

**The Balanced Scorecard:  
Measuring Total Business Unit Performance  
(A Comparative Study of Commercial Banks)**

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A Thesis Submitted to:

**Office of the Dean**

**Faculty of Management**

Tribhuvan University

In partial Fulfillment of the Requirements for the Degree in Master of  
Business Studies (MBS)

Kathmandu, Nepal

February, 2009

## **RECOMMENDATION**

This is to certify that the thesis

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Performance: A Comparative Study of Commercial Banks.”**

has been prepared as approved by this department in the prescribed format  
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## VIVA - VOCE SHEET

We have conducted the VIVA- VOCE examination of the thesis

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**'The Balanced Scorecard: Measuring Total Business Unit  
Performance: A Comparative Study of Commercial Banks.'**

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

### Viva- Voce Committee

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Member (Thesis Supervisor)	.....
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## DECLARATION

I hereby declare that this thesis entitled “**The Balanced Scorecard: Measuring Total Business Unit Performance: A Comparative Study of Commercial Banks.**” submitted to Shankar Dev Campus, faculty of management, Tribhuvan University, is my original research work done for the partial fulfillment of the requirement of the degree of Master of Business Studies (MBS) under the supervision of Dr. Kamal Deep Dhakal and Mr. Ghanendra Fago of Shanker Dev Campus.

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## **ACKNOWLEDGEMENT**

During the academic period under the Tribhuvan University, thesis writing is very important which helps to get practical knowledge. This research has been done with the view to examine and analyze the total business unit performance by comparative study of commercial banks. During this research, Kumari Bank Limited and Nepal Investment Bank Limited had been selected for study. The research has been done on a new topic among other researches. And, I am proud to get such an opportunity for study.

I would like to pay my sincere thanks to respected teacher Dr. Kamal Deep Dhakal, campus chief of Shanker Dev Campus, who inspired me to prepare the thesis & guided to make it effective & will be valuable for my study life.

I have a great pleasure to express my heartiest gratitude and sincere thanks to my thesis supervisor Mr. Ghanendra Fago, who guided me throughout the research work. I shall ever remain indebted to him for his valuable direction, useful suggestions, advice and comments while preparing this thesis.

I am also thankful to the executives of Kumari Bank Limited and Nepal Investment Bank Limited and other staffs of the banks, for kindly providing required information, data and other materials for the study.

Similarly, I would like to thank my sister Miss Sangeeta Thebe for valuable help to edit thesis. I'm especially grateful to Mr. Nabin Lingden, executive editor of 'NepaliPatra weekly', for sharing valuable time to design the thesis. And, also thanks to Younger brother Kaji and sister Nirmala, for typing and assisted me during study period.

Lastly, I express my heartiest gratitude and sincere thanks to my parents and my family, whose support inspired me to reach on this level.

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## **List of Abbreviation**

ASP	:	Accounting for Strategic Positioning
BSC	:	Balanced Scorecard
CDR	:	Total Credit to Total Deposit Ratio
CIMA	:	Chartered Institute of Management Accountants
EPS	:	Earning Per Share
GAAP	:	General Accepted Accounting Principle
KBL	:	Kumari Bank Limited
MBO	:	Management by Objectives
NA	:	Not Available
NIBL	:	Nepal Investment Bank Limited
Not sig.	:	Not Significant
Noth.	:	Nothing can be concluded
P. E.	:	Probable Error
PM	:	Performance Measurement
$r^2$	:	Co-efficient of determination
$r^2_{3.12}$	:	Co-efficient of Multiple Determination
$r_{3.12}$	:	Correlation co-efficient between dependent variable $X_3$ and joint effect of the independent variables $X_1$ and $X_2$ on $X_3$ .
ROA	:	Return on Assets
ROCE	:	Return on Capital Employed
ROI	:	Return on Investment
ROSE	:	Return on Shareholders Equity
$R_s$	:	Spearman Rank Correlation co-efficient
Sig.	:	Significant

# **Chapter-I**

## **INTRODUCTION**

### **1.1 Background of the Study**

In the global knowledge economy, creation, sustenance and application of knowledge has become the key differentiator of success. Many companies have realized that management of knowledge and the knowledge workers as a critical source of competitive edge than the traditional effective physical asset management. An important fall out of this thinking is rapid changes in the way the performance of an organization and its people is measured.

Traditionally periodic corporate performance is most often measured using some variant of historical accounting income (e.g. Net Profit, EPS) or some measures based on the accounting income (e.g. ROI / ROCE). Traditional financial ratios have worked as important tools of measuring organizational performance in the bygone years. It has however been felt that the leading indicators of business performance cannot be found in the financial data alone (Eccles; 1991).

The financial measures alone in performance measurement and control system are inadequate tools for strategic decision-making as they are unable to ensure goal congruence between management decisions and actions (Parker, 1979; Maciariello and Kirby; 1994).

There has been growing criticism of financial measures as they are historic in nature and lack futuristic outlook (Schoenfeld, 1986; Dearden, 1987; Emmanuel and Otley, 1995; Kaplan and Norton; 1996a).

Much of the criticism of traditional Performance Measurement (PM) System stems from their failure to measure and monitor multiple dimensions of performance, by concentrating almost exclusively on financial measures (Brignall and Ballantine; 1996).

In the past, organizations used both financial and non-financial measures to evaluate performance. However, financial measures were used primarily to evaluate senior

management's performance, while non-financial measures were used at lower levels. (Gautreau and Kleiner; 2001).

Dale (1996) found that investment analysts who considered both financial and non-financial measures were more accurate in their earnings forecasts than those who considered only financial indicators.

Measuring corporate performance has been a critical area of research and time honored activity. As practicing managers and academic scholars tried to remedy the inadequacies of existing performance measurement systems (mainly focused around the traditional financial measures), there have been a variety of measures floated – while some have concentrated on making modifying the traditional financial measures making them relevant, few other have suggested non financial measures. The rapidly growing literature on performance measures in the last two decades is a clear indicator of this phenomenon. The Economic Profit, Residual Income, Economic Value Added, Balanced Score Card, Activity Based Costing, Cash Value added, Shareholder Value Added, Total Shareholder Return, Cash Flow, Return on investment are few names among the most popular ones. Among them one of the most popular performance measurement tools is Balanced Scorecard (BSC) devised by Kaplan and Norton first in 1992 and refined in latter publications (Kaplan and Norton; 1993, 1996a, 1996b, 1996c, 2001a, 2001b).

The BSC is a new tool that complements traditional measures of business unit performance. The scorecard contains a diverse set of performance measures, including financial performance, customer relations, internal business processes, and learning and growth. Advocates of the balanced scorecard suggest that each unit in the organization should develop and use its own scorecard, choosing measures that capture the unit's business strategy.

## **1.2 Statement of the Problem**

During the last decades, the balanced scorecard has emerged as a powerful approach to implement strategy and has been successfully adopted by many organizations in different industries (Smith and Kim; 2005). Research suggests that 60 percent of Fortune 1000 companies in USA have experimented with the BSC (Silk; 1998). A survey found that approximately 50 percent of Fortune 1000 companies in North

America and 40 percent in Europe use a version of the BSC (Kaplan and Norton; 2001a). Further, Kald and Nilsson (2000) showed that 27 percent of major Scandinavian companies have implemented this performance measurement framework. In a similar way, Atkinson and Epstein (2000b) echo the conclusions of a study by Walker Information which reports that 59 percent of Canadian executives claim familiarity with the terms “balanced scorecard” or “balanced measurement system” (Walker Information; 1998). The Balanced Scorecard adoption rate is 45.28 percent (Anand et al.; 2005).

In this way, the usages rate of the Balanced Scorecard is increasing day to day. But in our context, there is no study on the topic of Balanced Scorecard .So; this study will be the way to change of recent trend to evaluate organizational performance measurement in an organization.

There are number of studies in area of accounting in developed countries. They have applied varies accounting tools and techniques and found them useful in generating and communicating accounting information for decision makers. Out of them, balanced score card, also known as a tool of strategic management accounting is a widely advocated tool in measuring total business unit performance of a company. However no studies have been carried in the context of Nepal. Thus this study raised the following research questions based on research gap of previous study.

- Have the companies clearly defined their corporate along with financial, customer, internal business and learning & growth objectives?
- In which perspective they strongly focused?
- How is the difference between two related banks on the basis of financial, customer, internal business process and learning and growth perspectives over the year?
- Is their Balanced Scorecard Model properly adopted the *cause and effect* model?

### **1.3 Objectives of the Study**

The main objective of this study is comparison of Nepal Investment Bank Limited (NIBL) and Kumari Bank Limited (KBL) by using Balanced Scorecard a tool of

strategic management accounting. The specific objectives of this study are as follows:

- To assess the total business performance of each company from financial, customer, internal business process and learning and growth perspectives.
- To compare the two companies on the basis of above four perspectives and identify the one company stronger than others on various factors.
- To determine the relationship between financial indicators with non-financial indicators.

#### **1.4 Significance of the Study**

Primarily, findings of the study will be useful to the bank on which this study is conducted. It helps to identify the weakness in traditional performance measurement system, helps to develop the Balanced Scorecard model in companies and to improve the overall business performance. In the other hand the potential researcher who wants to study on the topic of Balanced Scorecard, it will be guided material for them. In addition, this study will be useful to the company concerns for improvement of strategy performances for better competition in the market.

#### **1.5 Limitation of the Study**

Like other's study this study also have some limitations which can not avoided during the study. The following limitations are contains on this study:

- This research is based on comparative study of two banks that can not represent the whole banking sectors. Therefore, the findings and conclusions of this study can not be generalized.
- For the purpose of any numerical calculation, only five years data are taken that is a major limitation that affects the conclusions.
- To analyze the quantitative variables of four perspectives, only mean difference, correlation co-efficient has conducted. So, this also affects on the weight of conclusion.
- For qualitative measures of four perspectives, it has developed only a closed questionnaire. Therefore it has simply presented in the table for comparison and has not conducted any test for qualitative measures.

## **1.6 Organization of the Study**

This study will be organized into five chapters. They are briefly described below:

*Chapter one* describes the general background of the study, statement of problem, objectives of study, significance of the study and limitation of the study.

*Chapter two* deals with literature review that includes conceptual review, review of related studies and research gap. While research methodology is explained in *chapter three*. The components of the research methodologies are research design, population and sample, nature and sources of data and methods of data analysis.

*Chapter four* concerns with presentation and analysis of data. Corporate vision of KBL and NIBL, analysis of KBL and NIBL and balance scorecard (BSC), cause-effect model and major findings are the main contents of the chapter.

*Chapter five consists* of summary, conclusions and recommendations of the study.



## **Chapter II**

### **LITERATURE REVIEW**

This chapter has been divided into three sections. Section one deals with conceptual framework, section two deals with related studies and section three deals with research gap.

## **2.1 Conceptual Review**

### **2.1.1 Background of the Study**

During the late 1980s criticisms of traditional management accounting practices were widely publicized and new approaches were advocated which is more in tune with today's competitive and business environment (Drury, 2000). In the late 1980s the UK Chartered Institute of Management Accountants commissioned an investigation to review the current state of development of management accounting. The findings were published in a report entitled 'Management accounting: Evolution not Revolution, authored by Bromwich and Bhimani (1989). In the report and the follow-up report (Management Accounting: Pathways to Progress, 1994) Bromwich and Bhimani drew attention to strategic management accounting as an area for future development. Innes (1998) defines strategic management accounting as the provision of information to support the strategic decision in organizations. This view is supported by Copper and Kaplan (1988) who state that strategic accounting techniques are designed to support the overall competitive strategy of the organization, principally by the power of using information technology to develop more refined product and service cost. The major contributions on the development of strategic management accounting has been given by Simmonds (1981, 1982), Bromwich (1990), Lord (1996) and Roslender (1995).

More recent contributions to strategic management accounting have emphasized the role of management accounting in formulating and supporting the overall competitive strategy of an organization. To encourage behavior that is consistent with an organization's strategy, attention is now being given to developing an integrated framework of performance measurement that can be used to clarify, communicate and manage strategy implementation. (Drury, 2004)

Kaplan and Norton (1992) developed an innovative multi-dimensional corporate performance scorecard known as the Balanced Scorecard. It provides a framework for selecting multiple key performance indicators that supplement traditional financial measures with operating measures of customer satisfaction, internal business processes, and learning and growth activities. It is a step towards linking 'short-term operational controls' to the 'long-term vision and strategy' of the business. The focus is on the strategy and vision. It compels the firm to align its performance measurement and controls with the customers' internal business processes and learning and growth perspectives and investigate their impact on the financial indicators.

The Balanced Scorecard protects the managers from information overload by limiting the performance measures to only four perspectives, namely, customer, financial, internal business, and learning and growth. It also safeguards from sub-optimization in the decision-making process by forcing the managers to consider the four perspectives of business performance to have a complete picture. The implementation of the Balanced Scorecard is a process whereby the organization's strategy is translated into a set of key performance indicators (Kaplan and Norton, 1996a). Kaplan and Norton refined the concept of balanced scorecard in latter publications (Kaplan and Norton; 1993, 1996a, 1996b, 1996c, 2001a, 2001b)

### **2.1.2 Conceptual Framework of Management Accounting**

The technique of accounting is of extreme importance because it works in the most nearly universal medium available for the expression of facts, so that facts of great diversity can be represented in the same picture. It is not the production of these pictures that is a function of management but the use of them. (Murphy; 1968).

Management accounting is the term used to describe the accounting methods, systems and techniques, which coupled with special knowledge and ability, assist management in minimizing losses. It is essentially the application of managerial principles and know - how to the planning, development, execution and control of corporate plans. (Batty; 1982)

Management accounting is that branch of accounting information system of business enterprises, which uses accounting information for planning, controlling and decision

making. It uses partly financial accounting but mostly cost accounting. (Khan and Jain; 1993).

