

Sharma, Sagar (2002) has conducted a research work on "Management Accounting practices in listed companies of Nepal." He has focused his study to examine and study to practice of management accounting tools in the listed companies of Nepal.

Mr. Sharma's research study is based only on primary data. Stratified random sampling with proportionate allocation of percentage is followed up draw the sample.

The objectives of the study were:

- To identify the areas where management accounting tools can be applied to make strengthen the companies.
- To identify the present practice of management accounting tools in Nepalese Manufacturing Enterprises.
- To identify the problem faced by Nepalese Manufacturing Enterprises in applying management accounting tools.
- To make recommendations to avoid difficulties in applying management accounting tools in Nepalese Manufacturing Enterprises.

Major Findings were:

- Management accounting is to help managers in overall managerial activities by providing information and helping in planning, controlling and decision making**.**
- Lack of information and extra cost burden are the main reason behind not practicing such tools.
- Different types of management accounting tools which are taught in the colleges are not found applying by the listed companies of Nepal.
- Nepalese listed companies are in infant stage in practicing of management accounting tool such as capital budgeting, annual budgeting, cash flow, ratio analysis, activity costing, cost volume profit relation etc.
- Regarding the tools practiced by the Nepalese manufacturing companies for measuring and controlling their overall performance. From the study it is cleared that 60% of the manufacturing companies measure their performance on the basis of profit or loss made by them during the year while 26% of the companies practiced for measuring and controlling performance of the company. Where as budgetary costing and break– even- point both were followed by 7%.
- Regarding the technique practiced by the Nepalese manufacturing companied for pricing the product. From study it is cleared that 60% of the companies practice cost plus pricing, while 26% of the companies practice going rare pricing and 7% of the companies practiced target return pricing and break even pricing for their

product. Therefore, from the study it is cleared that cost plus pricing technique is widely used by Nepalese manufacturing companies.

- Regarding the joint cost allocation tools practiced by the Nepalese manufacturing companies. From the study 47% of the companies practiced joint cost allocation a unit or production basis. 40% of the manufacturing firm had their own method for joint cost allocation. Such as ratio method, department wise and 13% of the manufacturing companies practice sales value methods for allocating joint cost.
- Regarding the practice of transfer price in the Nepalese manufacturing companies, it is cleared that 67% of the manufacturing companies practiced cost base transfer pricing 26% of manufacturing companies practiced market based transfer pricing whereas 7% of the manufacturing companies practiced negotiated transfer price for their product
- Regarding the decision-making and control process followed by Nepalese manufacturing firm, it is cleared that 73% of Nepalese manufacturing companies practiced control during the work period.20% practice control before work has to be start technique, where as 7% practiced controls after finish the work. From the table, control during the work period is most practiced techniques for decision making and control process.
- Regarding the present problem faced by Nepalese manufacturing companies in decision making process, it is cleared that 53% Nepalese manufacturing companies face the problem of skilled manpower in decision making process. 27% of manufacturing companies face the problem of undefined objective and 20% companies face infrastructure problem in decision making process. While no one companies has lack of knowledge in decision making process.

Rijal, Madav (2005) has conducted a research on "cost volume profit analysis tools to measure effectiveness of profit planning and control: A case study of NEBICO private limited." He has centered his study to examine CVP analysis as a tool in manufacturing industry and to analyze the CVP and its impact in profit planning. For the practical fulfillment of MBS submitted to Shanker Dev Campus, Tribhuvan University, Rijal has analyzed the five years financial statement and has pointed out various objectives and findings:

The objectives of the study were:

• To analyze the cost volume profit for the company.

• To compare between production and sales plan.

• To examine the variation between production plan and actual production.

The major findings were:

- The company's variable cost is in proportion than fixed cost in total cost amount, which contribute for lower contribution Margin.
- The company has high fixed cost (i.e. salary and wages, technical and computer fees, deprecation interest, provident fund and subsidies)
- Company has no any plan to reduce cost. There is lack of effective cost control programs or techniques.
- The profit trend of the company is not satisfactory. As compared to profit, proportion is very low with fluctuated trend.
- The company has no detailed of any systematic expenses plan. The fixed cost, variable cost, mixed expenses plan are the necessary elements for profit planning and control.
- The company has no effective inventory policy. The inventory management, row material handling and controlling system are not efficient and effective.
- The board of directors is the main authority in price fixing and it directly interferes to price of biscuit and confectionary products.
- Nebico Pvt. Ltd has not proper practice of segregating the costs into fixed and variable or controllable and non controllable.
- There is no proper co-ordination among production, administration, distribution of inventory and sales department.
- Nebico has not utilized its capacity.

Dhakal, Dipendra Raj (2005) has conducted research work on "Cost volume profit analysis as a tools to measure the effectiveness of profit planning and control: A Case Study of Gorkhakhali Rubber industry Limited" in the partial fulfillment for MBS, submitted to Shanker Dev Campus, T.U. Dhakal has covered five years period for FY 2050/57 to 2060/61 and listed some objectives and finding.

The objectives of the study were:

• To analyze the cost volume profit for the company.

• To measure the effectiveness of profit planning and control tools.

• To examine the variation between production plan and actual production.

Major Findings were:

- Sales plan of GRIL is not properly maintained. The industry uses the various methods for sales planning like market survey, distribution network etc. but up to date record are not maintained. So they have poor budgeting system.
- GRIL is not practicing the scientific ad appropriate cost classification technique costs are classified into fixed and variable as per the decision of the management. Out of the total cost of GRIL, variable cost is almost 60% in every year which cause the low contribution margin.
- GRIL is in high interest bracket, out of the total fixed costs almost 60% is to be paid for interest. And the profitability of the company id greatly influenced by high fixed cost.
- This industry does not have any detailed and systematic practice of planning of cost which is one of the essential elements of profit planning and control.
- Lack of coordination between top and lower level of management.
- GRIL is facing problem fluctuating international price of rubber. Sometimes it also faces the problem of row material scarcity as well.
- Out of the two main product truck tires, the truck tires are more profitable than non truck tyres as shown by the product contribution margin.
- The financial position of the industry is not satisfactory. Gross profit margin ratio and net profit margin ration are not satisfactory.

Namdak, Tenzin (2005) has submitted the thesis on the topic "Cost Volume Profit analysis of Diary Development Corporation." Mr. Namdak had concerned his study to determine the relationship between cost volume and profit and profitability of the DDC. His research covered the time period of five years from fiscal year 2055/56 to 2059/60.

The major findings were as follows:

- DDC has been planning only on short-term basis.
- The practice of CVP analysis has not been use yet.
- There is no practice of segregating cost into fixed ad variables.
- Over- Utilization of capacity resulting in increasing operation and maintenance cost every year.
- The profitability of DDC is very low.

Shrestha, Dharma Raj (2006) had conducted a research entitled "Cost, Volume and Profit Analysis of Commercial Bank (A Case Study of Himalayan Bank Limited)" Mr. Shrestha has concerned his study on indentifying and evaluating the current practice of CVP Analysis and its effectiveness in Commercial Bank in Nepla with special reference to HBL.

The objectives were:

- To study the relationship of cost, volume and profit as an applicable tools of budgeting.
- To evaluate the profitability, financial position and sensitivity analysis of HBL.
- To analyze the cost, volume and profit of the Commercial Bank and its impact in profit planning.
- To provide relevant suggestion, recommendation and practical idea for improving competitiveness strength of HBL.

The major findings were as follows:

- HBL Investments are growing fast.
- Loan and Bill Purchase growth trend is fluctuating.
- There is high correlation between loan/bill growth and interest income growth.
- There is no practice of CVP Analysis.
- All levels of management is not involved in profit planning and decision making of the Bank.
- Lack of system of SWOT Analysis.
- Margin of Safety is high than BEP Sales. It means well performance of the Bank.

Dahal, Rabin (2008) has submitted a research on "Profit planning system and financial condition of Nepal electricity authority". He has covered five years period.

The objectives of the study were:

• To analyze the profit planning tools for the company.

• To analyze the cost-volume- profit for the company.

• To segregate the costs of company into fixed and variable costs and unit variable cost.

Major Findings were:

- NEA has a practice of preparing both systemic (long range) and (tactical short range) profit plan.
- Overheads are not classified systematically and it creates problem to analyze is expenses properly.
- NEA is playing a huge amount of interest every year and it is suffering from high fixed costs.
- CVP analysis of the authority has the satisfactory position and also flexible budget analysis, the authority is able to earn operating profit of its utilized capacity.
- The authority does not maintain its periodic performance report systematically.
- The company had not practice of classification of costs into fixed costs and variable cost.
- The total fixed costs of the company were increasing annually.
- Advertisement, salary and allowance, communication expenses, insurance premium, depreciation and interest on long term loan were higher portion of total fixed cost and the amount of these items were highly incremental condition.
- The variable costs were also at increasing trends, and vital items were material with direct expenses on purchase, royalty, sales promotion expenses, transportation and insurance expenses, salary and wages, leakage and breakage, complementary expenses, traveling expenses and water.

Aryal, Chaturbhuj (2009) has conducted a research entitled "CVP analysis as a tool to measure effectiveness of PPC" (A case study of Herbs Production and Processing Co.Ltd.). He used primary and secondary data collected and used seven years data.

The major findings were as follows:

- Budgets were prepared on traditional method.
- HPPCL has high burden of management and administration expenses and interest only, which is directly influencing the profitability.
- There was not practice of separating cost into fixed and variable. The cost were roughly classified and that classification to use financial tools, like as flexible budget, CVP, cost of goods sold and degree of operating leverage and profit margin ratio.
- HPPCL is suffering from huge losses. So in every year has negative net profit margin ratio.
- Profit volume ratio of the company is in fluctuated trend, which affects on BEP to the company.
- BEP of the company is always higher than Actual sales. So He Company should not maintain its expanses.