Management accounting is the presentation of accounting information to formulate the policies to be adopted by the management and assists its day- to- day activities. It helps the management to perform all its functions including planning, organizing, staffing, directing and control. It presents to management the accounting information in the form of processed data which it collects from financial accounting. (Paul; 1994)

In ordinary language, the term ' managerial accounting' is used to describe the modern concept of account as a tool of management in contrast to the conventional annual or half-yearly account prepared mainly for information of proprietors, the object being to so expand the financial and statistical information as to shed light on all phase of the activities of organization. (Goyal; 1997)

A business enterprise today operates in a dynamic environment, which involves many new forms of management problems. Due to the complex environment management has to carry out its basic functions of cost minimization and maximization of profit in and atmosphere of uncertainty. The old technique of management by intuition is no longer considered dependable in a situation in which the modern management has realized that even a slight error in policy decision may mean either losing a lot of business opportunities or going out of competition .A second chance may not come or even if it does, it may be costly or risky. It, therefore, constantly strives to reduce the risk of making mistakes by looking for and analyzing relevant information by means of which it hopes to take judicious decision and direct the administration in a better manner. (Kul Shrestha; 1997)

Management accounting systems provide information to assist managers in their planning and control activities. Management accounting activities include collecting, classifying, processing, analyzing and reporting information to managers. (Kaplan and Atkinson; 1998)

Managerial accounting is the process of identifying, measuring, analyzing, interpreting and communicating information for searching the goals of the company. Managerial accounting is an integral part of the management process and managerial

accountants are important strategic partners in the company's management team. (Hilton; 2002)

Management accounting therefore is primarily concerned with data gathering (from internal and external sources) analyzing, processing, interpreting and communicating the resulting information for use within the organization so that management can more effectively plan, make decisions and control operations. (Lucey; 2003)

Accounting is concerned with providing both financial and non-financial information that will help decision-makers to make good decisions. An understanding of accounting therefore requires an understanding of the decision-making process and an awareness of the users of accounting information. (Drury; 2004)

### **2.1.3 The Role of Management Accounting**

Management accounting has brought about a blending of the identities of management and accounting into a unified process for certain important aspects of the management of an enterprise. The two key elements in the success of an undertaking are accounting control and management capacity. These two determinants of success are fully satisfied by management accounting through the harnessing of accounting for the purpose of management. From this point of view, it has acted as catalytic agent in the process of economic development requiring an efficient use of limited material resources. (Goyal and Man Mohan; 1992)

Management accounting systems play a vital role in helping the managers of complex, hierarchical organizations to plan and control their operations. A superb management accounting system may not guarantee competitive success, particularly if companies do not have good products, efficient operation processes, or effective marketing and sales activities. But an ineffective management accounting system, producing delayed, distorted, or too highly aggregated information, can easily undermine the efforts of companies with excellent research and development, production, and marketing activities. (Kaplan and Atkinson; 1998)

### **2.1.4 Financial Accounting vs. Management Accounting**

Financial accounting is prepared and presented on the basis of generally accepted accounting principles (GAAP) and standard rules. But the generally accepted

accounting principles and standard rules are not considered in the case on management accounting. (Kul Shrestha; 1996)

Unlike the financial accounting information prepared for external constituencies, such as investors, creditors, suppliers and tax and regulatory authorities, management accounting information should be designed to help decision making within the firm. (Kaplan and Atkinson; 1998)

### **2.1.5 Difference between Cost and Management Accounting**

Managerial accounting and cost accounting are different in their objectives. The primary objective of cost accounting is to ascertain the cost of production as well as to control the same after careful analysis whereas managerial accounting aims to supply the accounting information to the management for taking proper decisions. In cost accounting, accounts are prepared according to predetermined standards and budget. But in managerial accounting reports are submitted to the management after measuring the variances between actual performance and the budget. As a result, past errors and defects may be rectified and thereby efficiency is improved. (Paul; 1994)

Managerial accounting is very closely linked to cost accounting; so closely, in fact, that it is difficult to say where cost accounting ends and where managerial accounting begins. Cost accounting simply aims to measure the performance of departments' goods and services; however managerial accounting is much more compared to it. (Chadwick; 1996)

Cost accounting is concerned with cost accumulation for inventory valuation to meet the requirements of external reporting and internal profit measurement, whereas management accounting relates to the provision of appropriate information for decision making, planning, control and performance evaluation. (Drury; 2004)

### **2.1.6 Management Accounting and Strategic Management Accounting**

According to CIMA (2000), traditional management accounting is perceived as inadequate since it:

- Concentrates on the manufacturing and neglects the high cost post-conversion activities;

- Ignores the impact of other activities;
- fails to assess the relative cost positions of competitors;
- over-reliance on existing accounting systems;

By contrast, strategic management accounting purports to place emphasis on:

- the relative cost position;
- the ways in which a company may secure a sustainable cost advantage;
- Costs of differentiation i.e., what makes their product different and hence more attractive.

## **2.1.7 Competitive Environment and Strategic Management Accounting**

### **Evolution of Strategic Management Accounting**

An overview of the new techniques developed in management accounting following Kaplan's critique in the mid-1980s; focuses on accounting for strategic positioning (ASP), which is designed to assist senior management to secure and sustain competitive advantage. Details of three generic approaches to ASP and the range of techniques that exists within each: activity accounting, strategic management accounting and accounting for advanced manufacturing technology. (Roslender; 1995)

Since the 1980s, academics and companies have been developing new management accounting procedures to meet the challenges of deregulated industries and vigorous global competition. These new procedures are designed to support rapidly changing technologies and new management processes – such as total quality management; just-in-time supply, production, and distribution systems; and reengineering - and a never-ending search for competitive advantage.

The 100-year history from 1825 to 1925 provides evidence on the necessity for parallel development of new management accounting practices to support the company's innovations in production, marketing, and organizational design. (Kaplan and Atkinson; 1998)

During the past decade many organizations in both the manufacturing and service sectors have faced dramatic changes in their business environment. Deregulation combined with extensive competition from overseas companies in domestic markets

has resulted in a situation where modern companies are now competing in a highly competitive global market. At the same time there has been a significant reduction in product life cycles arising from technological innovations and the need to meet increasingly discriminating customer demands. To compete successfully in today's highly competitive global environment companies are making customer satisfaction an overriding priority., adopting new management approaches, changing their manufacturing systems and investing in new technologies. These changes are having a significant influence on management accounting systems.

In today's world-wide competitive environment we have noted that companies are competing in terms of product (or service) quality, delivery, reliability, after-sales service and customer satisfaction. Until recently management accounting systems have not reported on these variables, despite the fact that they represent key competitive variables. Traditionally management accounting systems have focused mainly on reporting financial measures. However, in response to the changing environment management accounting systems have begun to place greater emphasis on collecting and reporting non-financial quantitative and qualitative information on those key variables that are necessary to compete effectively and which also support the strategies of an organization. There has been a shift from treating financial figures as the foundation of the management accounting system to treating them as part of a broader set of measures. (Drury; 2000)

Beginning in the late 1980s, an increasing number of managers concluded that the traditional approach to financial management has failed to provide the information needed to manage their companies. These managers called for some dramatic changes in performance measurement. (Martinson; 2000)

### **Concept of Strategic Management Accounting**

Strategic accounting techniques are designed to support the overall competitive strategy of the organization, principally by the power of using information technology to develop more refined product and service costs. (Cooper and Kaplan; 1988)

The provision and analysis of financial information on the firm's product markets and competitors' costs structures and the monitoring of the enterprise's strategies and those of its competitors in these markets over a number of periods. (Bromwich; 1990)

Strategic management accounting is an emerging field whose boundaries are loose and, as yet, there is no unified view of what it is or how it might develop. The existing literature in the field is both disparate and disjointed. (Coad; 1996)

The term 'strategic management accounting' has been in the management accounting literature for more than a decade. Despite many papers on the subject, there still seems to be a paucity of examples of strategic management accounting actually being used. (Lord; 1996)

Strategic management accounting is the provision of information to support the strategic decisions in organizations. Strategic decisions usually involve the longest-term, have a significant effect on the organization and, although they may have an internal element, they also have an external element. (Innes; 1998)

An overview of the ideas behind strategic management accounting, which focuses on external data, strategic position, competitive advantage and a long term view; and lifts the management accountant from the factory floor to meet market challenges. Points out its links with marketing (also focused on competitors, customers and products) just as throughput accounting ties up with production management and benchmarking with quality management. (Roslender et al.; 1998)

A form of management accounting in which emphasis is placed on information which relates to factors external to the firm, as well as non-financial information and internally generated information.(CIMA; 2000)

In particular, strategic management accounting has been identified as a way forward. However, this is still no comprehensive framework as to what constitutes strategic management accounting.

One of the elements of strategic management accounting involves the provision of information for the formulation of an organization's strategy and managing strategy implementation. To encourage behaviors that is constituent with an organization's strategy, attention is now being given to developing an integrated framework of performance measurement that can be used to classify communicate and manage strategy. (Drury; 2004)



### **2.1.8 Concept of Balanced Scorecard**

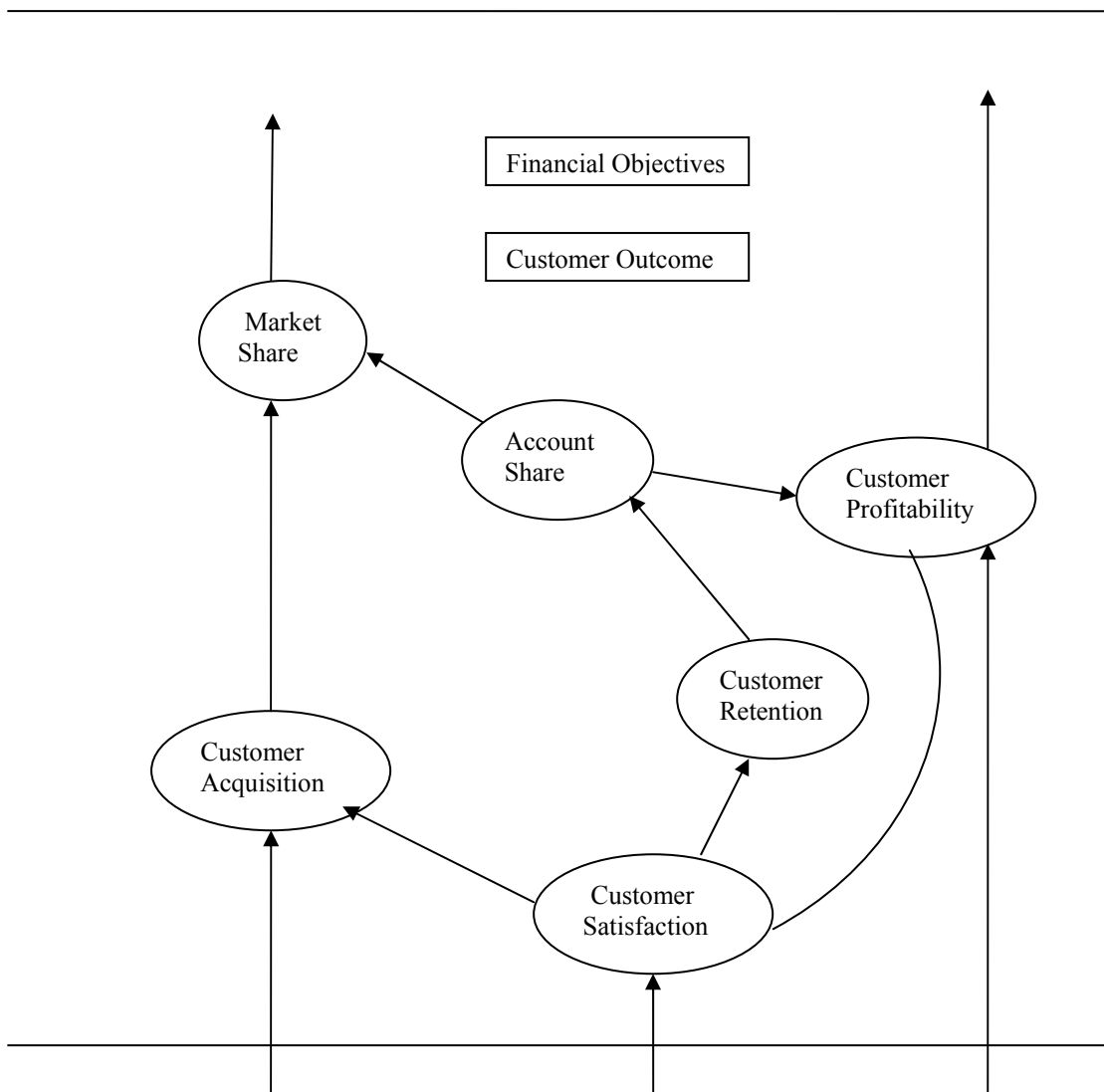
A set of measures that gives top managers a fast but comprehensive view of the business. The balanced score card includes financial measures that tell the results of actions already taken .And it complements the financial measures with operational measures on customer satisfaction, internal process, and the organization's innovation and improvement activities -operational measures that are the drivers of future financial performance. (Kaplan and Norton; 1992)

#### **Financial Perspective**

Financial performance measures indicate whether the company's strategy, implementation, and execution are contributing to bottom –line improvement. Typical financial goals have to do with profitability, growth and shareholder value. (1992)

#### **Customer Perspective**

In the customer perspective of balanced scorecard, managers identify the customer and market segments in which the business unit will compete and the measures of the business unit's performance in these targeted segments. The customer perspective typically includes several generic measures of the successful outcomes from a well –formulated and implemented strategy .The generic outcome measures include customer satisfaction, customer retention ,new customer acquisition , customer profitability, and market and account share in targeted segments. (Kaplan and Norton; 1996c)



**Figure: 2.1: Core Outcome Drivers and Internal Business Process Measures**

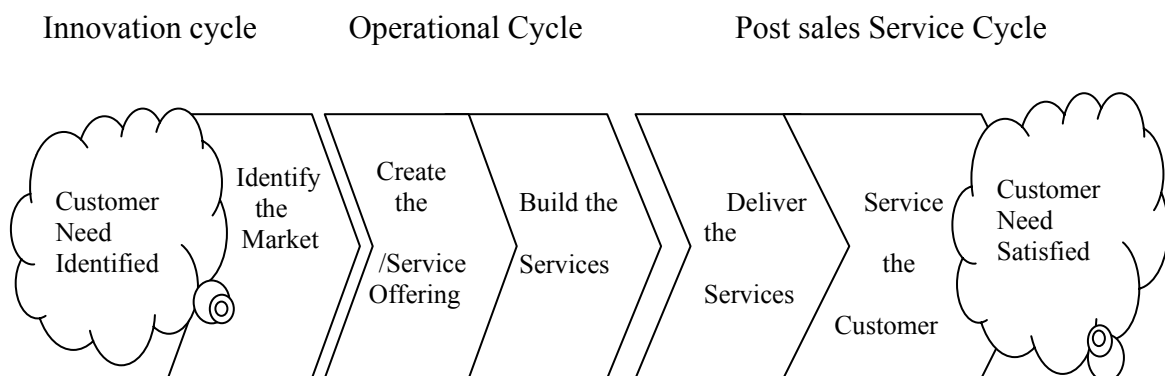
Source: R.S.Kaplan and D. P.Norton."Linking the Balanced Scorecard to Strategy."  
California Management Review (Fall 1996c)

## Internal Business Process Perspective

In the internal business process perspective, executives identify the critical internal processes in which the organization must excel. The critical internal business processes enable the business unit to:

- Deliver on the value propositions of customers in targeted market segments, and
- Satisfy shareholder expectations of excellent financial returns.

The measures should be focused on the internal processes that will have the greatest impact on customer satisfaction and achieving the organization's financial objectives. (1996c)



**Figure: 2.2: Generic Value Chain Model**

Source: R. S. Kaplan and D. P. Norton. "Linking the Balanced Scorecard to Strategy." California Management Review (Fall 1996c)

## Learning and Growth Perspective

The fourth Balanced Scorecard Perspective, learning and growth, identifies the infrastructure that the organization must build to create long –term growth and improvement.

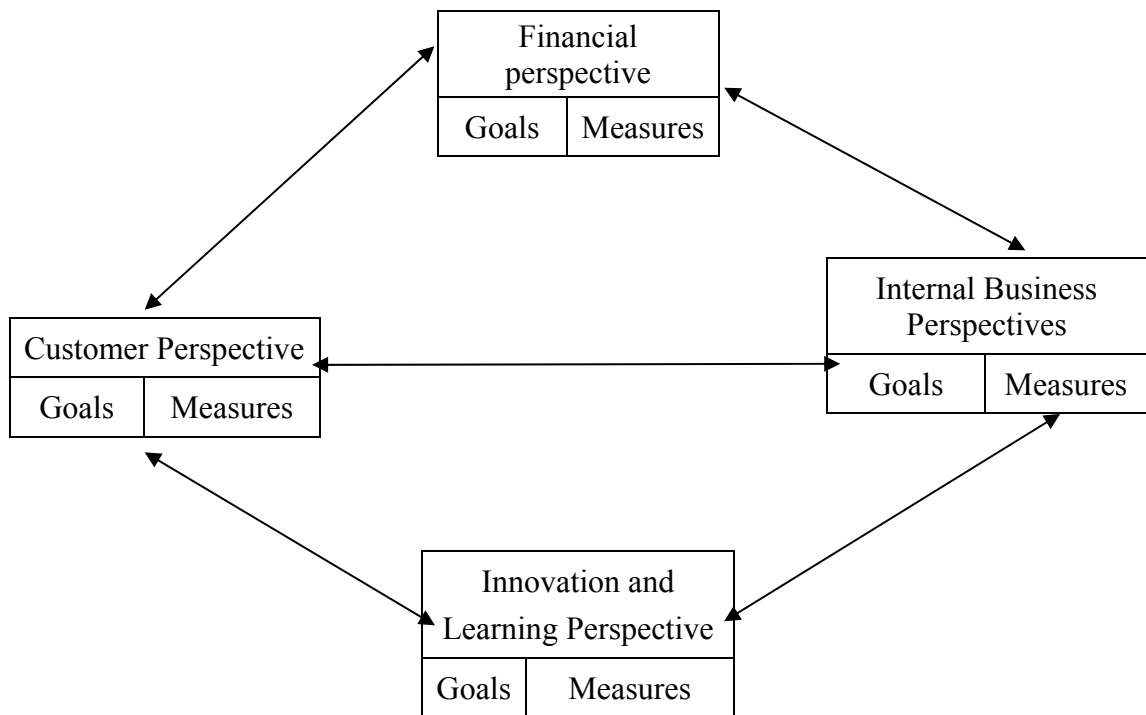
Organizational learning and growth come from three principal sources: people, systems, and organizational procedures. (1996c)

### 2.1.9 The Balanced Scorecard links Performance Measures

The balanced scorecard allows managers to look at the business from four perspectives. It provides answers to four basic questions:

- How do customers see us ? (Customer perspective)

- What must we excel at ? (Internal perspective)
- Can we continue to improve and create value? (Innovation and learning perspective)
- How do we look to shareholders? (Financial perspective)



**Figure: 2.3 The Balanced Scorecard links Performance Measures**

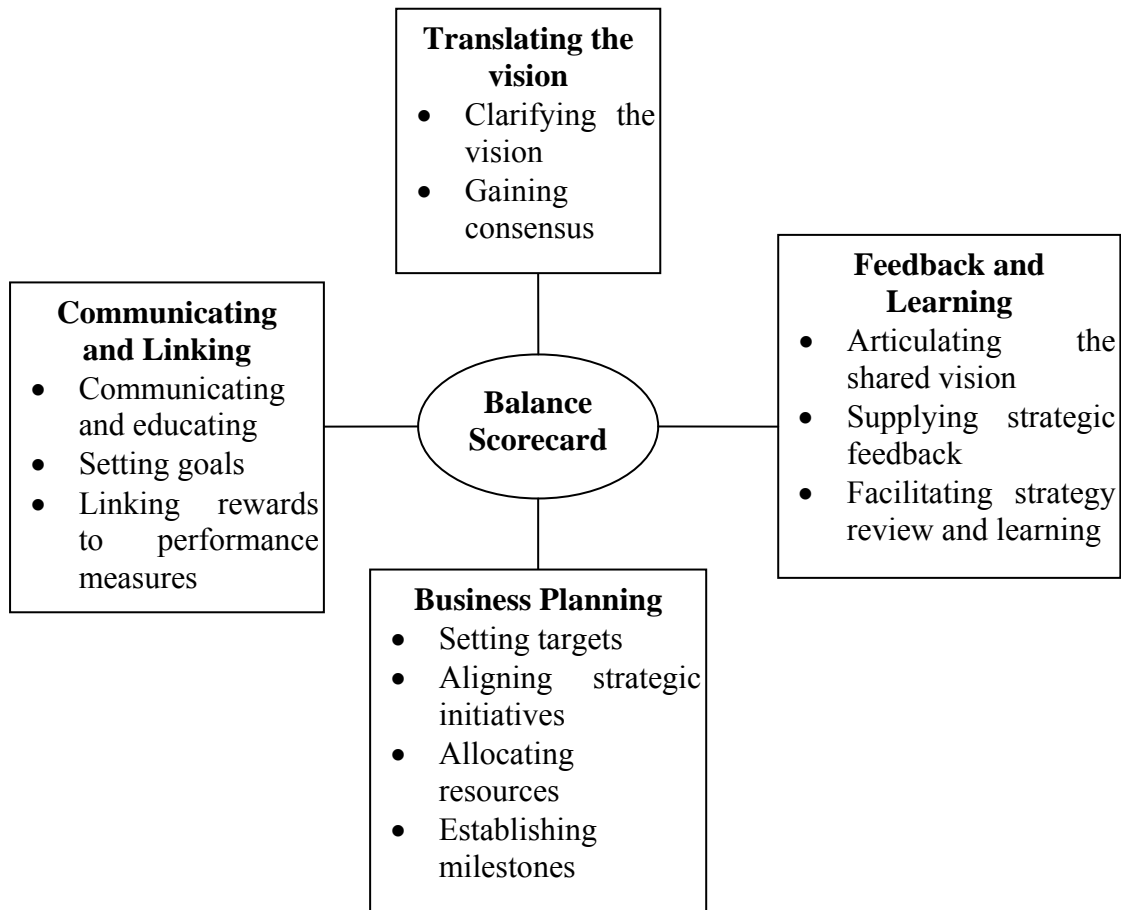
Source: Kaplan and Norton." The Balanced Scorecard –Measures That Drive Performance." Harvard Business Review; (Fall 1992)

### **2.1.10 Balanced Scorecard as a Strategic Management System**

The scorecard addresses a serious deficiency in traditional management systems: their inability to link a company's long-term strategy with its short –term actions.

Most companies' operational and management control systems are built around financial measures and targets, which bear little relation to the company's progress in achieving long-term strategic objectives. Thus the emphasis most companies place on short –term financial measures leaves a gap between the development of a strategy and its implementation.

Managers using the balanced scorecard do not have to rely on short-term financial measures as the sole indicators of the company's performance. The scorecard lets them introduce four new management processes that, separately and in combination, contribute to linking long-term strategic objectives with short –term action. (Kaplan and Norton; 1996b)



**Figure: 2.4: The Balanced Scorecard as a Strategic Management System**

Source: Kaplan and Norton." Using the Balanced Scorecard as a Strategic Management System." Harvard Business Review; (Fall 1996b)

### **Balanced scorecard is not replacement of financial measures**

The Balanced scorecard supplemented traditional financial measures with criteria that measured performance from three additional perspectives-those of customers, internal business processes, and learning and growth. It therefore enabled companies to track financial results while simultaneously monitoring progress in building the capabilities and acquiring the intangible assets they would need for future growth .The scorecard

wasn't a replacement for financial measures; it was their complement. (Kaplan and Norton; 1996b)

### **The balanced scorecard puts strategy not control at the center**

The scorecard puts strategy and vision, not control, at the center. It establishes goals but assumes that people will adopt whatever behaviors and take whatever actions are necessary to arrive at those goals. The measures are designed to pull people towards the overall vision. Senior managers may know what the end result should be, but they can not tell employees exactly how to achieve that result, if only because the conditions in which employees operate are constantly changing. (Kaplan and Norton; 1992)

### **Cause and effect relationship**

A strategy is a set of hypothesis about cause and effect .Cause and effect relationship can be expressed by a sequence of if-then statements. A properly constructed scorecard should tell the story of the business unit's strategy. The measurements system should make the relationships (hypotheses) among objectives (and measures) in the various perspectives explicit so that they can be managed and validated. (Kaplan and Norton; 1996c)

### **Role of organizational leadership**

The only difference between a bad balanced scorecard and a good one--which would be one that describes your strategy--is the effort that has to go into the front end, with the executive group coming together to agree that this is the strategy and this is how they're going to measure it. If somebody doesn't want to do that, they're essentially viewing the scorecard as a measurement system as opposed to a system to manage change. (Calabro; 2002)

### **Outcomes and performance drivers**

The drivers of the performance are the ones that tend to be unique for a particular business unit. A good balanced scorecard should have a mix of core outcome measures and performance drivers. Outcome measures without performance drivers do not communicate how the outcomes are to be achieved. They also do not provide an early indication about whether the strategy is being implemented successfully. Conversely, performance drivers (such as cycle times and part -per million defect

rates ) without outcome measures may enable the business unit to achieve short term operational improvements, but will failed to reveal whether the operational improvements have been translated into expanded business with existing and new customers –and ,eventually ,into enhanced financial performance. A good balanced scorecard should have and appropriate mix of core outcome measures and the performance drivers of these outcomes. (Kaplan and Norton; 1996c)

Outcome measures, like profits, are indicators of how successfully the company has implemented strategy and are thus ‘lagging indicators’. Conversely, driver measures are ‘leading indicators’ (like cycle time). Driver measures indicate incremental changes that ultimately affect outcome. (Gautreau and Kleiner; 2001)

### **2.1.11 Pros and Cons of the Balanced Scorecard (BSC)**

#### **Pros of the Balanced Scorecard (BSC)**

By combining the financial, customer, internal process and innovation, and organizational learning perspectives, the balanced scorecard helps managers understand, at least implicitly, many interrelationships. This understanding can help managers transcend traditional notions about functional barriers and ultimately lead to improved decision making and problem solving. The balanced scorecard keeps companies looking-and moving-forward instead of backward. (Kaplan and Norton; 1992)

The BSC is able to provide utility at all management levels, if managers have an understanding of the mechanics of the concept. Awareness of how the four perspectives are interlinked, interdependent and should not be considered in isolation is necessary to ensure the maximum benefit is obtained. It is also critical that managers should be empowered to utilize the information to support decisions at their level. (Hepworth; 1998)

The following is a summary of the major benefits that can be attributed to the balanced scorecard approach. (Drury; 2004)

- The scorecard brings together in a single report four different perspectives on a company's performance that relate to many of the disparate elements of the company's competitive agenda such as becoming customer oriented, shortening response time, improving quality, emphasizing team-work, reducing new

product launch times and managing for the long term. Many organizations collect some performance measures relating to each of the four perspectives but they are typically presented in several different large reports that often prove to be unhelpful because they suffer from information overload.

- The approach provides a comprehensive framework for translating a company's strategic goals into a coherent set of performance measures by developing the major goals for the four perspectives and then translating these goals into specific performance measures.
- The scorecard helps managers to consider all the important operational measures together. It enables managers to see whether improvements in one area may have been at the expense of another.
- The approach improves communications within the organization and promotes the active formulation and implementation of organizational strategy by making it highly visible through the linkage of performance measures to business unit strategy.

A properly constructed balanced scorecard can provide management with the ideal tool in reacting to the turbulent business environment and helping the organization correct the course of action. (Guptha et al.; 2004)

A major advantage of the balanced scorecard is that it encourages all employees to consider the impact of their decisions on profitability. (Smith and Kim; 2005).

### **Cons of the Balanced Scorecard (BSC)**

Even an excellent set of balanced scorecard measures does not guarantee a winning strategy. The balanced scorecard can only translate a company's strategy into specific measurable objectives. A failure to convert improved operational performance, as measured in the scorecard, into improved financial performance should send executives back to their drawing boards to rethink the company's strategy or its implementation plans. (Kaplan and Norton; 1992)

The Balanced Scorecard of Kaplan and Norton (1996a and b) has been found to be inadequate on the ground that it neither has stakeholders' perspective nor a 'two-way evaluation process'. (Atkinson et al.; 1997).