2.20 Research Gap

Research Gap helps us to identify the need or significance of this study by finding the lapses or gaps that was addressed by the previous studies. In the meantime it also helps to duplicate the work of other researches and start from where previous studies have ended thus finding the new avenues of study.

During the work of the research, many above mentioned related literatures were studied. It has been evident from the study that there has been a lot of researches and literature in terms of CVP Analysis, however there is very rare study in case of CVP Analysis of Services Industry in general and Banking Industry in specific. It is not only the case of Nepal but worldwide, the proper use of management accounting is being mostly made in Manufacturing Sector or logistics sector but not in other services sectors like Hotels, Hospitals and Banks. It doesn't however undermine the importance of the use of management accounting, CVP Analysis in particular in those industries.

Most of the case studies made in the field of CVP Analysis are that of manufacturing companies only in above case. There is only one study that I found related to my topic of Banking Industry CVP Analysis made by Mr. Dharma Raj Shrestha (2006) titled

"Cost, Volume and Profit Analysis of Commercial Bank (A Case Study of Himalayan Bank Limited)". I found that there are considerable research gaps in that research though it is highly appreciable that Mr. Shrestha has tried to cover new topic in this section. The current research will cover following additional points in addition to that of Mr. Shrestha's study:

- **Cost Segregation**: Proper cost segregation into fixed and variable costs is the most important part in CVP Analysis. Though efforts have been made in segregation of cost in the research of Mr. Shrestha, I find that there is quite mismatch in the spirit of the costs in view of the industry. For example, Electricity has been kept as variable costs in his study, however it would only be variable in terms of the manufacturing industry where the power consumption is directly proportional to the no. of goods produced. In case of Banking electricity is required no matter whether there is customers coming in or not. So my research would try to appropriately segregate the costs, to the most rational way it can be making suitable assumptions.
- **Weighted Average Interest Spread Rate:** Bank is an intermediary which accepts deposits by paying interest and lends money by taking interest. The spread is the profit to the bank after deducting its other expenses. Hence, as the matter of fact, BEP should be founded on the basis of this interest spread rate and only few other variable costs. Previous research doesn't recognize the importance of this fact and doesn't distinguish the calculation of this specific industry from any other industries.
- **CD Ration, CRR and SLR:** Banks are regulated by the Central Bank that devises the monetary policy to stabilize and control the money supply hence balancing the Balance of Payment, Inflation, Economic Growth and other economic indicators. In that note, it puts forth many restrictions in term of CD Ration, CRR and SLR. Previous study of Mr. Shrestha has totally ignored this point.
- **Case specific BEP Analysis:** CVP Analysis is a strong tool for decision making of management and deciding on case by case basis any of the ventures of the organization. For instance in deciding whether to open a new branch or not, whether to launch a new product or not, whether to install a new ATM or not, whether to take a new corporate deposit or not, payment of remittance or not etc.

CHAPTER - THREE
RESEARCH METHODOLOGY

3.1 Research Design

"In order to make any types of research a well research design is necessary, which fulfills the objectives of the study. The research design is the strategy for conduction research. It describes the general framework for collecting, analyzing and evaluating data after identifying (i)what the researcher want to know, and (ii) what has to be dealt with in order to obtain required information" (Wolf and Pant,1999:209).

This study attempted to show the relationship among cost, volume and profit. Cost volume profit analysis of Bottlers Nepal is presented and analyzed. But the qualities aspect of the research such as effectiveness of CVP analysis of the firm, views of various manager and personal and the theoretical aspects are explained in the portion wherever necessary.

3.2 Nature and Size of Population

Due to various circumstances it could not be possible to attempt all the number of research population in this research. So, researcher has taken Bottlers Nepal Limited.

3.3 Sources of Data

There are vital role of data in research to clear and achieve research objectives. Without the data, methodology cannot be utilized to bring the conclusion.

For the purpose of C-V-P Analysis of the Bottlers Nepal Limited, the data were collected from both the sources of data, which are as follow:

3.3.1 Primary Data

Primary data is original in nature. For the purpose of research work, primary data were collected. Basically, the following techniques were adopted:

a) Observation

b) Direct meeting

3.3.2 Secondary Data

It is the published data which has been used by first person or other. Only primary data can't fulfill the requirement of the research work. So, adoption of secondary data is also suitable to accomplish the objectives of study. The following procedures were adopted for secondary data.

a) Library
b) Companies Publications
c) Books and Journals/ Magazines
d) Booklets, and
e) Internet and websites etc

The output of the research work depends upon accuracy of the applied data. So, the researcher tried to collect up to data and accurate data as far as possible.

3.4 Tools of Data Analysis

The following two techniques were used to explain the collection data.

3.4.1 Descriptive Techniques

These techniques were used to simplify the research report for better understanding as well as analysis and interpretation of the collection data in theoretical form.

3.4.2 Quantitative Techniques

Descriptive techniques would be enough to prepare excellent research report. To fulfill the gap, or make the research report attractive and for better understanding the following profit planning tools were used:

C-V-P Analysis Tools

C-V-P analysis included the following computations

$$\text{(i) BEP in Rs} = \frac{Total Fixed\ cots}{1 - \frac{Variable Cost}{Sales\ Price}}$$

OR

$$\text{Break-Even Point (in amount)} = \frac{\text{Fixed Costs}}{\text{P/V Ratio}}$$

$$\text{(ii) B.E sales in amount (Under FIFO)} = \text{Opening Stock} + \frac{\text{FC-CM for Opening Stock}}{\text{P/V Ratio for Current Year}}$$

(iii) Contribution Margin – Sales- Variable Cost or FC + Profit

$$\text{OR Contribution Margin ratio} \quad 1 - \frac{\text{Variable Cost}}{\text{Sales}}$$

$$\text{iv) Profit Vulume Ratio} = \frac{\text{Contribution Margin}}{\text{Sales}}$$

$$\text{(v) BEP (\% of Capacity)} = \frac{\text{BEP}}{\text{Total Capacity}}$$

$$\text{(vi) Cash BEP in RS.} = \frac{\text{Fixed Costs-Non Cash Outlays}}{1 - \frac{\text{Variable Cost}}{\text{Sales}}}$$

OR

$$\text{CBEP} = \frac{\text{Cash Fixed Costs}}{\text{P/V Ratio}}$$

(vii) Margin of Safety= Planned or Actual sales-BEP

3.4.3 Statistical Tools

The statistical tools applied included

$$\text{the Marginof Safety Ratio} = \frac{\text{Planned or Actual Sales-BEP}}{\text{Actual Sales}}$$

Following techniques to examine the relationship between the variables; and analysis:

a) Mean, Standard Deviation and Coefficient of Variation (C.V.).

b) Correlation Analysis

c) Coefficient of determination (r2).

a) Mean Standard Deviation and C.V.

$$\text{Mean } (\overline{x}) \quad \frac{\Sigma x}{N}$$

$$\text{Standard Deviation } (\sigma) = \sqrt{\frac{\Sigma U^2}{N} - \left(\frac{\Sigma U}{N}\right)^2}$$

$$\text{C.V.} = \frac{\sigma}{(X)} \times 100$$

b) Correlation Analysis

$$\text{Coefficient of correlation(r)} \quad \frac{N.\Sigma UV - \Sigma U.\Sigma V}{\sqrt{N.\Sigma U^2 \quad (\Sigma U)^2}\sqrt{N.\Sigma V^2 \quad (\Sigma V)^2}}$$

$$\text{Probable error of r(P.E.)} = 0.6745 \times \frac{1 \quad r^2}{\sqrt{N}}$$

Where, X = distribution

N= No. of distribution

U= X- assumed Mean

V=Y-assumed Mean

CHAPTER - FOUR

DATA PRESENTATION AND ANALYSIS

4.1 Introduction

CVP Analysis as already discussed above gives us the idea of the effective use of cost as well as indicates the benchmark level of business or sales required to reach a break-even point or earn a required return on investment. CVP analysis gives us quick review of the performance and helps in setting standards for further performance. The uniqueness of the CVP Analysis of banking from other organizations is that in case of banking the highest amount of variable cost is the interest expense, similarly major income is its yield in loan that is the amount of interest it receives from the loans.

The other fact is that as I have been talking from the initial part of this research paper, Banking Industry as a whole is in very expansionary mode. The recent increment in the no. of financial institutions as well as branch expansion of these financial institutions has made this industry a very highly competitive sector. There is only possibility of survival for the financial institution only if the institution reaches near the customers, but in the other side of the story there is possibility that the bank may run into loss due to the operational costs of the branch which is very high indeed. So this research paper will try to focus on the various aspects of the Banking Functions and its costs and profitability in specific reference to the Shangri-la Development Bank Limited.

4.2 Sources and Utilization of Funds of SDBL

We can see from the table below (Table No.: 4.1) the position of sources and utilization of Funds of SDBL. We can infer out two things from the below statements. The trend of fund utilization has declined during the year 2065-66 however it improved during the year 2066-67 again. The other point that can be concluded from the table below is that there is concentration of the Portfolio in Loans and Advances only. During the Year 2064-65 only there is investments amounted to Rs. 10,00,000 (Ten Lakhs) else during the two other years at the year end date there is no investments other than Loans and Advances.

In consultation with SDBL Management it was found out that though there was no other investment in the year end during the year 2066-67, however there was various investments made during various period of that fiscal year to earn appropriate returns.