A typical scorecard may take five or six months to implement. An additional number of months may be needed to fine tune the structure. Total development time is often one year or longer. (McKenzie; 1998)

Managers need to focus on the cause and effect relationships in strategy in order to link measurement with strategy. Managers often understand the link between customer satisfaction, employee satisfaction and financial performance; however, the scorecard does not provide guidance as to how to improve performance to achieve the desired strategic results. (Morgan; 1998)

The four perspectives of the model aim to communicate the strategic priorities of the organization by measuring and setting stretch targets for them. However, the model, which was developed in 'for-profit' organizations, may not be suitable in 'not-for-profit' organizations. (Quinlivan; 2000)

If we choose multiple objectives, we are faced with a serious problem. A theory developed around multiple objectives of equal weight will create quandaries when it comes to making decisions. To illustrate, assume that a firm chooses as its objectives maximizing market share and maximizing current earnings. If a project increases both market share and current earnings, the firm will encounter no problems, but what if the project being analyzed increases market share while reducing current earnings? The firm should not invest in the project if the current earnings objective is considered, but it should invest in it based on the market share objective. (Damodaran; 2000)

As a performance measurement system, the Balanced Scorecard will lead to confusion, conflict, inefficiency, and lack of focus. This is bound to happen as operating managers guess at what the tradeoffs might be between each of the dimensions of performance. (Jensen; 2001)

Though the Balanced Scorecard framework incorporates multiple performance measures, both financial and non-financial, it lacks a long-term perspective; the distinction between cause-and-effect is blurred; and it lacks empirical validation. (Maltz et al.; 2003)

## 2.2 Review of Related Studies

Dinesh and Palmer (1998) made an article on the topic of "Management by objectives and Balanced Scorecard: will Rome fall again? The purpose of the study was to extend knowledge about the Balanced Scorecard, by examining problems that have occurred as part of the earlier goal congruence system (MBO). They said that there are similarities between MBO and BSC, Said," It seems that the Balanced Scorecard is based on the same philosophies as MBO. That is, there is a need for goal congruence within an organization in order to improve performance, and the best way of obtaining this is through a process of collaborative goal setting and review." In the reasons of failing the MBO they said," MBO has proven to be largely unsuccessful in practice, with two key failures identified as Partial implementation of the system, and non-recognition of the need to adopt a human relations view."

Another article by Gautreau and Kleiner on the topic of, "Recent Trends In Performance Measurement Systems-The Balanced Scorecard Approach", conclude that the reasons of increasing of using the balanced scorecard. They summaries," Increases in competition and the need to implement corporate strategy are two important reasons to consider a balanced scorecard. Also, 60% of the Fortune 1000 companies either have a balanced scorecard or are considering one. The reason for this is that the scorecard gives visibility to worker performance in relation to strategy. It allows management to reward performance that is in-line with strategy and caution/correct performance that is not. Ultimately, the balanced scorecard encourages employees to act in accordance with desired goals of the company. " The writers suggest about the potential problems related to a balanced scorecard, said , " These shortfalls can be overcome with proper planning and awareness, especially with recent developments in balanced scorecard software systems." company.( Gautreau and Kleiner; 2001)

An article named "Balanced Scorecard: A Rising Trend in Strategic Performance Measurement",by Khim Ling Sim and Hian Chye Koh for the purpose of to investigate whether there are any linkages between business success and the use of strategically linked performance measures, which include both non-financial and financial performance measure. Their conclusion was," Specifically, findings suggest that the BSC can be used as a tool for monitoring the long-term value creation

process. Undoubtedly, providing training to employees or implementing innovative techniques consumes a significant amount of resources". (Sim and Koh; 2001)

An article drawn up, titled by using the Balanced Scorecard as a Control System for Monitoring and Revising Corporate Strategy. The aim of the article is how a company can use its performance measurement system to i) evaluate its operating strategy, ii) identify potential problems with its strategy, and iii) devise plans to mitigate these problems. They conclude that , " While preliminary tests indicate no significant direct relationship between non-financial measures of strategy implementation and the firm's financial performance, detailed analysis reveals that financial performance is associated with the interaction of measures of strategy implementation and employee skills. Financial performance also directly relates to employee skills and store location proxies." They further adds," the firm's strategy positively (negatively) impacts financial performance in stores with high (low) employee skill levels. Thus, a poor fit between strategy and capabilities primarily caused the ineffectiveness of the strategy." And their bold view is that the performance measurement systems can be used to monitor, analyze, and revise a firm's strategy. (Campbell et al; 2002)

Another article has carried out by Atkinson, H. on the topic of Strategy implementation: a role for the balanced scorecard? And the purpose was to develop a deeper understanding of the role of the balanced scorecard in strategy implementation. The findings drawn as the balanced scorecard, subject to the adoption of suitable processes, can address the key problems associated with strategy implementation including communication, the role of middle managers and integration with existing control systems. (Atkinson; 2006)

Professor Kaplan and Norton carried out an article titled "Having Trouble with Your Strategy? Then Map It", in which they try to solve the problem facing by top executives to implement successfully their business strategies. They point out that the reasons of difficult to implement strategy, said," When attempting to implement their business strategies, they give employees only limited descriptions of what they should do and why those tasks are important. Without clearer and more detailed information, it's no wonder that many companies have failed in executing their strategies." They defined the strategy map as," that embeds the different items on an organization's balanced scorecard into a cause-and-effect chain, connecting desired outcomes with the drivers of those results." In the information age, businesses must increasingly

create and deploy intangible assets this is a reason of the need of developing the strategy map as they explained and further said," The key to executing your strategy is to have people in your organization understand it—including the crucial but perplexing processes by which intangible assets will be converted into tangible outcomes. Strategy maps can help chart this difficult terrain." In the objectives of the strategy map they said" The objective in a strategy map's process perspective represents how strategy gets executed. The map's strategic themes originate in these key processes defined on the map". (Kaplan and Norton; 2000 and 2008)

### **2.3 Research Gap**

After detailed review of literature, the study found that the balanced scorecard model is widely applicable tool to measure overall business performance. And, it helps to find the ways that will improve organizational performance. The widely used balance scorecard as strategic management tools in different countries indicates the importance of its application in global competitive business environment. However no such studies have been found in the area of management, account and finance in the context of Nepal. In addition, balance scorecard (BSC) and its application is found widely in text books and articles of the developed capital markets context. Thus this study attempts to assess the practice of Balance Scorecard and its use in Comparison between two commercial banks for assessment of overall performances.

## **Chapter - III**

### **RESEARCH METHODOLOGY**

A sound research study needs to follow a proper methodology in order to achieve predetermined objectives. Research methodology is a sequential procedure and methods to achieve the objectives of the study. To meet the objectives determined in the first chapter, the appropriate research methodology has followed, which will explain in later. Thus, this chapter deals with the research design, population and sample, data collection procedure and methods of data analysis.

#### **3.1 Research Design**

Research design includes important procedure and techniques for guiding and evaluating the study. On the basis of nature of data, both descriptive and analytical methods have conducted to carrying out research study. Descriptive research is used to access the qualitative measures include customers, internal business processes and learning and growth perspective. The qualitative data is direct opinion of respondents. Therefore, it is independent variable for researcher and has not conducted any test of reliability. For quantitative measures, an analytical approach has carried out to make it reliable and significant.

#### **3.2 Population and Sample**

There are 25 commercial banks in Nepal during last Aswin 2065. Among them, two banks are taken for study purpose namely Kumari Bank Ltd.(KBL) and Nepal Investment Bank Ltd. (NIBL). To select these bank, judgmental sampling techniques has been applied.

#### **3.3 Nature and Sources of Data**

This study is based on both primary and secondary data. Primary data relating to financial, customer, internal business process and learning and growth perspective delivered structured questionnaires personally to finance, customer and human resources departments of the selected banks and collected them after fill up immediately. Secondary data for this study are taken from annual reports that are obtained from concern banks and their websites.

### 3.4 Methods of Data Analysis

As per the nature of data, this study has applied the following tools and techniques for data analysis.

#### Correlation co-efficient

In this segment we have used both simple and multiple correlation co- efficient.

#### Simple correlation co-efficient (r)

In order to test the significance of the relationship between one dependent variable and one independent variable during the period of the study, Karl Pearson's correlation co- efficient is used. Where 'r' is calculated as:

$$r_{12} = \frac{n\sum X_1 X_2 - \sum X_1 \sum X_2}{\sqrt{n\sum X_1^2 - (\sum X_1)^2} \sqrt{n\sum X_2^2 - (\sum X_2)^2}}$$

#### Multiple correlation co-efficient ( $r_{3.12}$ )

In the study there are number of independent variables. Therefore, to test the relationship between single dependent variable with a number of independent variables, the multiple correlation co-efficient is applied. It is calculated as:

$r_{3.12}$  = Correlation co-efficient between dependent variable  $X_3$  and joint effect of the independent variables  $X_1$  and  $X_2$  on  $X_3$ .

$$= \frac{\sqrt{r_{12}^2 + r_{23}^2 - 2 \times r_{12} \times r_{23} \times r_{13}}}{\sqrt{1 - r_{12}^2}}$$

Where,

$$r_{12} = \frac{n \times \sum X_1 X_2 - \sum X_1 \sum X_2}{\sqrt{n \times \sum X_1^2 - (\sum X_1)^2} \sqrt{n \times \sum X_2^2 - (\sum X_2)^2}}$$

$$r_{23} = \frac{n \times \sum X_2 X_3 - \sum X_2 \sum X_3}{\sqrt{n \times \sum X_2^2 - (\sum X_2)^2} \sqrt{n \times \sum X_3^2 - (\sum X_3)^2}}$$

$$r_{13} = \frac{n \times \sum X_1 X_3 - \sum X_1 \sum X_3}{\sqrt{n \times \sum X_1^2 - (\sum X_1)^2} \sqrt{n \times \sum X_3^2 - (\sum X_3)^2}}$$

## Co-efficient of Determination

Co-efficient of determination is used to measure the percentage variation in the dependent variable due to the variation in independent variable.

Simply, it is a square of correlation co-efficient. Therefore, it is denoted by  $r^2$  and  $r_{12}^2$  for simple and multiple correlation coefficients respectively.

## Probable Error

Two methods are adopted to test the reliability of correlation co-efficient namely co-efficient of determination (explained above) and probable error.

The probable error is calculated as:

$$P. E. = \frac{0.6745(1-r^2)}{\sqrt{n}}$$

Where,

$r$  = the value of correlation co-efficient.

$n$  = number of pairs of observations

## Rank Correlation

To test the relationship between two qualitative natures of variables, the rank correlation co-efficient is used. It is calculated as:

$$r_s \text{ (for repeated rank)} = \frac{1 - 6[\sum d^2 + m_1(m_1^2 - 1)/12]}{n(n^2 - 1)}$$

Where,

$r_s$  = Speasman's rank correlation co-efficient

$d$  = difference of corresponding ranks

$n$  = number of pairs of observation

$m$  = number of times that an item repeated

In this method the collected data are presented in table and graphs and used for horizontal analysis. In this method both quantitative and qualitative nature of data are analyzed.

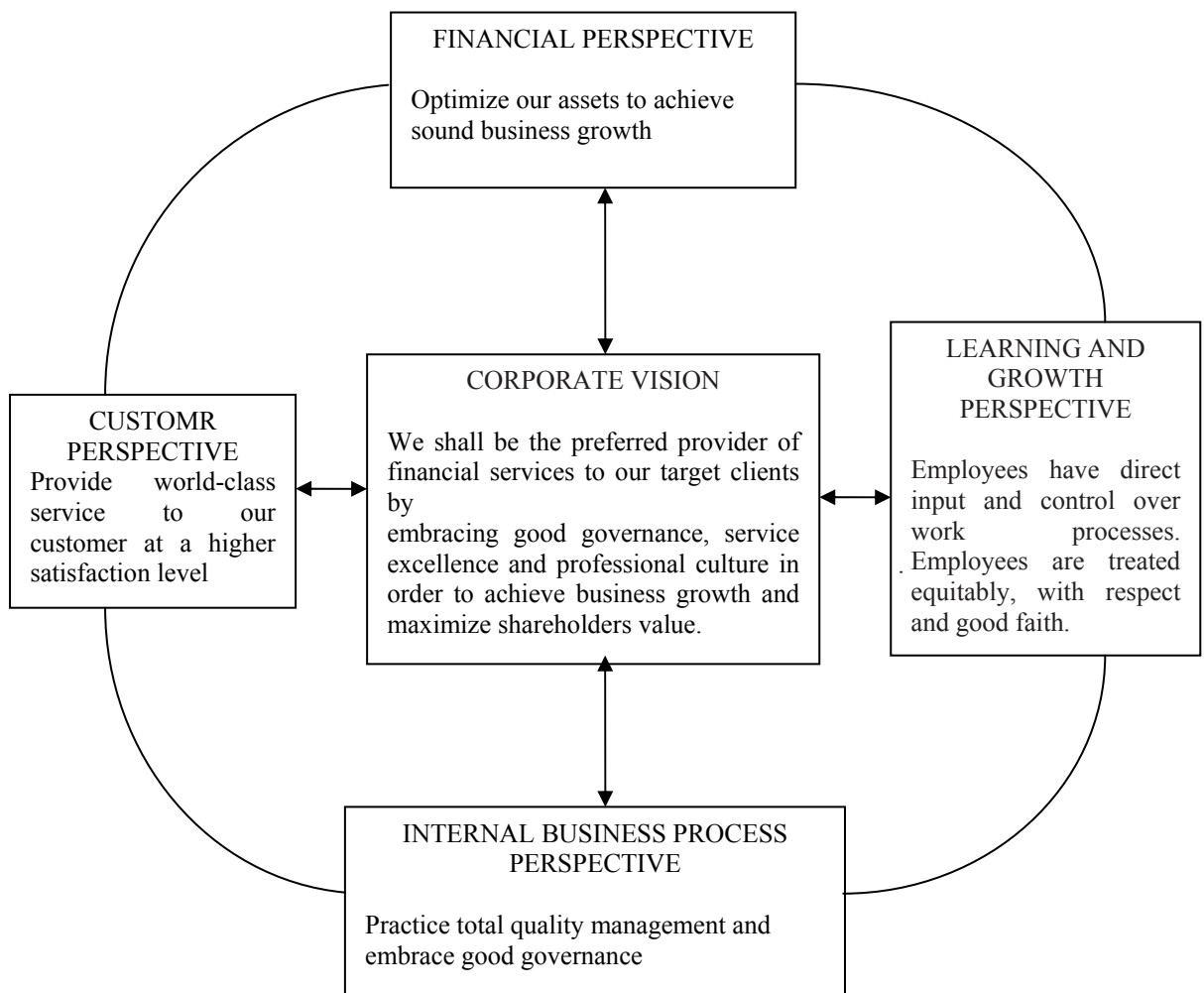
## Chapter - IV

### DATA PRESENTATION AND ANALYSIS

This chapter is related to data presentation and analysis, which is divided and explained in six different topics: Corporate Vision of KBL and NIBL, Analysis of KBL and NIBL using Balance Scorecard (BSC), Financial Perspective, Customer Perspective, Internal Business Process Perspective, Learning and Growth Perspective, Cause-Effect Model of KBL and NIBL and Major Findings.

#### 4.1 Corporate Vision of KBL and NIBL

The corporate vision always links with its business unit strategy. To implement balanced scorecard effectively, the four perspectives of balanced scorecard must interlink each other and with its corporate vision.



*Figure: 4.1*

***Linkage of Four Perspectives of KBL with Corporate Vision***



Figure 4.1 presents the KBL's corporate vision and strategic objective of four perspectives. It looks like that only after establishing the corporate vision other four strategic objectives has determined in order to achieve corporate vision .Because of corporate vision focuses the shareholders value, all three perspectives has determined according to financial objective. This means financial perspective has interlinked with other three perspectives.

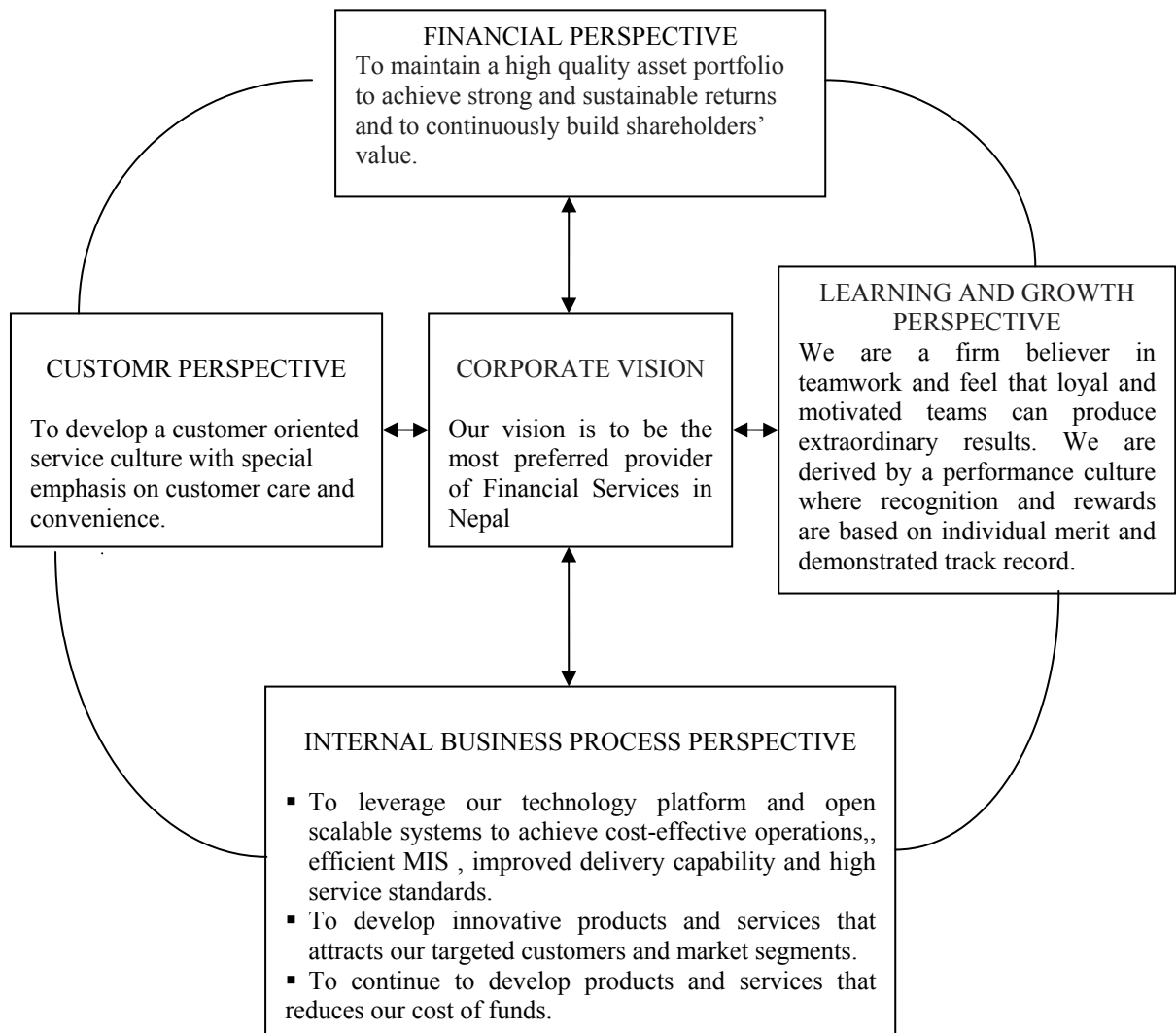


Figure: 4.2

***Linkage of Four Perspectives of NIBL with Corporate Vision***

The figure 4.2 clearly presents how does NIBL has interlinked its corporate vision with its financial, customer, and internal business process and learning and growth perspective. Like that it shows the linkage of financial perspective with other perspectives.

## 4.2 Analysis of KBL and NIBL and Balance Scorecard (BSC)

In this section, this study compares the performances of individual banks of last five years on the basis of financial, customer, and internal business process and learning and growth perspectives. Then comparison has been made between two banks on the same four perspectives.

### 4.2.1 Analysis from Financial Perspective

Banks have taken different financial measures to measure financial strength and weakness. To make easy to compare two banks, this study has used some common measures. They are Return on Assets (ROA), Return on Shareholders Equity (ROSE), Earning Per Share (EPS), Net Profit Margin (NPM), Total Credit - Total Deposit ratio (CDR).

Table: 4.1

KBL Performance Summary – Financial Perspective

Strategic objectives	Strategic Measures	2003	2004	2005	2006	2007	Mean
Improve Financial Productivity	• ROA (%)	0.42	0.89	1.13	1.15	1.43	1.00
	• ROSE	3.46	9.13	13.12	12.00	16.60	10.86
	(%)	3.26	9.74	17.58	16.59	22.70	13.97
	• EPS (Rs.)	6.17	14.20	16.26	15.52	19.61	14.35
	• NPM (%)	85.06	76.91	90.62	90.20	85.84	85.73
	• CDR (%)						

Table 4.1 describes the performance of KBL from Financial Perspective. The ROA of first year is 0.42 Percent. Then it is continuously increasing and has maintained at one percent. ROSE of the bank is 10.6 percent. It seems increasing which starts by 3.46 percent and ends at 16.60 percent. Like ROSE, EPS and NPM of the bank also is in increasing trend. However CDR of KBL is slightly decreasing.

Table: 4.2  
NIBL Performance Summary – Financial Perspective

Strategic Objectives	Strategic Measures	2003	2004	2005	2006	2007	Mean
Improve Financial Productivity	• ROA (%)	1.30	1.25	1.44	1.64	1.82	1.49
	• ROSE (%)	18.29	20.93	19.67	24.77	26.68	22.07
	• EPS (Rs.)	39.56	21.70	39.50	59.35	62.57	44.54
	• NPM (%)	20.12	16.71	20.26	23.99	25.07	21.23
	• CDR (%)	74.74	63.68	73.33	79.63	72.56	72.79

Table 4.2 describes the performance of NIBL from Financial Perspective. According to this table, NIBL has generated 1.49 percent ROA. Whereas 22.07 percent as ROSE, 44.54 EPS, 21.23 NPM and 72.79 as CDR.

Table: 4.3  
Comparative Performance Summary – Financial Perspective

Strategic Objectives	Strategic Measures	Mean		Difference
		KBL	NIBL	
Improve Financial Productivity	• ROA (%)	1.00	1.49	0.49
	• ROSE (%)	10.86	22.07	11.21
	• EPS (Rs.)	13.97	44.54	30.57
	• NPM (%)	14.35	21.23	6.88
	• CDR (%)	85.73	72.79	12.94

Table 4.3 shows the comparison between KBL and NIBL by financial perspective based on average of five years study period.

As explained by this table, NIBL is found financially strong than KBL on the basis of ROA, ROSE, EPS and NPM. But based on CDR, KBL is found better. However, no conclusion can be drawn on the basis of simple comparison of CDR.

## 4.2.2 Customer Perspective

In this part, Customer Perspective of two banks has been explained on the basis of quantitative and qualitative nature of data.

Quantitative measures under customer perspectives include those variables which can be expressed in terms of number, percent or ratios. There are five quantitative strategic measures for customer perspective on which two for customer retention and loyalty and one of each for customer acquisition, customer satisfaction and customer profitability.

Table: 4.4  
KBL Performance Summary-Customer Perspective

Strategic Objectives	Strategic Measures	2003	2004	2005	2006	2007	Mean
Customer retention and loyalty	• Duration of a customer relationship( year)	7	7	8	8	8	7.6
	• Total deposits (Rs. in billion)	2.51	4.81	6.27	7.77	10.56	6.38
Customer acquisition	• New customer from program (%)	8	9	11	13	13	10.8
Customer satisfaction	• Satisfied customer (%)	90	95	95	97	98	95
Customer profitability	• Identified profitable customer (%)	85	85	85	90	90	87

Table 4.4 shows KBL's quantitative performance summary based on customer perspective. Both strategic measures of customer retention and loyalty are in increasing trend like performance drivers of customer acquisition, customer satisfaction and customer profitability. Hence the performance of KBL is healthier on the basis of customer perspective in the last five years.

Table: 4.5  
NIBL Performance Summary - Customer Perspective

Strategic Objectives	Strategic Measures	2003	2004	2005	2006	2007	Mean
Customer retention and loyalty	• Duration of a customer relationship (year)	9	9	9	10	10	9.4
	• Total deposits (Rs. in billion)	7.92	11.53	14.26	18.93	24.49	15.43
Customer acquisition	• New customer from program (%)	10	12	12	15	20	13.8
Customer satisfaction	• Satisfied customer (%)	95	95	98	98	99	97
Customer profitability	• Identified profitable customer (%)	90	90	90	95	95	92

Table 4.5 presents the NIBL's performance summary based on quantitative measures of customer perspective. Both strategic measures of customer retention and loyalty are likely to increasing and average rate is 9.4 and 15.43 respectively. Similarly, customer acquisition, customer satisfaction and customer profitability also shows the better performance of NIBL. This means the bank is successfully conducting its programs to retain its existing customers, get new customer, increase customer satisfaction and make it profitable.

Table: 4.6  
Comparative Performance Summary – Customer Perspective

Strategic Objectives	Strategic Measures	Mean		Difference
		KBL	NIBL	
Customer retention and loyalty	• Duration of a customer relationship( year)	7.6	9.4	1.8
	• Total deposits ( Rs. in billion)	6.39	15.43	9.05
Customer acquisition	• New customer from program (%)	10.8	13.8	3
Customer satisfaction	• Satisfied customer (%)	95	97	2
Customer profitability	• Identified profitable customer (%)	87	92	5

Table 4.6 shows the comparative figures between two banks from customer perspective. Average duration of customer relationship of NIBL is greater than that of KBL. NIBL has better performance to acquire new customers. However, there is no big difference in customer satisfaction between two banks. To identify profitable customer NIBL is upper than KBL. On the basis of the five quantitative performance indicators, it can be concluded that NIBL seems stronger from customer perspective.

Qualitative variables are presented and compared which can not be expressed in terms of numbers. It shows only increasing or decreasing trend, does not show the exact point. There are seven strategic measures in qualitative nature. Out of them five measures for customer satisfaction and one of each for time and quality.

Table: 4.7

## Comparative Performance – Qualitative Measures of Customer Perspective

Strategic objectives	Strategic measures		
		KBL	NIBL
Customer Satisfaction	• Letters of complaints	Decreasing	Decreasing
	• Feedback from marketing representatives	Decreasing	Decreasing
	• Image, reputation and brand	Increasing	Increasing
	• On time delivery\service	Yes	Yes
	• No. of customer suggestions	Decreasing	Decreasing
Time	• Waiting time for service	Decreasing	Decreasing
Quality	• Thefts, accident, fraud, embezzlement of company	Decreasing	Decreasing

Table 4.7 shows the comparison of KBL and NIBL on the basis of customer satisfaction, time and quality. According to this table, the letter of complaint, feedback from marketing representatives and customer suggestions are the strategic measures of customers' satisfaction. The negative relation is occurred between these measures with customer satisfaction. These measures have decreasing trend means the satisfaction of customer is increasing. The image, reputation and brand exists positive relation with customer satisfaction. It means increasing trend of image, reputation, and brand increases customer satisfaction. Waiting time and thefts, accident, fraud, embezzlement is in decreasing trend which means the better time and quality service to customers is provided. On time delivery has been provided by both banks.

In conclusion, both banks have given priority on customers' satisfaction, loyalty and quality. Thus, no significance differences have been found between two banks from qualitative measures of customers' perspectives.

### 4.2.3 Internal Business Processes Perspective

This study compares two banks on the basis of quantitative and qualitative measures of internal business process perspective as well. Internal business process perspective has two strategic measures in quantitative nature that are percentage of identified new markets and percentage of identified emerging and latent needs of customers.

Table: 4.8

Comparative Performance – Quantitative Measures of Internal Business Process Perspective

Strategic Objectives	Strategic Measures	2003		2004		2005		2006		2007		Mean	
		KBL	NIBL	KBL	NIBL	KBL	NIBL	KBL	NIBL	KBL	NIBL	KBL	NIBL
Innovation Process	Identified new markets (%)	3	4	4	6	5	6	5	7	7	8	4.8	6.2
	Identified emerging and latent needs of customers (%)	90	95	90	95	95	96	97	97	98	99	94	96.4

The table 4.8 presents the comparative figures of two banks. Identification of new market of KBL is continuously increasing and the average is 4.8 percent where as the rate of same variable of NIBL is 6.2 percent. NIBL presents the better performance to identify emerging and latent needs of customers.