As per the prudent principal of Financial Management it is not appropriate that there is concentration of risks in single sector. Diversification of the utilization of funds is a must for the purpose of risk mitigation. In that note investments in various sectors is more rational from the financial management view point.

Table: 4.1

Sources and Utilization of Funds in Earning Assets

Rs in '000

Particulars	2067 Ashad End		2066 Ashad End		2065 Ashad End	
Sources of Fund	**Amount**	**%**	**Amount**	**%**	**Amount**	**%**
Share Capital	132,500	7.93%	79,800	8.29%	39,900	9.73%
General Reserves	4,145	0.25%	1,453	0.15%	-	-
Profit & Loss Account	11,101	0.66%	3,313	0.34%	-1,633	-0.40%
Borrowings	-	-	-	-	-	-
Loan Loss Provision	9,610	0.58%	7,386	0.77%	3,067	0.75%
Deposits	1,513,873	90.58%	871,184	90.45%	368,684	89.92%
Interest Payable on Deposits	-	-	-	-	-	-
Total	**1,671,229**	**100.00%**	**963,136**	**100.00%**	**410,018**	**100.00%**
Utilization of Funds						
Investment in Goverement Bond	-	-	-	-	-	-
Investment in Fixed Deposit	-	-	-	-	-	-
Investment in Mutual Fund	-	-	-	-	-	-
Invetment in NRB Bonds	-	-	-	-	-	-
Share Investment	-	-	-	-	-	-
Loans and Advances	1,304,799	78.07%	670,342	69.60%	306,717	74.81%
Non-Banking Assets	-	-	-	-	-	-
Money at Call	-	-	-	-	-	-
Other Investments	-	-	-	-	1,000	0.24%
Total	**1,304,799**	**78.07%**	**670,342**	**69.60%**	**307,717**	**75.05%**
Utilization Percentage	**78.07%**		**69.60%**		**75.05%**	

Figure 4.1
Loans & Advances, Deposit and

Figure: 4.2

Table 4.2

Various Investments during 2066-67

Investment in Treasury Bills			
S. No.	**Period**		**Treasury Bill Investment**
1	31st December 2009 to 31st March 2010	for 91 Days	29,454,000.00
2	31st March 2010 to 31st June 2010	for 91 Days	27,931,539.00
	Total		**57,385,539.00**
Inter Bank Lending			
S. No.	**Institutions**	**Days**	**Amount**
1	Pashimanchal Development Bank Ltd	for 31 Days@ 9.5%	10,000,000.00
2	Business Development Bank Ltd.	For 15 Days@ 9.5%	20,000,000.00
3	Pashimanchal Development Bank Ltd	30 Days +8 days @ 10.5%	10,000,000.00
4	Om Finance Ltd.	31 days + 15 day @ 11.5%	10,000,000.00
5	Om Finance Ltd.	30 Days @ 11.50	10,000,000.00
6	Himchuli Bikash Bank Ltd.	31 days + 15 day @ 15%	10,000,000.00
7	Himchuli Bikash Bank Ltd.	31 days @ 15%	10,000,000.00
8	Himchuli Bikash Bank Ltd.	31 days @ 15%	10,000,000.00
	Total		**90,000,000.00**

Source: SDBL Annual Reports.

We can see from above that during the year 2066-67 there were various investments to utilize the appropriate returns and capitalize the liquidity crunch of the market through inter-bank lending and T-Bill Investments (91 Days). It can be seen that there was placements in other banks at the rate of up to 15% for various dates. It is matter

of fact however that during the year 2065-66 there were no other investments than Loans and Advances. The fund utilization has fluctuated from 75.05% in 2064-65 to 69.60% in 2065-66 and 78.07% in 2066-67. It means that there was underutilization of funds during the second year which must have hampered the profitability of the organization.

4.3 Sector Wise Loan & Advances of SDBL

During the period of research, it was observed that there is more concentration in the Transportation sector where mostly the loans seem to be for the business vehicles hire purchase. Though the loan in this sector seems to decrease percentage wise to 17.13% in 2066-67, in absolute term it is ever increasing. Second concentration of loan is in Finance, Insurance & Fixed Assets which includes the real estate loans. The highest loan concentration is in others loan section which in fact seems to be the personal loans. The maximum use of these loans also seems to be in real sector. There is high increase in absolute terms in this sector. There are no loans given in Agriculture, Mines, Production and Government sectors.

Table 4.3

Sector wise Loans & Advances Percentage

Sector	Percentage		
	2064-65	2065-66	2066-67
1 Agriculture	0.00%	0.00%	0.00%
2 Mines	0.00%	0.00%	0.00%
3 About Productions	3.78%	3.90%	4.08%
4 Construction	5.46%	10.21%	8.52%
5 Metal Productions, Machinery & Electrical Tools	0.20%	0.16%	0.00%
6 Transportation Equipment Production & Fitting	0.00%	0.00%	0.00%
7 Transportation, Communications & Public Services	28.12%	21.65%	17.13%
8 Wholesaler & Retailers	12.02%	6.56%	17.37%
9 Finance, Insurance & Fixed Assets	4.82%	13.57%	11.97%
10 Service Industries	10.42%	4.98%	5.57%
11 Consumable Loan	0.35%	1.80%	1.63%
12 Local Government	0.00%	0.00%	0.00%
13 Others	34.82%	37.18%	33.72%
Total	100.00%	100%	100.00%

Source: SDBL Annual Reports.

Table 4.4

Sector wise Loans & Advances Portfolio

					Rs. In '000	
Sector	**2064-65**		**2065-66**		**2066-67**	
	Number	**Principal**	**Number**	**Principal**	**Number**	**Principal**
1 Agriculture			8	-		
2 Mines			-	-		
3 About Productions	4	11,599.00	192	26,141.00	125	53,203.98
4 Construction	28	16,757.00	140	68,472.00	137	111,152.62
5 Metal Productions, Machinary & Electrical Tools	1	600.00	13	1,054.00		
6 Transportation Equipment Production & Fitting	-	-	76	-	-	-
7 Transportation, Communications & Public Services	145	86,261.00	234	145,104.00	355	223,559.03
8 Wholesaler & Retailers	22	36,873.00	199	43,943.00	78	226,704.45
9 Finance, Insurance & Fixed Assets	4	14,770.00	9	90,950.00	25	156,179.52
10 Service Industries	18	31,967.00	29	33,405.00	43	72,705.60
11 Consumable Loan	1	1,088.00	5	12,062.00	60	213.32
12 Local Government						
13 Others	155	106,800.00	178	249,211.00	301	439,961.84
Total	**378**	**306,715.00**	**1,083**	**670,342.00**	**1,124**	**1,304,799.45**

Source: SDBL Annual Reports

Table 4.5

Income Structure of SDBL

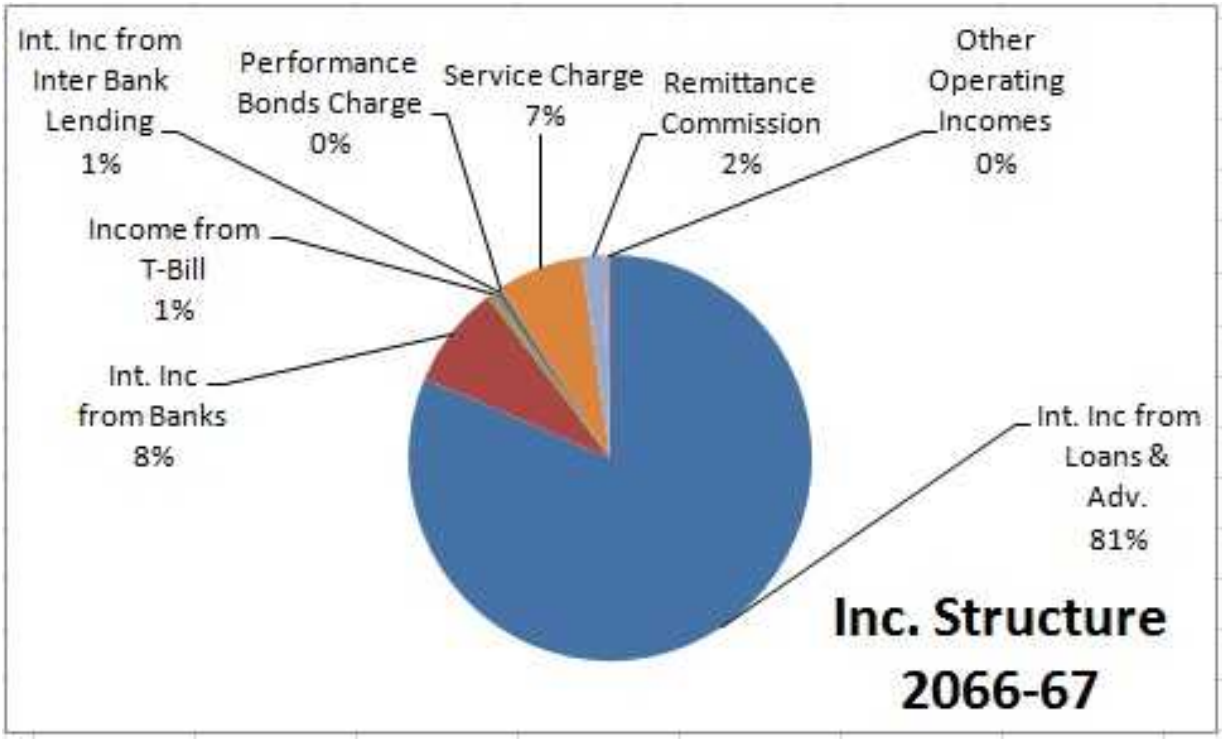
Rs. In '000

	2064-65	%	2065-66	%	2066-67	%
Int. Inc from Loans & Adv.	10,799	55.46%	51,746	76.45%	141,374	81.44%
Int. Inc from Banks	3,942	20.24%	7,117	10.52%	14,264	8.22%
Income from T-Bill	-	-	-	-	1,114	0.64%
Int. Inc from Inter Bank Lending	-	-	78	-	957	0.55%
Performance Bonds Charge	-	-	27	0.04%	22	0.01%
Service Charge	4,609	23.67%	8,183	12.09%	11,934	6.87%
Remittance Commission	122	0.63%	532	0.79%	3,154	1.82%
Other Operating Incomes	-	-	-	-	784	0.45%
	19,472	**100%**	**67,683**	**100%**	**173,603**	**100%**

Source: SDBL Annual Reports

Figure 4.3

Income Structure of SDBL



From above tables and pie chart we can infer out that the bank is largely dependent upon the interest income from loans and advances from income perspective. There seems very small contribution from other investments. When the loans and advances are also mostly concentrated in Hire Purchase Loans and Real Sector, it is even more risky as the overall income capacity is hampered by the concentration risks.

We can see that there is more diversification of income structure in the year 2066-67 through increase in the income from T-Bill Investments, considerable increment in Inter-Bank Lending Income and Remittance Income. There was sharp increase in Bank Interest Income as well showing a 100% growth to 1.43 crores. This is more important in the light of fact that the overall liquidity of the bank had decreased from the previous year and there was increase in CRR rate from 2.2% to 5.5%, however the interest income from bank had increased. Also the T-Bill return amounted to around 11 lakhs, income from inter-bank lending amounted to 9.57 lakhs and there was many fold increase in remittance income to 31.50 lakhs.

4.4 Deposit Structure of SDBL

In terms of deposit portfolio, the major portion of the deposits consists of the Savings Deposit which is evident from the table. The portfolio however has shifted according to the strategic change of the SDBL in the initial period which targeted on corporate deposits at first towards the individual deposits. We can observe from the table and the bar chart that the total percentage of Savings Deposit increased from 43.94 % to around 70% in the year 2065-66 and 2066-67. The call deposit accounts have decreased from around 20% in 2064-65 to around 7% in 2065-66 and 2066-67. Margin Deposit has remained stable at around 0.05 % though in absolute terms it has increased to 7.49 Lakhs.

Current Deposits which was initially accepted in the year 2064-65 was discontinued and changed to Call Accounts after the NRB Directive made restriction to maintain 5.5% CRR for those who maintained current accounts. However after the Unified Directives 2066, CRR was to be maintained at the rate of 5.5% to all Financial Institutions that maintains Call or Current Account. Similarly it was made binding that all corporate shall not maintain savings account.

In terms of Fixed Deposit there was seen slight decrease in percentage wise which shows that the increase was not proportionate to increase in other deposits. In the year 2066-67 however there is increase in Fixed Deposit which is due to the conversion of Savings Deposits into Fixed Deposits due to lucrative interests in Fixed Deposit up to 13.5% p.a.

Table 4.6
Deposit Structure of SDBL

Rs in '000

Particulars	2066-67		2065-66		2064-65	
	NRs.	%	NRs.	%	NRs.	%
Fixed Deposits	3,56,369.82	23.54%	1,79,323.55	20.58%	127,899.62	34.69%
Saving Deposits	10,44,911.41	69.02%	6,32,502.60	72.60%	158,301.56	42.94%
Current Deposits	-	0.00%	-	0.00%	7,442.96	2.02%
Call Deposit	1,11,843.11	7.39%	59,030.43	6.78%	74,815.54	20.29%
Margin Deposits	749	0.05%	327.5	0.04%	225	0.06%
Total	**15,13,873.34**	**100.00%**	**8,71,184.08**	**100.00%**	**368,684.68**	**100.00%**

Source: SDBL Annual Reports.

Figure 4.4

Deposit Structure of SDBL

In terms of changes in the various deposits, there is high growth in the Fixed Deposits amounting to 98.73% during 2066-67 which grew only by 40.21% in 2065-66. Savings Deposit growth was as high as around 300% in 2065-66 however it slowed down to 65.20% in 2066-67. Call Deposit which had negative growth in 2065-66 by -21.10% grew by 89.47% in 2066-67.

Table 4.7

Changes in Deposits

Rs in '000

Particulars	Change (66-67)		Change (65-66)	
	Nrs.	%	Nrs.	%
Fixed Deposits	1,77,046.27	98.73%	51,423.93	40.21%
Saving Deposits	4,12,408.81	65.20%	474,201.04	299.56%
Current Deposits	-		-7,442.96	-100.00%
Call Deposit	52,812.68	89.47%	-15,785.11	-21.10%
Margin Deposits	421.5	128.70%	102.5	45.56%
Total	**6,42,689.26**	**73.77%**	**502,499.40**	**136.30%**

Source: SDBL Annual Reports.

4.5 CVP Analysis

As mentioned in the Research Gap, CVP Analysis in case of banks is quite different from other industries due to the fact that it has unique nature of products, regulations and functioning. In case of banks, basically the input material is the deposit funds collected from the public and its output is the loans and advances or other services for which it receives the interests and commissions.

Previous research of Mr. Dharma Raj Shrestha (2006) basically ignored this uniqueness of banking industry. In current research, I have tried to incorporate these distinctive features of banking in the CVP analysis and also come across the BEP as per the traditional way.

In calculating the BEP in traditional way as well, I have tried to more rationally categorize the fixed and variable costs as well as proper segregation of semi-variable costs into fixed and variable costs.

So two methods of BEP Calculation through CVP Analysis is used:

4.5.1 CVP Analysis through Weighted Average Spread Rate (Assumptive Basis)

Banking as explained in the previous chapter is purely an intermediary organization that intakes the deposit by paying some interest and utilizes this fund by giving loans and advances or making investments from which it earns returns. The margin or difference between the two commonly called the spread is what sustains the other expenses of the organization and finally earns profit for its investors.

The lack of consideration of this fact was found in previous research. Hence in addition to the traditional way of calculating BEP, this bottom up approach is utilized on basis of few assumptions rather than directly calculating the interest income and interest expense to find an ideal situation of breakeven point.

Explanation and Method:

In this unique way of calculating the Break Even Point, it is tried to find out what amount of Deposit is required at the current weighted average spread rate to cover all the expenses of the bank. At first Weighted Average Spread Rate is calculated.

Weighted Average Spread Rate is the difference between the Weighted Average Cost of Fund and Weighted Average Yield on Loan.

Weighted Average Spread Rate = Weighted Average Cost of Fund – Weighted Average Yield

Weighted Average Cost of Fund is the average interest rate given in the deposits. There can be various types of deposits on which the rates can be varied. Weighted Average of these interest rates is taken on basis of weight of the composition of the deposits types.

Weighted Average Yield is the average earnings or interest rate on the loans and advances. There can be various types of loans and advances which yield at various rates. Weighted Average of these interest rates is taken on basis of weight of the composition of the loan types.

One approach of performing of CVP Analysis is by simply taking this Weighted Average Spread Rate as the Contribution Margin and thus calculating the expenses. However in terms of the Banking Industry's uniqueness again it will be a big mistake as there are several norms specific to this Industry.

Banks deal in liquid funds. If a customer approaches the bank to withdraw his/her deposit, the bank has to pay him/her immediately without default. In case the bank cannot refund the amount, then it will be insolvent. Thus to avoid this liquidity risks, bank cannot lend all the amount of deposit it has collected. The general banking norm is that **20%** of the total deposit is kept as the **Net Liquidity,** hence if Rs. 100 is collected as Deposit from the public it is only Rs. 80 that lending can be made. It is commonly called the **CD Ratio.** While in the later period the amount of capital and accumulated reserves and surplus will also play a significant role in lending capability, in initial periods this capability may be ignored. We can see that the Fund Utilization Ration is almost similar to this norm. Since Shangri-la Development Bank Limited is only in the 3rd Year of operation, its capital and reserves are utilized in the capital expenses.

So to contribute to the expenses and profit of the organization or to reach breakeven point, the effective weighted average spread rate or contribution margin is to be calculated by adjusting the Cost of Fund to the CD Ration. Among the 20% Liquidity, the ratio of various assets to be maintained is as below:

Table 4.8

Net Liquidity to be Maintained

Net Liquidity	20% of Deposit	
CRR	5.5% of Deposit	(2.2% in 2064-65)
Cash in Vault plus ATM	4% of Deposit	
Other Bank Deposits	10.5%	Including T-Bills, IB Lending etc.

Point here to be noted is that the CRR to be maintained as per the NRB Directives which is set by the Monetary Policy of the Central Bank to stabilize the Balance of Payments, Inflation and other Macro-economic Indicators will earn **no interest**. Similarly Cash in Vault and ATM which are required for day to day operation and meeting the needs of the customers will earn no interests. In terms of other Bank Deposits including T-Bills and IB Lending etc. there will be marginal receipt of interests.

So there is need to adjust the Cost of Fund to these facts and calculate Adjusted Weighted Average Cost of Funds.

Adjusted Weighted Average Cost of Funds = Weighted Average Cost of Funds adjusted to liquidity requirement.

Effective Weighted Average Spread Rate = Weighted Average Yield on Loan – Adjusted Weighted Average Cost of Funds

Assumptions:

- ✓ It is assumed that the bank is primarily to be sustained by the spread between the lending and the deposit rates.
- ✓ It is assumed that the bank runs in ideal situation through its treasury department and thus at all times the percentage of 80% CD Ration is maintained.