Both quantitative variables of internal business process perspective indicate that the NIBL is better performing through internal business process.

Six qualitative measures for internal business prospective lead by three strategic measures if KBL and NIBL.



Table: 4.9  
Comparative Performance – Qualitative Measures of Internal Business Process  
Perspective

Strategic objectives	Strategic measures	KBL	NIBL
		<ul style="list-style-type: none"> <li>• Request fulfillment time</li> <li>• Internal customer satisfaction</li> <li>• Treatment of complaints</li> </ul>	NA Increasing Yes
Improve productivity	<ul style="list-style-type: none"> <li>• Improve service quality</li> <li>• Improve operating efficiency</li> </ul>	Yes Yes	Yes Yes
Corporate social responsibility	<ul style="list-style-type: none"> <li>• Investment in social welfare</li> </ul>	Yes	Yes

Table: 4.9 presents the comparison of KBL and NIBL through qualitative measures of internal business process perspective.

Request fulfillment time of KBL is not available while another bank has decreasing trend. Internal customer satisfaction of both banks is increasing because they adopted the mechanism of treatment of complaints giving post sales service through service quality, operating efficiency and responsible to society. In this way, there is no difference found between these banks on the basis of qualitative measures of internal business process perspective.

#### **4.2.4 Learning and Growth Perspective**

Learning and growth is a one strategic perspective of a company that contains both quantitative and qualitative measures for performance comparisons. In this study the following nine strategic measures of learning and growth perspective have been taken for comparison of two banks.

Table: 4.10  
KBL Performance Summary – Quantitative Measures of Learning and Growth  
Perspective

Strategic objectives	Strategic Measures	2003	2004	2005	2006	2007	Mean
Training and development	<ul style="list-style-type: none"> <li>Employees with training Plan (%)</li> </ul>	90	90	95	95	98	93.6
Team work	<ul style="list-style-type: none"> <li>Successful groups (%)</li> </ul>	100	100	100	100	100	100
Effective communication	<ul style="list-style-type: none"> <li>Satisfied customer with communication (%)</li> </ul>	80	80	75	85	90	82
Employee satisfaction	<ul style="list-style-type: none"> <li>Employee involvement with decision (%)</li> </ul>	100	100	100	100	100	100
	<ul style="list-style-type: none"> <li>Employee recognized for doing a good job (%)</li> </ul>	90	90	90	90	90	90
Employee retention	<ul style="list-style-type: none"> <li>Key employee turnover (%)</li> </ul>	5	5	5	5	5	5
Strategic job coverage	<ul style="list-style-type: none"> <li>Strategically critical jobs filled with qualified employees (%)</li> </ul>	95	95	95	95	95	95
Motivation, empowerment and alignment	<ul style="list-style-type: none"> <li>Employee who achieve personal goal (%)</li> </ul>	80	85	85	90	90	86
core competency and skill	<ul style="list-style-type: none"> <li>Leadership development plans (%)</li> </ul>	5	6	8	8	10	7.4

Table 4.10 shows KBL's that the bank has conducted good training and development program to their employees. The cent percent groups are successful. Customers are highly satisfied with bank's communication network. All employees are involved in decision process. This is a good example of participative management. Among total employees more of them are recognized for doing good job. Employees are successfully retained. The executive level jobs are filled with qualified employees

within the firm. The motivation program has properly conducted. To increase core competency and skills the leadership development plan is carried out.

Table: 4.11  
NIBL Performance Summary – Learning and Growth Perspective

Strategic objectives	Strategic Measures	2003	2004	2005	2006	2007	Mean
Training and development	• Employees with training Plan (%)	95	97	97	98	98	97
Team work	• Successful groups (%)	100	100	100	100	100	100
Effective communication	• Satisfied customer with communication (%)	70	80	80	80	80	78
Employee satisfaction	• Employee involvement with decision (%)	95	95	95	96	96	95.4
	• Employee recognized for doing a good job (%)	92	92	92	93	94	92.6
Employee retention	• Key employee turnover (%)	1	2	2	2	2	1.8
Strategic job coverage	• Strategically critical jobs filled with qualified employees (%)	80	80	90	95	95	88
Motivation, empowerment and alignment	• Employee who achieve personal goal (%)	60	60	70	70	70	66
core competency and skill	• Leadership development plans (%)	5	5	10	20	20	12

Table 4.11 displays the NIBL's performance summary derived from quantitative measures of learning and growth perspective. NIBL has been accomplishing very good training and development program successfully. Seventy-eight percent

customers are satisfied with bank's communication system. With high participation in decision making process, 92.6 percent employees are recognized for good job. Only 1.8 percent key staffs are changed their job during study period. Eighty-eight percent strategically critical jobs are filled with qualified employees. This is an output of leadership development plan and is useful to reduce training and development cost. The bank has got success to motivate its employees.

Table: 4.12

Comparative Performance Summary – Learning and Growth Perspective

Strategic Objectives	Strategic Measures	Mean		Difference
		KBL	NIBL	
Training and development	<ul style="list-style-type: none"> <li>Employees with training Plan (%)</li> </ul>	93.6	97	3.4
Team work	<ul style="list-style-type: none"> <li>Successful groups (%)</li> </ul>	100	100	0
Effective communication	<ul style="list-style-type: none"> <li>Satisfied customer with communication (%)</li> </ul>	82	78	4
Employee satisfaction	<ul style="list-style-type: none"> <li>Employee involvement with decision (%)</li> </ul>	100	95.4	4.6
	<ul style="list-style-type: none"> <li>Employee recognized for doing a good job (%)</li> </ul>	90	92.6	2.6
Employee retention	<ul style="list-style-type: none"> <li>Key employee turnover (%)</li> </ul>	5	1.8	3.2
Strategic job coverage	<ul style="list-style-type: none"> <li>Strategically critical jobs filled with qualified employees (%)</li> </ul>	95	88	7
Motivation, empowerment and alignment	<ul style="list-style-type: none"> <li>Employee who achieve personal goal (%)</li> </ul>	86	66	20
core competency and skill	<ul style="list-style-type: none"> <li>Leadership development plans (%)</li> </ul>	7.4	12	4.6

Table 4.12 compares KBL and NIBL on the basis of quantitative measures of learning and growth perspective. The trained employees of NIBL shows its better training and development program whereas satisfied customer with communication indicates the effective communication system of NIBL. Participatory management culture is well applied by KBL. Nearly three percent more employees are recognized doing a good job in NIBL. On the basis of key staff turnover, NIBL is successful to retain its employees. Strategic job coverage of KBL is more than that of NIBL. This means

KBL has more believed to their leadership development program. The motivation program of KBL and the leadership development plan of NIBL is better. However successful groups do not show any difference.

The qualitative variables of learning and growth perspective only indicate the direction of strategic measures. The qualitative measures are training and development, effective communication and employees' satisfaction.

Table: 4.13

Comparative Performance Summary – Qualitative Measures of Learning and Growth Perspective

Strategic Objectives	Strategic Measures		
		KBL	NIBL
Training and development	<ul style="list-style-type: none"> <li>• Positive test results from training</li> </ul>	Yes	Yes
Effective communication	<ul style="list-style-type: none"> <li>• Communication flow</li> </ul>	Effective	Effective
Employee satisfaction	<ul style="list-style-type: none"> <li>• Access to information to do a job effectively</li> </ul>	Yes	Yes
	<ul style="list-style-type: none"> <li>• Support level from subordinate</li> </ul>	Yes Yes	Yes Yes
	<ul style="list-style-type: none"> <li>• Overall satisfaction with company</li> </ul>		

Table 4.13 shows the comparative statement about qualitative measures of learning and growth perspective of two banks. After training and development program both banks found positive result. The communication flow among staffs, executives and with customers of both banks is effective. All measures of employee satisfaction conclude that both banks have motivated employees which increase employee satisfaction.

#### 4.2.5 Difference between KBL and NIBL

On the basis of four perspectives, two banks were found differences from quantitative measures whereas qualitative measures did not show the differences.

Table: 4.14  
Comparative Performance – Four Perspectives

Perspectives	No. of quantitative indicators	Supports		Neutral	Positive for	
		KBL	NIBL		KBL	NIBL
Financial	5	1	4	0		√
Customer	5	0	5	0		√
Internal business process	2	0	2	0		√
Learning and growth	9	4	4	1	Neutral	Neutral

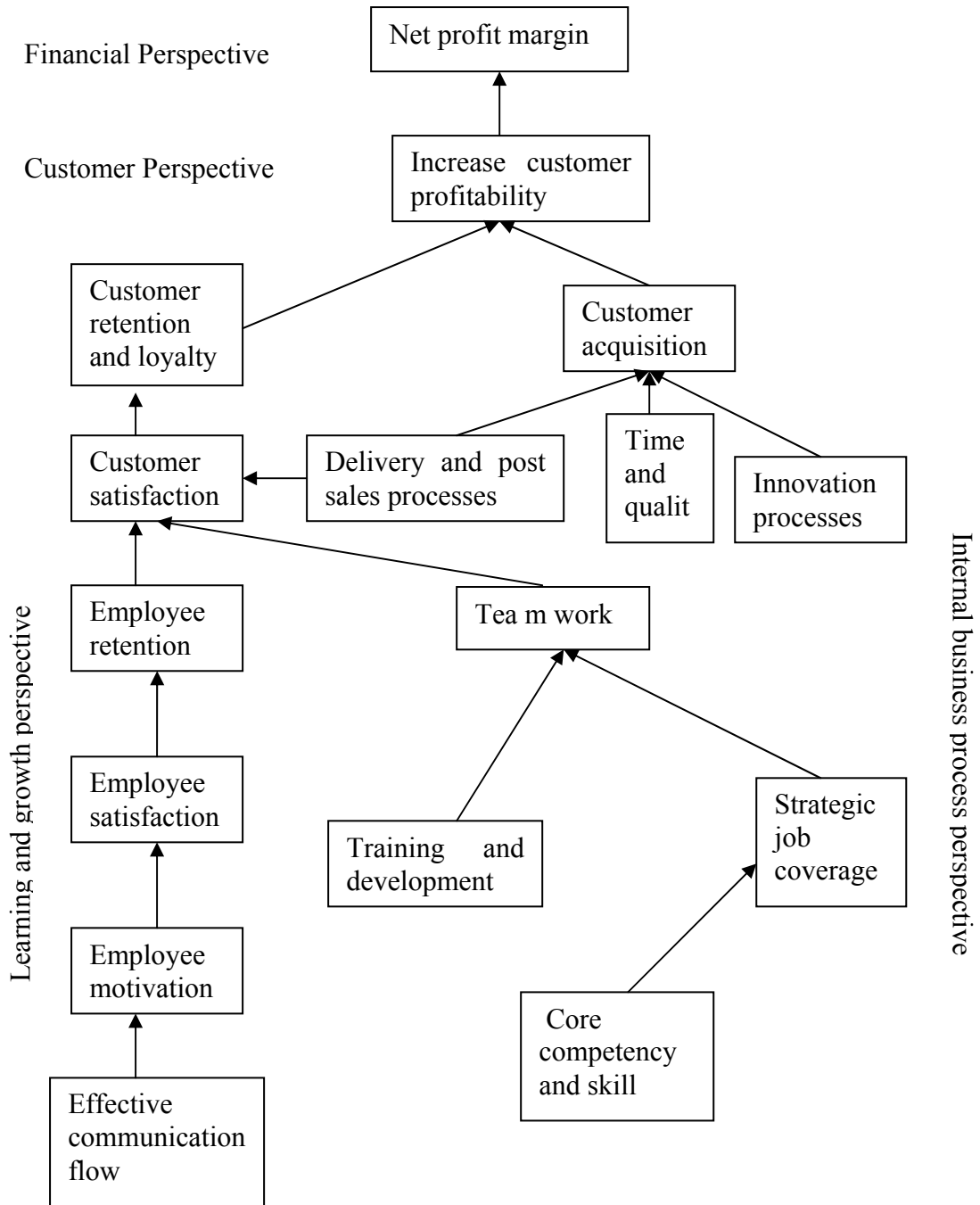
Table 4.14 shows that out of five strategic measures of financial perspective, four indicators support NIBL. This means 80% financial indicators of NIBL is greater than that of KBL. Therefore, the NIBL is better performing than KBL based on financial perspective. In same way, both customer and internal business process perspectives also support NIBL. Learning and growth perspective does not partially support the banks.

Three out of four perspectives support the NIBL thus can be concluded that NIBL has better performing from the concept of balanced scorecard.

### **4.3 Cause -Effect Model**

#### **4.3.1 Cause -Effect Model of KBL and NIBL**

One of the most important components of balanced scorecard concept is the cause-effect model. This model explains how does one or more strategic objectives of different perspectives are linked with strategic measures.



**Figure: 4.3: Cause-Effect Tree: Summary of KBL and NIBL Balanced Scorecard**

During the stage of questionnaire design, the closed questionnaire method was followed. Therefore, the same type of strategic measures of four different perspectives had been taken and a cause-effect tree has been developed for both banks.

The figure 4.3 shows the relationship among the different strategic objectives and measures of four different perspectives. Adopting this figure to increase net profit margin (NPM), there should be increase in customer profitability. Therefore, the

effect (NPM) is the cause of customer profitability. According to this figure, the relationship between NPM and customer profitability is the linking between financial and customer perspectives and customer profitability is the result of customer retention and loyalty and customer acquisition. Innovation, delivery and sales service and time and quality help to acquisition of the customer. In the same way, customer retention and loyalty depends upon customer satisfaction. Customer satisfaction depends on employee retention, team, work and time and quality. This shows the triangular relationship among customer, internal business process and learning and growth perspective. Because customer satisfaction is included in customer perspective, time and quality is in internal business and employee retention and team work included in learning and growth perspective therefore to increase benefits from customer perspective there should be improve in internal business and learning and growth perspective. In the same way, team work depends upon training & development and strategic job coverage. Then strategic job coverage depends upon core competency and skill. Another, employee satisfaction helps to retain employee and motivation increases employee satisfaction.

In conclusion, the cause-effect tree shows the linking between financial measures and non-financial measures that supports the theme of Kaplan and Norton (1996b), "BSC is not replacement of financial measures."

#### **4.3.2 Test of Cause - Effect Model of KBL and NIBL**

The correlation co-efficient has been taken as a statistical tool to test the cause effect model. The objective of this section is to test the reliability of variables which are linked with each other, as exposed on cause – effect tree summary. The correlation coefficient shows the degree of relationship between dependent and independent variables. To determine the reliability and to test the significance of correlation co-efficient, the probable error (P.E.) is used.



Table: 4.15  
Comparative values – (Cause – Effect model)

Relationship between	Correlation co-efficient (r)		Co-efficient of determination		P.E.		6 P.E.		Reliability of correlation	
	KBL	NIBL	KBL	NIBL	KBL	NI BL	KBL	NI BL	KBL	NI BL
NPM and customer profitability	0.59	0.91	0.35	0.83	0.21	0.06	1.26	0.36	Noth.	Sig.
Customer profitability with customer retention and customer acquisition	0.95	1	0.90	1	-	-	-	-	-	-
Customer acquisition and innovation process	0.98	0.85	0.96	0.72	0.01	0.08	0.06	0.48	Sig.	Sig.
Customer retention and customer satisfaction	0.74	0.73	0.54	0.53	0.14	0.14	0.84	0.84	Noth	Not h
Customer satisfaction with employee retention and team work	0	0.61	0	0.37	-	-	-	-	-	-
Team work with training and strategic job coverage	0	0	0	0	-	-	-	-	-	-
Strategic job coverage and core competency and skill	0	0.96	0	0.92	0.30	0.03	1.80	0.18	Not sig.	Sig.
Employee retention and employee satisfaction	0	0.37	0	0.14	0.30	0.26	1.80	1.56	Not sig.	Not h.
Employee satisfaction and employee motivation	0	0.61	0	0.37	0.30	0.19	1.80	1.14	Not sig	Not h

#### 4.3.2.1 Net Profit Margin (NPM) and Customer Profitability

Customer profitability is the strategic objective of percentage of identified profitable customer (strategic measure). As explained in cause-effect tree, the NPM is a result (effect) of customer profitability (cause). Therefore, the NPM is dependent variable and customer profitability is independent variable. The co-efficient of determination

( $r^2$ ) between NPM and customer profitability of KBL is 0.35. This means 35 percent variation in NPM is due to the variation in customer profitability. Remaining 65 percent variation is of unknown factors. There is positive correlation exists, this indicates that if the bank increases the customer profitability. The NPM will increase but the share to increase in NPM of customer profitability is only 35 percent. On the other hand, P.E.  $<r < 6P.E$  (while  $r = 0.59$  and  $P.E. = 0.21$  and  $6 P.E. = 1.26$ ). So, nothing can be concluded with certainty in case of the value of 'r'. Hence, it is concluded on the basis of  $r^2$  that the relationship between NPM and customer profitability developed by KBL is not properly designed.

The value of  $r^2$  secured by NIBL is 0.83 .This means, 83 percent of variation in NPM is due to the variation in customer profitability. Then ' $r > 6P.E$ '.So, the value of 'r' is significant. It can be seen that the degree of correlation co-efficient is positive; that implies if customer profitability increase, the NPM will increase.

Hence, it can be said, the cause-effect model between NPM and customer profitability established by NIBL is properly designed.

#### **4.3.2.2 Customer Profitability with Customer Retention and Customer Acquisition**

Customer retention and loyalty has two strategic measures namely average duration of a customer relationship in year and total deposits. Out of them the first strategic measure is selected to calculate correlation co-efficient. Percentage of new customer from program and advertisement is the strategic measure of customer acquisition.

Based on cause – effect model customer profitability is the result of customer retention and customer acquisition .Therefore, customer profitability depends upon two independent variables: - customer retention and customer acquisition.

The calculated correlation co-efficient ( $r_{3-12}$ ) between customer profitability with customer retention and customer acquisition of KBL is 0.95, therefore the co-efficient of multiple determination ( $r_{3-12}^2$ ) is 0.90.This shows that 90 percent of the variation in customer profitability is due to the variation in customer retention and customer acquisition. Because of positive correlation between these variables, changes in customer retention and acquisition highly affects on customer profitability. This

means, if the rate of customer retention and acquisition increase then customer profitability increase like that if customer retention and acquisition decrease then customer profitability will also decrease. In this change, the share of independent variable (retention and acquisition) is 90 percent. Thus the relation on these variables established by KBL is significant.

The correlation co-efficient of NIBL is perfectly positive (i.e. 1) .Therefore co-efficient of determination is also 1. The meaning of this value is that the changes (either positive or negative) in customer profitability is only due to the customer retention and acquisition .Because of perfect positive correlation, if the bank increases the customer retention and acquisition certainly will increase the customer profitability. Thus the cause –effect between these variables established by NIBL is 100 percent perfect.

#### **4.3.2.3 Customer Acquisition and Innovation**

Two strategic measures are involved in innovation process those are percentage of total identified new market and percentage of identified emerging and latent needs of customers. The later one is selected for the purpose of ‘r’ calculation.

The  $r^2$  between customer acquisition and innovation processes of KBL is 0.96. This means 96 percent of the variation in customer acquisition is due to the variation in the innovation processes. And  $r > 6P.E$ , therefore calculated correlation co-efficient (r) is significant. Except this, the direction of ‘r’ is positive.

Taking all these analysis, it is concluded that the relation (between acquisition and innovation) recognized by KBL is properly designed.

The  $r^2$  of NIBL is 0.72 that implies the changes in customer acquisition due to innovation. As a result of positive correlation between these variables and calculated ‘r’ is significant (i.e.  $r > 6P.E$ ), the constructed cause-effect model (between acquisition and innovation) is properly designed.

#### **4.3.2.4 Customer Retention and Customer Satisfaction**

The value of  $r^2$  between customer retention and customer satisfaction of KBL is 0.55. This indicates that only 55 percent of the variation in customer retention is due to the

variation in the customer satisfaction .The direction of correlation is positive .So, if customer retention is increased the share of customer satisfaction is only 55 percent and remain is of unknown variables. In the same way, P.E.  $<r < 6P.E$ , Therefore, nothing can be concluded with certainty about calculated 'r'

The  $r^2$  of NIBL is 0.53 and P.E.  $<r < 6P.E$  .So, it can not be certainly said about constructed relationship between customer retention and satisfaction.

#### **4.3.2.5 Customer Satisfaction with Employee Retention and Team Work**

There are two strategic measures of team work. They are number of active groups and percentage of successful groups, the later one is selected for this study. Two quantitative measures are available for employee satisfaction namely percentage of employees involvement with decisions and percentage of employees recognized for doing a good job. From which the second variable has selected for calculation purpose.

Customer satisfaction is dependent variable on employee retention and team work. The zero correlation exists between these variables. This means, the variables are uncorrelated. This analysis draws the conclusion that the relationship designed by KBL does not fit the Cause – Effect model of BSC.

The value of  $r_{3-12}^2$  between these same variables of NIBL is 0.37. This indicates that only 37 percent variance in customer satisfaction is due to the variance in employee retention and team work. Remaining 63 percent is due to the other unknown variables. However there is positive correlation, therefore if the bank increases its employee retention and team work, there must increase in customer satisfaction and the share of retention and team work is 37 percent.

#### **4.3.2.6 Team Work with Training and Strategic Job Coverage**

There are two quantitative measures of training and development namely percentage of employees with training plan and number of training, out of these the first variable has been selected for calculation purpose. Strategic job coverage represents the

strategic objective of percentage of strategically critical jobs filled with qualified employees.

The correlation co-efficient between team work with training and strategic job coverage of both banks is zero. This means the relationship established by both banks does not fit the Cause – Effect model of BSC. There is no sign of any correlation.

#### **4.3.2.7 Strategic Job Coverage and Core Competency and Skill**

Percentage of leadership development plan represents the strategic measure of core competency and skill. In case of KBL there is no linear relationship between strategic job coverage with core competency and skill. Because of zero correlation and  $r < P.E$ , the 'r' is not significant, this means there is no evidence of any correlation.

In the same variables, the  $r^2$  of NIBL is 0.92 .This means there is very high degree of correlation exists between specified variables. The share in the changes in strategic job coverage due to change in core-competency and skill is 92 percent .Another side, the analysis shows the calculated 'r' is significant( $r > 6P.E$ ).

In this way it is concluded that the relation established by KBL is completely fits the cause –effect model of BSC.

#### **4.3.2.8 Employee Retention with Employee Satisfaction**

Percentage of key employee turnover is the strategic measure of Employee retention. The price of  $r^2$  between employee retention with employee satisfaction of KBL is zero. Therefore, there is no correlation between these variables. So, the bank has not properly established the strategic objectives with its strategic measures.

The value of  $r^2$  between same variables of NIBL is 0.14.This indicates only 14 percent variance in employee retention is due to the variation in employee satisfaction .And,  $P.E. < r < 6P.E$ , so, nothing can be concluded with certainty.

#### **4.3.2.9 Employee Satisfactions with Employee Motivation**

There is zero correlation between employee satisfaction with employee motivation of KBL .The value of 'r' is not significant while  $r < P.E$ . The  $r^2$  between same variables

of NIBL is 0.37. This means only 37 percent variance in employee satisfaction is due to the variance in employee motivation. Other side, the P.E.  $<r < 6P.E$  nothing can be concluded with certainty about calculated value of r.

#### 4.3.2.10 Comparison of KBL and NIBL based on Weight

This study attempted to explain the main four perspectives of BSC of two banks. The objective of this study is to find whether the banks focused only financial perspective or they also give priority to other three perspectives.

Table: 4.16  
Comparison based on Weight of Four Perspectives

Perspectives	Percentage	
	KBL	NIBL
Financial	40	40
Customer	40	30
Internal business process	10	20
Learning and growth	10	10
Total	100	100

The partial correlation co-efficient (on the basis of ranked by two banks) is 0.85 that the direction of relationship is positive and degree of relationship  $|.8|$ . Since, there is very high degree of positive correlation exists. Therefore ranking the four perspectives by both banks is directly related.

#### 4.4 Major Findings

After detail analysis of primary as well as secondary data, the major findings are pointed out below:

##### Corporate Vision

- Both banks have defined their corporate vision along with financial, customer, internal business process and learning and growth perspectives. But the cause-effect model proves that they have not defined their four perspectives in chain relation to achieve corporate vision.

##### Financial Perspective

- Difference in figure of ROA does not show the significant disparity between KBL and NIBL. However this figure supports NIBL.

- The calculated figures of ROSE, EPS and NPM explain that NIBL is likely to in strong position than KBL.
- It has seen that KBL is only supported by CDR.

### **Customer Perspective**

- The calculated figures of average duration of a customer relationship and total deposits confirm that NIBL is more successful to retain its customer than that of KBL.
- Similarly to get new customer and to create customer satisfaction, NIBL is superior to KBL.
- According to difference figure in customer profitability, NIBL is ahead to identify profitable customer.

### **Internal Business Process Perspective**

- Both strategic measures of internal business process perspective favor NIBL. However, the difference figures of these variables do not show significant difference between two banks.

### **Learning and Growth Perspective**

- The coverage of training and development program of NIBL is more than that of KBL.
- Both banks have cent percent successful groups.
- The customers of KBL are more satisfied than that of NIBL.
- On the basis of employee participation in decision KBL is better performing to create employee satisfaction however based on percentage of employees recognized for doing a good job the NIBL is in better position.
- NIBL is more thriving to retain its employees.
- Strategic job coverage of KBL is more than that of NIBL.
- In comparison with NIBL, KBL is more successful in motivating employees.
- Relatively NIBL more believed its leadership development plan.

### **Other Findings**

- With the help of rank correlation, it has found that the weight given by both banks on financial, customer, internal business process and learning and growth perspectives are highly associated.

- After the test of cause-effect model, out of nine objects, five objects developed by KBL have zero correlation while only one object with NIBL has zero correlation. Co-efficient of determination up to 0.50 ( $0 < r^2 < 0.50$ ), KBL has one object while NIBL has three. Then the range of  $r^2$  between 0.51 and 0.99, the KBL has three objects while NIBL has four objects. And only NIBL has a perfectly correlated object (i.e.  $r=1$ ).
- Among four perspectives three perspectives favor NIBL. It shows the better performance of NIBL through BSC approach.



## **Chapter V**

### **SUMMARY, CONCLUSION AND RECOMMENDATION**

This chapter summarizes the whole study, draws the conclusion of the study and makes recommendation for two banks as follows:

#### **5.1 Summary**

The financial measures alone in performance measurement and control system are inadequate tools for strategic decision-making. The balanced scorecard is a new tool that complements traditional measures of business unit performance. The scorecard contains a diverse set of performance measures, including financial performance, customer relations, internal business processes, and learning and growth. In this context, a research work has been carried out based on the balanced scorecard approach.

The objective of this study is to compare the banks through balanced scorecard approach. As defined objective, the study has been organized in five chapters consisting of introduction, literature review, research methodology, data presentation and analysis and summary, conclusion and recommendation. The first chapter focused the brief introduction of the study, establishes objectives, defines statement of the problems and organizes the study. In the literature review part related books, articles and journals are reviewed. The research methodology section presents the research design, population and sample, nature and sources of data, data collection procedure and techniques of data analysis. The fourth chapter includes the presentation and analysis of data.

The five years data has taken for study purpose. According to the defined objectives, five strategic measures for financial perspective, five for customer perspective, nine for learning and growth and two for internal business process perspective as quantitative measures have taken and used to test the difference between two banks. Then to test the cause-effect model correlation co-efficient and probable error have applied. The rank correlation coefficient is used to test the association between two banks' ranking on four perspectives.

## 5.2 Conclusion

The balanced scorecard model is used to measure the overall organizational performance from four different but interlink perspectives. However, there must clearly defined corporate vision along with other four perspectives to implement it effectively. It is not problem that one gave much weight on financial perspective but it is important that how do they link other three perspectives with financial perspective according to defined corporate vision. Therefore, there must be relationship between outcomes and performance drivers.

The study found that the banks have defined their corporate vision and the strategic objectives of other four perspectives and they have established relationship between strategic objectives with its strategic measures but they did not interlink each strategic objective with each strategic measure of four perspectives properly.

It has found that out of five strategic measures of financial perspective, four indicators favor NIBL. This means 80% financial indicators of NIBL is greater than that of KBL. Therefore the NIBL is better performing than KBL based on financial perspective. Likewise, every measure of both customer and internal business process perspectives also support NIBL. The learning and growth perspective does not partially support the banks.