- ✓ The cost of funds and average yield on loan is maintained at all times during whole year.
- ✓ The current CRR rate is taken for this purpose to make the analysis comparable.
- ✓ All the costs other than the interest expenses are taken as the fixed costs which shall be covered by the Effective Spread.
- ✓ Since Staff Bonus and Income Tax is only payable if the bank goes into profit, it has been ignored from costs.

Table 4.9

Calculation of Effective Weighted Average Spread Rate

	Year		2064-65	2065-66	2066-67
A	**Weighted Avg. Cost of Fund**		**6.75%**	**8.15%**	**9.35%**
B	**Adjustments**				
B.1	CRR	On Deposit	5.50%	5.50%	5.50%
B.2	Cash in Vault	On Deposit	4.00%	4.00%	4.00%
B.3.i	Bank Balance/T-Bill etc.	On Deposit	10.50%	10.50%	10.50%
B.3.ii	Return on this Investments @ 8%	On B.3.i	0.84%	0.84%	0.84%
B.3.iii	Net Bank Balance etc.	B.3.i - B.3.ii	9.66%	9.66%	9.66%
C	Total Funds Stuck without Interest	B.3 Total	19.16%	19.16%	19.16%
D	Fund Utilization	100% - C	80.84%	80.84%	80.84%
E	**Adjusted Weighted Avg. Cost of Fund**	**A ÷ D**	**8.35%**	**10.08%**	**11.57%**
F	**Average Yield on Loan**	**On Loan**	**10.65%**	**12.57%**	**15.47%**
G	**Effective Weighted Average Int. Rate Spread**	**F – E**	**2.30%**	**2.49%**	**3.90%**

So it can be seen from the calculation above that the weighted average interest rate average has increased from 2.30% in the F.Y. 2064-65 to 3.90% in F.Y. 2066-67.

Table 4.10

Total Expenses (Except Interest Expenses, Bonus and Tax)

In NRS.

Year	2064-65	2065-66	2066-67
Total Expenses	8,862,937.67	16,407,476.31	48,322,260.99

Source: SDBL Annual Report.

Total expenses of the bank has increased from 88 lacs in the year 2064-65 to around 4 crore 83 lacs in the year 2066-67 basically due to the increase in the no. of branches.

Table 4.11

Calculation of Break Even Deposit Target

Break Even Deposit = Total Expenses / Effective Weighted Avg. Int. Rate Spread

Year	2064-65	2065-66	2066-67
Break-Even Deposit	385,316,103.19	659,369,803.81	1,237,780,717.13

From the above table we can see that the break-even point of the bank is 1.24 Billion Rupees for the year 2066-67.

This method of calculating the Break Even Point seems to be reasonable in the sense that it matches with the past performances of the Bank as well. In the year 2066-67 total deposit amounted to around 1.51 Billion which make the Margin of Safety as only 27 Crores.

4.5.2 CVP Analysis (Traditional Method)

In the traditional method of CVP Analysis, it is required that firstly a rational segregation of costs be made into variable, fixed and semi-variable expenses. After segregation of expenses into these three, we deduct variable expenses from variable income to gain contribution margin. Now the Fixed Expenses are divided by contribution margin to gain the breakeven point.

Cost Segregation

All the costs heads are categorized into three groups along with reasons as below:

Table 4.12

Cost Segregation

Expenses	Reason
Variable Expenses :	
Loan Loss Provision Expenses	Directly related to loan growth
Semi-Variable Expenses :	
Electricity, Light & Water	Some expenses will be there irrespective of volume of transaction, but it is to some extent affected by volume.
Postage, Telex, Telephone and Fax	Same as above
Travel Allowances & Expenses	Same as above
Printing & Stationery	Same as above
Advertisement	Same as above
Entertainment Expenses	Same as above
Fuel	Same as above
Business Promotion Expenses	Same as above
Transportation Expenses	Same as above
Commission & Discount	Same as above
Fixed Costs :	
House Rent	Not affected by volume
Repairs & Maintenance	Not affected by volume
Insurance	Not affected by volume
Office Equipment, Furniture & Maintenance	Not affected by volume
Magazines & Newspapers	Not affected by volume
Newspaper	Not affected by volume
Legal Expenses	Not affected by volume
Donations	Not affected by volume
Board Expenses	Not affected by volume
Annual General Meeting Expenses	Not affected by volume
Audit Expenses	Not affected by volume
Transfer Charges	Not affected by volume
Depreciation on Fixed Assets	Not affected by volume

Preliminary Expenses Write Off	Not affected by volume
Share Issue Expenses	Not affected by volume
Technical and Consultancy Fee	Not affected by volume
Write off Expenses	Not affected by volume
Security Expenses	Not affected by volume
Credit Insurance Premium	Not affected by volume
Membership Fee	Not affected by volume
Tiffin Expenses	Not affected by volume
ATM Expenses	Not affected by volume
Inauguration Expenses	Not affected by volume
Office Expenses	Not affected by volume
Renewal Expenses	Not affected by volume
Other Expenses	Not affected by volume
Staff Expenses	Not affected by volume

Table 4.13

Total Costs Expenses as per the Nature

In NRs.

Costs	2064-65	2065-66	2066-67
Fixed Costs	6,968,048.16	12,788,159.25	41,343,801.20
Semi Variable Costs	1,894,889.51	3,619,317.06	6,978,459.79
Variable Costs (Other Than Interest Exp)	3,067,171.81	4,319,491.89	9,610,226.41
Interest Expenses	10,278,870.60	37,087,435.01	100,571,500.23
Total	**22,208,980.08**	**57,814,403.21**	**158,503,987.63**

Figure 4.5

Cost Structure by Nature

Segregation of Semi-Variable Costs into Fixed and Variable:

Semi-Variable Costs can be segregated into fixed and variable costs by High-Low Method

Variable Costs Per Unit = Change in Costs / Change in Activity

If we take the base to two years 2064-65 and 2066-67

	2064-65	2066-67	Difference
Semi Variable Costs	1,894,889.51	6,978,459.79	5,083,570.28
Deposit	68,684,685.68	1,513,873,339.63	1,145,188,653.95

Hence Variable Cost Per Unit of Deposit = 5,083,570.28 / 1,145,188,653.95 = 0.00443

Variable Costs for the Year 2066-67 = 1,513,873,339.63 x 0.00443 = 6,720,186.66

Fixed Costs Component = Total Costs – Variable Costs

= 6,978,459.79 - 6,720,186.66

= 258,273.13

Table 4.14

Segregation of Semi-Variable Costs into Fixed and Variable

Cost	2064-65	2065-66	2066-67
Semi Variable Costs	1,894,889.51	3,619,317.06	6,978,459.79
Fixed Component	258,273.13	258,273.13	258,273.13
Variable Component	1,636,616.38	3,361,043.93	6,720,186.66

We can now classify the total costs into two categories required for CVP Analysis viz. Fixed and Variable:

Table 4.15

Total Fixed and Variable Costs

In NRS.

Costs	2064-65	2065-66	2066-67
Fixed	7,226,321.29	13,046,432.38	41,602,074.33
Variable	14,982,658.79	44,767,970.83	116,901,913.30

Variable Incomes

Total Variable Incomes of Shangri-la Development Bank Ltd. are as follows:

Table 4.16

Variable Income

In NRS.

Income	**2064-65**	**2065-66**	**2066-67**
Interest Income	14,741,221.52	58,941,324.19	157,709,000.57
Other Variable Income	5,505,579.13	8,774,792.08	20,129,218.10
Total	**20,246,800.65**	**67,716,116.27**	**177,838,218.67**

Contribution Margin

Contribution Margin is calculated by deducted all variable costs from the variable income. For the various years of operation contribution margin of Shangri-la Development Bank Ltd. can be calculated as below:

Table 4.17

Contribution Margin

In NRS.

Particulars	2064-65	2065-66	2066-67
Variable Income	20,246,800.65	67,716,116.27	177,838,218.67
Variable Costs	14,982,658.79	44,767,970.83	116,901,913.30
Contribution Margin	**5,264,141.86**	**22,948,145.44**	**60,936,305.37**

P/V Ratio:

P/V Ration or the contribution margin ratio or the Profit-Volume Ratio is the ratio of contribution margin divided by the volume or the activity level. It is required in the CVP Analysis.

Table 4.18

P/V Ration Calculation

In NRS.

Particulars	2064-65	2065-66	2066-67
Contribution Margin	5,264,141.86	22,948,145.44	60,936,305.37
Deposit	368,684,685.68	871,184,081.29	1,513,873,339.63
P/V Ration	**0.01**	**0.03**	**0.04**

Break Even Point

Break Even Point or the no profit no loss point of activity is calculated by the following formula.

Break Even Volume = Fixed Cost s ÷ P/V Ration

Table 4.19

Calculation of Break Even Deposit

In NRS.

Particulars	2064-65	2065-66	2066-67
Fixed Costs	7,226,321.29	13,046,432.38	41,602,074.33
P/V Ration	0.01	0.03	0.04
Break Even Deposit	**506,109,839.83**	**495,283,779.52**	**1,033,542,661.03**

4.5.3 Comparison between first and second method:

Table 4.20

Comparison between first and second method

In NRS.

Break Even Point	2064-65	2065-66	2066-67
Assumptive Method	385,316,103.19	659,369,803.81	1,237,780,717.13
Traditional Method	506,109,839.83	495,283,779.52	1,033,542,661.03

In comparing the two methods of calculation of Break-Even Point through CVP Analysis, it has been observed that the Assumptive Method is more realistic and near to the actual performance of the Bank as if we see the margin of safety and multiply it with the contribution margin (average interest spread rate in case of assumptive basis), the actual profit figure is more near to the Assumptive Basis.

The problem in the Traditional Method is that the cost segregation of the various costs is never exactly possible to be bifurcated into Fixed and Variable Costs.

4.6. Specific CVP Analysis

The previous CVP Analysis of Banks lacked the use of CVP Analysis in the profitability analysis for the specific activities of the Bank. Following specific analysis has been made in this research:

4.6.1 CVP Analysis of a Branch/Extension Counter:

As already discussed earlier Banks have gone into the expansion spree after the end of the Maoists insurgency and the peace process started. Not only the commercial banks with large capital, but every banks and financial institutions including the finance companies are in this spree of opening branches.

Previously the branches could only be opened after the approval of the Nepal Rastra Bank. However after 2066, it was given to be open only through the information and filing of a form 14.2 to the NRB before opening of the branch. This made the banks and financial institutions easier to open the branches.

After getting the situation deteriorated, NRB has again made it more difficult to open the branches by requiring prior approval. Approval is only provided on basis of the market scenario of the proposed branch area, level of competition, feasibility and possibility of the branch being going to be independently break even in three years time without the inter branch interest income.

Following is the CVP analysis of the Extension Counter opening example which can be applied to any branch opening.

Table 4.21

CVP Analysis of a Branch/Extension Counter

Particulars		**Qty**	**Rate**	**Amount**
Construction		4 Room	400 Sq. Feet	1,000,000.00
Computer Terminals		3	37000	111,000.00
Back Up/Batteries				146,000.00
Generator				300,000.00
Telephone				5,000.00
Scanner				1,800.00
Fax				48,000.00
Note Counting Machine				45,765.00
DVR				30,000.00
CCTV Camera		3	11000	33,000.00
Phone Line				15,000.00
Vehicle				126,900.00
Link Installation				25,000.00
Total Capital Costs				**1,887,465.00**
Yearly Depreciation				377,493.00
Monthly				31,457.75
Salary				
	Guard	2	9040	18,080.00
	Assistant	1	9050	9,050.00
	Jr. Assistant	2	7150	14,300.00

	Messenger	1	5000	5,000.00
Link				6,780.00
Telephone				2,200.00
Stationeries				5,000.00
Utilities				2,000.00
Miscellaneous				5,000.00
Other Staff Expenses				2,700.00
House Rent				15,000.00
Monthly Profit Expected				50,000.00
Total Recurring Cost per Month and Profit				**166,567.75**
Spread Rate	0.05			
Deposit Required	Monthly			3,331,355.00
	Yearly			**39,976,260.00**

So to run a simple extension counter with minimal infrastructures and taking that the effective spread rate is maintained at 5% then the deposit mobilization to reach the branch to break-even point is around 4 Crore rupees. It is possible at that time when the expenses are kept to the limit as mentioned above and the spread rate is maintained at 5% after considering the CD ration and the Cash etc. as in our assumptive basis of Break Even Analysis.

Depreciation for this purpose has been taken to be at the rate of 20% per year in S.L.M. Basis.

4.6.2 CVP Analysis for ATM Installation:

Providing additional services has been not optional but compulsive to the Bank and Financial Institutions due to high competition. ATM is one of such services. There are almost 1500 ATM Terminals all over Nepal and few of the service providers provide cards that are also usable in various terminals in India. Two major service providers are at the market, SCT (Smart Choice Technologies) and NIB Network that is promoted by Nepal Investment Bank Limited. Various banks have their own switch to operate the ATM transactions for instance Standard Chartered Bank, Nabil Bank and recently Machhapuchhre Bank has also installed its own switch.

While the customers have been used to this service and in abroad cases UK will be only card banks transaction thus eliminating the cheque transactions, it is inevitable to provide ATM services to the customers. However one should also be aware from the Bank Management View point about the costs involved and amount of deposit collection it should generate to get the ATM cost justified.

Table: 4.22

CVP Analysis of ATM

Firewall Net Finiti 40B				65,000.00
Machine Cost				870,100.00
UPS and Battery				130,000.00
Installation Costs with decoration				25,000.00
Infrastructure				50,000.00
Total Setup Cost				**1,140,100.00**
Depreciation assuming 5 years life				228,020.00
Recurring Costs				
	Quarterly Membership @ 55,000			220,000.00
	Quarterly ATM Connectivity @ 30,000			120,000.00
	AMC of Firewall			10,000.00
Variable Costs				
	Paper Roll			15,000.00
	Embossed Card	700	80 per card	56,000.00
	Power			6,000.00
Total Cost for a Year				**655,020.00**
Interest Spread Rate : 5%				
Deposit to be generated to get at Break Even				**13,100,400.00**

So as per the analysis above there should be deposit collection of around 1.31 Crore **just because of ATM** if we assume an interest spread rate of 5%. This sort of analysis will give us an insight into the costs of ATM and set target for it.

4.6.3 Remittance Profitability Analysis

Remittance is the flow of money from one place to another. As discussed earlier, our country is basically labor exporting country and remittance importing country. Our all the economy is mostly dependent upon the remittance income of the country. Banks are basically not supposed to do the remittance services but as additional services for diversification, most of the banks do the remittance.

Remittance can either be done in house or in collaboration with other remittance agencies. In case of remittance through other agencies as a sub-agent, remittance can be disbursed to the end user for some amount of commission.

Let's make a minute analysis of the remittance services CVP Analysis.

Table 4.23

Remittance Services CVP Analysis

	Particulars		**Rate/Amount**
A	Average Percentage of Commission		0.100%
B	Variable Costs	Telephone	0.003%
		Fax	0.003%
		Printing	0.002%
		Interest Cost	0.055%
C	Contribution Margin		0.037%
D	Fixed Costs	Salary of Staffs	7,000.00
		Internet	1,500.00
		Total	8,500.00
E	**Break Even**		**22,972,972.97**

So it can be seen from above that to reach the break – even for the remittance transactions, there should be a turnover of around 2.29 crores.

It should sound absurd in the view of the fact that why there is so much of turnover requirement considering that so many sub-agents are willing and earning a lot of profit.

There is difference between remittance being made by other companies as sub-agent and the Bank itself because of the opportunity costs that the bank bears for the loss of its funds availability for lending or other investments.

In the interest costs, we have assumed that normal cost of funds of the bank is 10% and the reimbursements are received in two days normally.

Hence it is clear that remittance services is not profitable to the bank unless and until the remittance amount is converted into deposit and there is chances of it being utilized by the bank in lending thus earning interest.

4.7. Margin of Safety

Margin of Safety is the difference between the actual volume and the break even volume. It is the cushion that provides the safety to the bank due to the losses. If there is more margin of safety the bank can have more profit and thus funds available for its further expansion.

Table 4.24

Margin of Safety Analysis

	2064-65	2065-66	2066-67
Actual Deposit	368,684,685.68	871,184,081.29	1,513,873,339.63
Break Even Point			
Assumptive Method	385,316,103.19	659,369,803.81	1,237,780,717.13
Traditional Method	506,109,839.83	495,283,779.52	1,033,542,661.03
Margin of Safety			
Assumptive Method	(16,631,417.51)	211,814,277.48	276,092,622.50
Traditional Method	(137,425,154.15)	375,900,301.77	480,330,678.60
Margin of Safety as % of Actual Deposit			
Assumptive Method	-4.51%	24.31%	18.24%
Traditional Method	-37.27%	43.15%	31.73%

We can see from above that there is fluctuation in the Margin of Safety in both of the Assumptive and Traditional Method. While the Bank is in loss in the first year of operation, it is right that the appropriate level of deposit was not attained to be in break-even point.

The margin of safety increased to 24.32% in assumptive method (43.15% in Traditional Method) in 2065-66, however it is seen that it declined to 18.24% in assumptive method (31.73% in Traditional Method) in the year 2066-67.

4.8. Major Findings

On careful scrutiny and analysis of the all the data and their trends in relation to various factors and aspects, many useful findings have been made. The major focus of the study was to make the CVP analysis and scrutinize all the factors that are related to calculate the Break Even Point of the bank. Banking as said earlier is a unique organization where traditional way of BEP Analysis should be modified a bit to get the analysis done in a better way.

The major breakthrough of this research paper is that it was possible to integrate the CD Ratio into the better calculation of break-even point. It has also been established through this research paper that the interest rate spread is the contribution margin for banks if appropriately adjusted. If we are able to properly categorize all the costs into fixed and variable, then only the traditional way of calculating the break-even point will work.

Let me categorically summarize the major findings of the research paper which can be an insight to the Shangri-la Development Bank Limited Management as well as banking industry as a whole:

1. **Fund Utilization:**

   Fund Utilization percentage is the amount of fund utilized in the earning assets from the amount of available funds for investing or lending by the bank. It affects a lot in the calculation of the Break Even Point because if there are idle funds, then the contribution margin or the interest rate spread will decrease accordingly.

It has been seen that the Fund Utilization of Shangri-la Development Bank Limited has been quite fluctuating at times. It fluctuated from 78.07% to 69.60% in 2064-65 and 2065-66. It shows that most of the funds have been used in capital expenditures and there are idle funds as well which has not been utilized efficiently. In the year 2066-67 however the fund utilization has gone up. It is however noticed that still the maximum utilization of available funds is not made and there are still surplus amount of funds.

The Bank made many investments in government issued Treasury Bills of 91 Days as well as made Inter – Bank Lending when there was market crunch at the rate of up to 15% and made an income of 2,071,447.30 during the year.

2. Sector Wise Loan and Advances:

The highest amount of concentration of loans and advances seems to be in 5 sectors namely in order of concentration Wholesaler & Retails, Transportation, Finance Insurance & Fixed Assets, Construction and Service Industries. Though the concentration of loan in Transportation sector seems to decrease in the year 2066-67 percentage wise, in absolute terms it has been increasing.

Realty sector loan given during the boom period of real estate business also covers quite a good percentage. In the other loans section which covers 1/3 or 33.72% of the total loan, major loans given are in real estate sector as personal loans.

So there seems to be big amount of concentration in Hire Purchase and Real Estate Loans during the year 2066-67.

3. Income Structure:

Structure of income is also important in CVP analysis of banks. As it is evident the major chunk of income is from Interest Income from Loans & Advances. Around 81.44% of total income falls in this category. It is seen that there is increase in income from other sources like inter-bank lending and investment income during the year however. The contribution of Remittance Commission has increased in the year 2066-67 by an absolute amount of income of Rs. 31.54 Lacs.

Service Charges covers around 7 % of the total income. Interest Income from Deposit in other Banks is around 8% of the total income which amounted to 1.43 Crore in absolute terms.

4. **Deposit Structure:**

Deposit Structure of Bank affects the profitability in the sense that if there are higher amount of corporate deposits then the fund utilization will be affected as liquidity has to be maintained higher. Also in case of higher portfolio of fixed deposits, cost of fund will be higher.

In seeing the deposit portfolio of Shangri-la Development Bank, it is seen that it has an ideal combination of Deposit with the appropriate mix of all the types of deposit.

There is 23.54% of Fixed Deposits where as Call Deposit stands at 7.39%. The major part is covered by Savings Deposit which stands at 69.02% of total deposit portfolio.

5. **CVP Analysis on Assumptive Basis:**

In the assumptive basis the unique nature of the Banking Industry is taken into consideration and thus the CD Ration and Weighted Average Interest Spread Rate is taken as base for the calculations.

Following points were noted in this CVP Analysis:

a. **Effective Weighted Average Interest Rate Spread**: Spread Rate is the difference between the interest income rate and interest expense rate. In this research however it is adjusted to the required liquidity of 20% and again the income while maintaining that liquidity (through deposit in other banks) is also taken consideration into. Though if we directly calculate the weighted average interest rate spread, it will be around 4 to 6 percentage during the three years. But when adjusted to the liquidity it is merely 2.30%, 2.49% and 3.90% in 2064-65, 2065-66 & 2066-67 respectively.

b. **Total Expenses**: In assumptive basis, it has been assumed that all the costs except the interest expenses are fixed in nature and for the bank to go into profits, all these expenses has to be covered. Staff Bonus and Tax Expenses however is ignored as it will only be given if there is any profit. The total expenses of the Bank have gone up highly in exponential way due to massive branch expansion. It was only 88.62 Lacs during 2064-65, however it increase to 164.07 Lacs during 2065-66 and 483.22 Lacs during 2066-67.

c. **Break Even Deposit Target**: Break Even Deposit target was reached by dividing the Total Expenses by Effective Weighted Average Interest Rate Spread. It seems that the Break Even Point is 38.53 Crores in 2064-65, 65.94 Crores in 2065-66 and 123.78 Crores in 2066-67. In the first year of operation the bank had gone into loss, so in that sense the it matched with the actual results when the deposit was less than the breakeven point in that year.

6. CVP Analysis (Traditional Way):

In the traditional way of calculation of Break Even Point, all the costs are separated into variable and fixed costs. Variable Costs are those costs which vary in proportion to the volume of transaction whereas fixed costs are those costs which do not change in respect to the increase or decrease in the transaction volume. Though it is very difficult to exactly divide the costs into these two categories, and in view of the fact that there are few costs which are neither exactly variable nor exactly fixed but a mixture of two, the break even analysis on this basis is not that accurate though it gives some benchmark points.

Semi-Variable Costs can be bifurcated into fixed and variable components as per the various methods like High-Low Method or Least – Square Method. In this research paper, it has been separated through High – Low Method.

1. **Cost Segregation:** It has been seen that there are a total of around 63.45% Interest Costs, 6.06% other variable costs, 26.08% Fixed Costs and 4.40% Semi Variable Costs. On further bifurcation of semi-variable costs and

thus dividing total of all the costs into fixed and variable only it is seen that around 26.25% i.e. 41,602,074.33 Rs. is Fixed in nature. Whereas 73.75% i.e. 116,901,913.30 Rs. is variable in nature in the Fiscal Year 2066-67. This high percentage is due to the inclusion of Interest Expenses which is the major input cost of sales for the Banks.

2. **Variable Income:** Total Variable Income of the Bank increased from 2.02 Crores in 2064-65 to 6.77 Crores in 2065-66 and 17.78 Crores in 2066-67.

3. **Contribution Margin and P/V Ration:** Contribution Margin is the difference between the variable income and variable costs of the Bank. P/V Ratio refers to the ratio of contribution margin and the volume of transaction which is the Deposit Amount in case of Banking. It can be seen that the contribution margin of bank has steady growth from 52.64 Lacs in 2064-65, 229.48 Lacs in 2065-66 and 609.36 Lacs in 2066-67. The P/V Ratio of the bank also increase from 0.01 in 2064-65 to 0.03 in 2065-66 and 0.04 in 2066-67.

4. **Break Even Deposit:** As per the traditional method the Break Even Point is reached by dividing the total fixed costs by the P/V Ratio. As per the calculations, the Break Even Deposit has been shown as 50.61 Crores in 2064-65, 49.53 Crores in 2065-66 and 103.35 Crores in 2066-67.

7. Specific CVP Analysis:

Banking has been a very competitive business with all the cut-throat competition due to the no. of banks and financial institutions that are crowded in small market. But while providing various services to the customers or while conducting various activities, it will be beneficial if we know the profitability of those operations. Making CVP Analysis enables us to know when the break-even point is reachable and thus helps us set the target for those services. 3 different activities were taken for specific CVP Analysis:

a. **CVP Analysis of a Branch Expansion**: Branch expansion spree is ever on after the loosening of the provisions by the NRB. On analyzing simple

extension counter with minimal capital expenses of around 18.87 Lacs depreciated at the rate of 20% on S.L.M. Basis and Recurring Costs per month of 166,567.75 along with profit of 50,000 per month, assuming that spread rate is 5%, Deposit required to be maintained is 3.99 Crores.

b. **ATM CVP Analysis**: ATM installation has been a fashion but the fact that it has a lot of costs associated with it is often ignored. It might be a surprising fact to many people even the bankers that 2 Rs. is charged to the bank even if the bank's own customer uses the card in its own ATM Terminal. In view of this fact a small CVP Analysis is done for ATM. It is seen that with Setup Cost of 11.40 Lacs, Recurring and Variable costs of 6.55 Lacs, the Break Even Deposit required to be collected JUST BECAUSE OF THE ATM INSTALLATION is 1.31 Crores.

c. **Remittance**: Remittance though is the back bone of the country, is not that beneficial to the Banks in view of the fact that the funds that are stuck in the Remittance Receivables have alternative use opportunity in high interest earning loans and advances or other investments. It is seen that it requires a transaction of 2.297 Crores of transactions to reach breakeven point just to cover the salary of a staff and the interest costs.

8. Margin of Safety:

Margin of Safety is the cushion to the loss of capital. The more Margin of Safety more is the amount of profit and the capability of the bank to bear the costs of operating. In this regard it is seen that the Margin of Safety was negative in the year 2064-65 however it gradually improved in subsequent years. It is seen that as per the Assumptive Basis the margin of safety percentage to the actual deposit was -4.51%, 24.31% and 18.24% in 2064-65, 2065-66 and 2066-67 respectively.

Similarly as per the Traditional Method the Margin of Safety is calculated to be -37.27%, 43.15% and 31.73% in 2064-65, 2065-66 and 2066-67 respectively.

CHAPTER - FIVE

SUMMARY, CONCLUSION AND RECOMMENDATION

5.1 Summary

Profit is the life blood of the organization without which it cannot sustain its operation. The only target or the objective of any organization is to be in profit or in surplus thus being able to give returns to its investors and grow for the future. In this regard CVP Analysis gives the insight into the current situation of profitability of the operations of the business. We know that even a small shop owner who sells **vegetables** has his calculations of how much sales he needs to earn certain amount of profit. CVP Analysis is no different from what he does but it is just the extension of it in a more scientific way involving figures and formulas.

It helps the organization to set the target or benchmark for its operation and increase it profit. The General Economy of the World went into recession after the financial slow down in 2008 which is still in recovering phase. It was due to the real estate boom and speculations that made the credit risk high thus resulting into the liquidity crunch and finally the financial system failure that the recession occurred. The financial slow down is estimated to be the worst after the Great Depression in 1930s.

Nepalese Economy though not directly affected by this slow down was bit hampered as a aftershock. Nepalese Economy which has been going into boom due to the excessive export of labor force into various countries since long history of foreign labor starting from the Gurkha Army recruitment. The real estate sector got into the boom when the speculations started until there was circular from the NRB on Poush 5^{th} 2067 marking the maximum limit on the lending in this sector. Due to the real estate boom the banks went into quick turnover profits and thus started expanding the branches in a spree mode which is still in continuation but now basically because of the compulsion of deposit collection.

After the pessimistic approach by the NRB through the Monetary Policy for 2067-68, the real estate sector has gone down on its knees. Banks are now feeling the pressure of maintaining the profitability.

The main objective of this study is to supplement the prior studies in CVP Analysis and provide an insight into this analysis specific to the Banking Industry by utilizing the experiences in this sector. The uniqueness of the sector due to its trading in money and the nature of the various costs which was ignored in any other previous research papers has been included in this research to provide a more factual analysis, thus pioneering the new ways of CVP Analysis. However it should be noticed that the basic principles of CVP Analysis are never compromised or breached in the study.

The study was done by getting to the every details of the bank and tabulating the necessary data wherever necessary thus facilitating the analysis. Two methods of analysis was used one on the Traditional Way and other on the Assumptive Way which seemed more reliable to the actual results. Break Even Points are calculated and the Margin of Safety illustrated thus giving the insight into the performance of the organization and showing where the management focus is required.

In the additional part of this study, specific analysis of various activities of the Bank is carried out. So the CVP Analysis has been tried to be used in every part wherever it can be to make the research more practical and useful. For illustration purposes, specific activities of branch opening, ATM Installation and Remittance services are included in the analysis.

5.2 Conclusions

The research paper in overall has been able to reach considerable amount of deductions which are beneficial for the study as well as the organization and banking industry as a whole. On the basis of various observations, analysis and testing of data several insights has been found regarding the performance of the Shangri-la Development Bank Ltd.

We can summarize the conclusions reached in following points:

- Overall economy of the world though not directly influencing the Nepalese Economy, it has indirectly been affecting it in aftershocks of the economic slowdown.
- Nepalese economy is basically driven by the remittance and it would be in jeopardy if the remittance flow is decreased.

- Banking is the only industry which has survived all the ups and downs and has been in continuous good performance steadily.
- Banking Industries went into boom with the 1990's adoption of free economy policy and more sprees after the end of Maoists insurgency.
- CVP analysis in banking industry is a rare work and amount of researches done is very little. Banks have not been adopting this analysis policy and SDBL is not an exception in this case.
- CVP analysis considering the unique nature of business of banks can be done through the assumptive basis and on traditional way of calculation of contribution margin.
- Seeing at the banks performances, the fund utilization of Shangri-la Development Bank is not at the fullest it could utilize and thus the profitability of the bank is hit by it.
- Though there is seemingly high interest spread rate or the contribution margin, there seems to be very low effective weighted average interest rate spread while considering the fund utilization. This should be increased if the bank wants to decrease the Break Even Point.
- The margin of safety is very low and so is the profitability of the bank. It is basically due to two factors, low CD Ratio and the high costs due to increase in no. of branches. We can see that the total costs have sky rocketed in very high proportion in 3 years. The increase of branches from 1 to 4 in second year and 4 to 12 in third year of operation has made the costs to increase many folds.
- We can see that the contribution margin is in increasing trend. However it has been out smarted by the increase in costs of the bank due to expansion. This shows that branch expansion should be made only after proper CVP Analysis.
- Opening a simple branch requires a deposit target of 4 Crore if a minimal infrastructure is maintained. It can go high along with the costs involved.
- ATM is a costly affair for banks. To reach the cost break even it is required to increase the deposit by around 1.31 Crores just due to ATM installation.
- Remittance is not that beneficial to bank if the amount received from remittance is not converted into deposit of the bank. In that case it can be lend and profit can be earned in it. Else to simply cover the cost of a person and internet connection,

more than 2 Crore payments has to be made even when 100 Rs. commissions is received in every 100,000 Rs. of payment.

5.3 Recommendations

No research paper or study is beneficial unless we derive some recommendation out of it. On basis of the detailed study that has been performed many insights are reached based on which various conclusions are derived and thus following recommendations can be suggested to the management as well as other bankers.

1. **Frequent use of CVP Analysis:**

   CVP Analysis should be a part and parcel of the management decisions and it should be integrated into the MIS. Only then an informed decision can be reached and ultimately the organization can be run in a rational way.

   SDBL as well doesn't seem to be using the CVP Analysis in more frequent way. It is recommended that it use it more often in any decision like product introduction, branch opening, etc.

2. **Improvement in Fund Utilization:**

   It has been noticed that there is fluctuation in the fund utilization trend which has hampered the profitability of the second year of operation. It is thus recommended that the Fund Utilization be made stable and consistent along with some more increment in its usage.

   This can be done through the proper matching of funds so that the funds are not remained idle. If suppose we are going to open a new branch we should be aware that deposit mobilization will be there. So it should be proactively thought how this should be utilized without delay. Pipeline of lending applications should be prepared considering the amount of deposit that is expected to be collected.

3. **Improvement of Margin of Safety:**

   It is seen that the profitability of Shangri-la Development Bank Limited is not that encouraging and so is the Margin of Safety. It can be seen that there is decrease in

the Margin of Safety to 18.24% (on Assumptive Basis) which is very low considering the fact that the Adjusted Weighted Average Interest Rate Spread is too low (only 3.90%).

SDBL can attempt to increase its Margin of Safety and get more cushions by earning more profits through following measures recommended:

a. Decrease in Operating Costs:

We can see that there are very high costs involved in the operation of the Bank in comparison to any other bank in operation. In view of that let's look at the cost structure of other operating expenses of the Bank as on the end of 2066-67.

If we bifurcate the total operating costs (except interest expenses) into controllable costs and un-controllable costs following can be seen.

Table 5.1

Controllable and Un-Controllable Costs

Cost Nature	Amount	Percentage
Un-Controllable Costs	34,820,936.45	72.06%
Controllable Costs	13,503,967.66	27.94%

Note: House Rent, Security, Depreciation, ATM Management, Connectivity, and Staff Costs are considered Un-Controllable Costs.

Figure 5.1

Controllable and Un-Controllable Costs

From the above table and figure it can be seen that there is more of the un-controllable costs related in the operation of the bank for instance security expenses, house rent etc which cannot be deducted. Hence in view of the improvement of margin of safety it is only possible to reduce 27.94% costs which are controllable.

This way of improving the Margin of Safety thus may not be that effective due to this reason but marginal improvement can be achieved through this.

b. Increasing Spread Rate:

Increasing Adjusted Weighted Average Interest Rate Spread is the other way of improving the Margin of Safety. This can be done in three different ways:

- Decreasing Cost of Fund
- Increasing Average Yield on Loan
- Maximum Utilization of Funds and matching of funds

In view of the current market scenario decreasing cost of fund is not that feasible else the deposit would be increasing. Also the Average Yield on Loan is at record high and though there are no businesses that tolerate the interest rate of 15%, people are just paying it for the moment. So there are little chances that this can be done as well.

So the best way of increasing spread rate is the maximum utilization of fund through matching of funds and taking liquidity risks and running tight in funds. Moreover it can also be done through bargaining with the bank where the Bank's deposit are kept in terms of gaining better rates on the deposit so that the Adjusted Weighted Average Cost of Fund is lowered to some extent. Maintaining SLR at appropriate level and through appropriate timing of the investment, following prudent treasury norms, this spread rate can be increased.

4. **Decreasing Fixed Costs:**

   The other way of increasing Margin of Safety is by decreasing the Fixed Costs. We can see that maximum of the costs are fixed and most of them are uncontrollable. Hence **cost reduction** measures rather than **cost control** shall be used. For instance to decrease house rent, it is not possible to review the contract with the House Owner rather if the office space is high, then it should be sub-let to decrease the costs.

5. **Increasing Deposit and Lending:**

   While we see that most of other options are only partially effective in lieu of their own constraints, the most feasible option to increase the Margin of Safety is to increase the Deposit.

   Margin of Safety is the difference between the actual deposit and the break even deposit. Hence if we increase the actual deposit then there will be automatic increment in Margin of Safety.

   Considering that the bank has got 12 branches excessive marketing has to be done so that the deposit growth is better according to the branches. Bank should try to capitalize on its network strength and provide better services. Also the staff should be better trained and made them to provide good services so that customers are ready to put more deposit and take more loans.

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Annex I – Major Financial Indicators

Shangri - la Development Bank Limited

Major Financial Indicators

For Last 3 Fiscal Years

Particulars	Indicators	F.Y. 2064-65	F.Y. 2065-66	F.Y. 2066-67
1. Net Profit by Gross Income Percentage	Percentage	-16.39%	23.71%	18.53%
2. Earning Per Share	Rs.	-4.09	9.10	17.94
3. Market Price Per Share	Rs.	-	-	-
4. Price Earning Ratio	Ratio	-	-	-
5. Dividend on Share (Including Bonus)	Percentage	-	-	-
6. Cash Dividend Paid on Shares	Percentage	-	-	-
7. Interest Income by Total Loans	Percentage	4.83%	8.79%	12.09%
8. Staff Expenses by Total Operating Expenses	Percentage	12.84%	8.75%	26.27%
9. Interest Expenses on Total Deposits and Borrowings	Percentage	2.79%	4.26%	6.64%
10. Foreign Exchange Income or Loss by Total Income	Percentage	-	-	-
11. Staff Bonus by Total Staff Expenses	Percentage	-	19.23%	12.84%
12. Net Profit by Total Loans and Advances	Percentage	-0.53%	1.10%	1.10%
13. Net Profit by Total Assets	Ratio	-0.36%	0.76%	0.85%
14. Total Loans by Total Deposit	Percentage	82.87%	76.95%	86.19%
15. Total Operating Expenses by Total Assets	Percentage	4.92%	6.03%	9.38%
16. Capital Adequacy Ratio	Percentage			
a. Primary Capital	Percentage	10.71%	10.90%	10.53%
b. Secondary Capital	Percentage	0.89%	0.87%	0.91%
c. Total Capital Fund	Percentage	11.59%	11.77%	11.44%

17. Liquidity Ratio	Ratio	27.64%	25.36%	21.16%
18. Non Performing Loan by Total Loan	Percentage	0	0.42	1.01%
19. Interest Rate Spread		3.90	4.42	6.12%
20. Book Net Worth	Rs.	38,266,137.42	84,566,033.11	150,033,341.53
21. Total Shares	No.	399000	798,000	798,000
22. Total No. of Employees	No.	17	59	98
23. Other				

Annex II - Organizational Structure of SDBL