At this point, it is seen that three perspectives support the NIBL. This means three out of four perspectives good deed to NIBL. Hence, this study concludes that NIBL is found sound from balanced scorecard (BSC) analysis.

After the test of cause-effect model, out of nine objects, five objects developed by KBL have zero correlation while only one object with NIBL has zero correlation. Co-efficient of determination up to 0.50 ( $0 < r^2 < 0.50$ ), KBL has one object while NIBL has three. Then the range of  $r^2$  between 0.51 and 0.99, the KBL has three objects while NIBL has four objects. And only NIBL has a perfectly correlated object.

With the help of rank correlation, it has found that the weight given by both banks on financial, customer, internal business process and learning and growth perspectives are highly associated.

### 5.3 Recommendation

Based on the analysis, findings and conclusion, this study recommends the following.

#### Recommendation to banks

- To compete successfully with its competitors and to maintain its win-win position, KBL should increase its NPM to succeed shareholders' belief. While NIBL has to increase its credit-deposit ratio to secure its investment.
- Both banks have to retain its customers by maintaining customer satisfaction. Similarly both banks must have to maintain increasing trend of customer acquisition. While NIBL should reduce the risk from its customer side.
- NIBL should improve its communication mechanism with customers.
- NIBL should improve its motivation program.
- The low degree of co-efficient of determination exists between NPM and customer profitability of KBL. So, it is recommended that the bank should change its tactics to identify profitable customer or it should identify the other factors that gives more variation to NPM or are directly linked with NPM.
- There is no relation of customer satisfaction with employee retention and team work as shown by calculated 'r' of KBL .Therefore, to increase its customer satisfaction; the bank must identify the unknown variables that are fully responsible to increase customer satisfaction.
- The NIBL has to identify the other major variables that directly affect customer satisfaction.
- KBL must have to identify the unknown variables that increase employee retention and employee motivation.

#### Recommendation for further research

This study is the pioneering study in the areas of balance scorecard to measure the total performance of company. However, it suggests the followings for future research in the area of management accounting.

- This study is based on two commercial banks. This study is recommends future research in manufacturing, trading and finance sectors.
- Future study can be done by increasing numbers of sample companies or limiting in a company by segmenting study periods by month, quarter, year etc.

- This study used research variables that are available or responded by respondents. Thus more variables can be used for further study in future.

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# **Appendixes**

**QUESTIONNAIRE**  
**Section A**  
**Customer Perspective**

I. What is the strategic vision towards customer?  
 .....

Strategic Objectives	Strategic Measures	2003	2004	2005	2006	2007
Market share\segment	<ul style="list-style-type: none"> <li>Average percentage of market segment</li> </ul>					
Customer retention and loyalty	<ul style="list-style-type: none"> <li>Average duration of a customer relationship in year</li> </ul>					
	<ul style="list-style-type: none"> <li>Percentage of new customer referred by existing customer</li> </ul>					
	<ul style="list-style-type: none"> <li>Total deposit growth ( Rs. in billion)</li> </ul>					
Customer acquisition	<ul style="list-style-type: none"> <li>Percentage of new customers</li> </ul>					
	<ul style="list-style-type: none"> <li>Percentage of total revenue from new customer</li> </ul>					
	<ul style="list-style-type: none"> <li>Conversion rate (%)</li> <li>= <math>\frac{\text{No. of actual new customer}}{\text{No. of prospective inquires}}</math></li> </ul>					
	<ul style="list-style-type: none"> <li>Percentage of new customer from program and advertisement</li> </ul>					
Customer satisfaction	<ul style="list-style-type: none"> <li>Percentage of satisfied customers</li> </ul>					
	<ul style="list-style-type: none"> <li>Letters of complaint</li> <li>( Increased or decreased)</li> </ul>					
	<ul style="list-style-type: none"> <li>Feedback from marketing representatives (increased or decreased)</li> </ul>					
	<ul style="list-style-type: none"> <li>Image, reputation and brand</li> <li>(Increased or decreased)</li> </ul>					
	<ul style="list-style-type: none"> <li>On time delivery\service (Yes \No)</li> </ul>					
	<ul style="list-style-type: none"> <li>No. of customer suggestions</li> <li>(Increase or decreased)</li> </ul>					
Customer profitability	<ul style="list-style-type: none"> <li>Percentage of identified Profitable customer on total customers</li> </ul>					
Time	<ul style="list-style-type: none"> <li>Waiting time for service</li> <li>(Increased or decreased)</li> </ul>					
Quality	<ul style="list-style-type: none"> <li>Thefts, accident, fraud, embezzlement of company</li> <li>(Increased or decreased)</li> </ul>					

## Section B

### Learning and Growth Perspective

I. What is the strategic vision to make effective learning and growth?

.....

Strategic Objectives	Strategic Measures	2003	2004	2005	2006	2007
Training and development	<ul style="list-style-type: none"> <li>• Percentage of employees with training Plan</li> </ul>					
	<ul style="list-style-type: none"> <li>• Percentage of opportunities with training</li> </ul>					
	<ul style="list-style-type: none"> <li>• Training\seminar\workshop</li> <li>• No. of domestic training, workshop, seminar.</li> <li>• No. of foreign training, workshop, seminar.</li> </ul>					
	<ul style="list-style-type: none"> <li>• Positive test results from training (Yes\No)</li> </ul>					
Team work	<ul style="list-style-type: none"> <li>• No. of active groups\panel that exist</li> </ul>					
	<ul style="list-style-type: none"> <li>• Percentage of successful groups\panel</li> </ul>					
Effective communication	<ul style="list-style-type: none"> <li>• Communication flow</li> <li>• (Effective or Ineffective)</li> </ul>					
	<ul style="list-style-type: none"> <li>• Percentage of satisfied customer with communication</li> </ul>					
Employee satisfaction	<ul style="list-style-type: none"> <li>• Percentage of total employees involvement with decisions</li> </ul>					
	<ul style="list-style-type: none"> <li>• Percentage of employees recognized for doing a good job</li> </ul>					
	<ul style="list-style-type: none"> <li>• Access to information to do a job effectively (yes\No)</li> </ul>					
	<ul style="list-style-type: none"> <li>• Active encouragement to be creative and to use initiative (yes\No)</li> </ul>					

	Support level from subordinate (yes\No)					
	Overall satisfaction with company (yes\No)					
Employee retention	<ul style="list-style-type: none"> <li>Percentage of key employee turnover</li> </ul>					
Employee productivity	<ul style="list-style-type: none"> <li>Average revenue per employee (Rs. in '000')</li> </ul>					
Strategic job coverage	<ul style="list-style-type: none"> <li>Percentage of strategically critical jobs filled with qualified employees</li> </ul>					
Information system capabilities	<ul style="list-style-type: none"> <li>Percentage of customer facing employees having on-line information about customers</li> </ul>					
Motivation, empowerment and alignment	<ul style="list-style-type: none"> <li>Percentage of employees who achieve personal goals</li> </ul>					
core competency and skill	<ul style="list-style-type: none"> <li>Percentage of leadership developmental plans</li> </ul>					

## Section C

### Internal Business Process

I. What is the strategic vision to increase internal operating efficiency?

.....

Strategic Objectives	Strategic Measures	2003	2004	2005	2006	2007
Innovation process	<ul style="list-style-type: none"> <li>• Percentage of total identified new markets</li> </ul>					
	<ul style="list-style-type: none"> <li>• Percentage of total identified new customers</li> </ul>					
	<ul style="list-style-type: none"> <li>• Percentage of total identified emerging and latent needs of existing customers</li> </ul>					
Delivery/ post sales service process	<ul style="list-style-type: none"> <li>• Request fulfillment time</li> <li>• (Increased or decreased )</li> </ul>					
	<ul style="list-style-type: none"> <li>• Thank you calls or cards to new and existing customers (yes\No)</li> </ul>					
	<ul style="list-style-type: none"> <li>• Internal customer satisfaction (Increased or decreased)</li> </ul>					
	<ul style="list-style-type: none"> <li>• Treatment of complaints (Yes \No.)</li> </ul>					
Improve productivity	<ul style="list-style-type: none"> <li>• Improve service quality (yes \No)</li> </ul>					
	<ul style="list-style-type: none"> <li>• Improve operating efficiency (yes \ No)</li> </ul>					
Create offering	<ul style="list-style-type: none"> <li>• Percentage revenue from new products\service</li> </ul>					
	<ul style="list-style-type: none"> <li>• Distribution channel mix</li> <li>• Single</li> <li>• Double</li> <li>• Multiple</li> </ul>					
Safety and environment	<ul style="list-style-type: none"> <li>• Investment in social welfare (Yes\No)</li> </ul>					

## Section D Financial Perspective

I. What is the corporate vision towards shareholder?  
 .....

II. Please check (√) the appropriate option.

Which are the tools that your bank is using to measure profitability?

- I. Return on assets
- II. Return on shareholders equity
- III. Earning per share
- IV. Dividend per share
- V. Net profit after tax
- VI. Return on capital employed
- VII. Operating income
- VIII. Outstanding loan balances
- IX. Deposit balances
- X. Non-interest income
- XI. Cash flow
- XII. Other if any

2. Weight the following four different perspectives.

S.N.	Perspectives	%
1	Financial	
2	Customer	
3	Internal Business	
4	Learning & Growth	
Total		100

## Appendix-2

Formulas for calculation of Simple correlation of co-efficient

$$r_{12} = \frac{N \times \sum X_1 X_2 - \sum X_1 \sum X_2}{\sqrt{N \times \sum X_1^2 - (\sum X_1)^2} \sqrt{N \times \sum X_2^2 - (\sum X_2)^2}}$$

$$r_{23} = \frac{N \times \sum X_2 X_3 - \sum X_2 \sum X_3}{\sqrt{N \times \sum X_2^2 - (\sum X_2)^2} \sqrt{N \times \sum X_3^2 - (\sum X_3)^2}}$$

$$r_{13} = \frac{N \times \sum X_1 X_3 - \sum X_1 \sum X_3}{\sqrt{N \times \sum X_1^2 - (\sum X_1)^2} \sqrt{N \times \sum X_3^2 - (\sum X_3)^2}}$$

Formula for calculation of Multiple correlation co-efficient

$$r_{3.12} = \frac{\sqrt{r_{13}^2 + r_{23}^2 - 2r_{12} \times r_{23} \times r_{13}}}{\sqrt{1 - r_{12}^2}}$$

Formula for calculation of Probable Error

$$P.E. = \frac{0.6745 \times (1 - r^2)}{\sqrt{n}}$$

Formula for calculation of Rank correlation

$$R_s \sqrt{1 - R_s^2} = \frac{1 - 6[\sum d^2 + m_1(m_1^2 - 1)/12]}{n^3 - n}$$

## Appendix – 3

### Calculation of correlation co-efficient between NPM and Customer profitability Kumari Bank Limited and Nepal Investment Bank Limited

Year	KBL					NI BL				
	X <sub>1</sub>	X <sub>2</sub>	X <sub>1</sub> X <sub>2</sub>	X <sub>1</sub> <sup>2</sup>	X <sub>2</sub> <sup>2</sup>	X <sub>1</sub>	X <sub>2</sub>	X <sub>1</sub> X <sub>2</sub>	X <sub>1</sub> <sup>2</sup>	X <sub>2</sub> <sup>2</sup>
2003	85	6.17	524.45	7225	38.07	90	20.12	1810.8	8100	404.81
2004	85	14.20	1207.00	7225	201.64	90	16.71	1503.9	8100	279.22
2005	85	16.26	1382.10	7225	264.39	90	20.26	1823.4	8100	410.47
2006	90	15.52	1396.80	8100	240.87	95	23.99	2279.05	9025	575.52
2007	90	19.61	1764.90	8100	384.55	95	25.07	2381.65	9025	628.50
	∑X <sub>1</sub>	∑X <sub>2</sub>	∑X <sub>1</sub> X <sub>2</sub>	∑X <sub>1</sub> <sup>2</sup>	∑X <sub>2</sub> <sup>2</sup>	∑X <sub>1</sub>	∑X <sub>2</sub>	∑X <sub>1</sub> X <sub>2</sub>	∑X <sub>1</sub> <sup>2</sup>	∑X <sub>2</sub> <sup>2</sup>
	=	=	=	=	=	=	=	=	=	=
	435	71.76	6275.25	37875	1129.52	460	106.15	9798.8	42350	2298.52

Where,

X<sub>1</sub> = Customer profitability in percentage

X<sub>2</sub> = NPM in percentage

**For KBL**

$$r_{12} = \frac{5 \times 6275.25 - 435 \times 71.76}{\sqrt{5 \times 37875 - 435^2} \sqrt{5 \times 1129.52 - 71.76^2}}$$

$$= 0.59$$

$$P.E = \frac{0.6745 \times (1 - 0.59^2)}{\sqrt{5}}$$

$$= 0.1966 \sim 0.21$$

**For NIBL**

$$r_{12} = \frac{5 \times 9798.8 - 460 \times 106.15}{\sqrt{5 \times 42350 - 460^2} \sqrt{5 \times 2298.52 - 106.15^2}}$$

$$= 0.8985 \sim 0.91$$

$$P.E = \frac{0.6745 \times (1 - 0.8985^2)}{\sqrt{5}}$$

$$= 0.0581 \sim 0.06$$



## Appendix -4

### Calculation of correlation co-efficient between Customer Profitability with Customer retention and Acquisition Kumari Bank Limited

Year	X <sub>1</sub>	X <sub>2</sub>	X <sub>3</sub>	X <sub>1</sub> X <sub>2</sub>	X <sub>2</sub> X <sub>3</sub>	X <sub>1</sub> X <sub>3</sub>	X <sub>1</sub> <sup>2</sup>	X <sub>2</sub> <sup>2</sup>	X <sub>3</sub> <sup>2</sup>
2003	7	8	85	56	680	595	49	64	7225
2004	7	9	85	63	665	595	49	81	7225
2005	8	11	85	88	935	680	64	121	7225
2006	8	13	90	104	1170	720	64	169	8100
2007	8	13	90	104	1170	720	64	169	8100
	∑X <sub>1</sub>	∑X <sub>2</sub>	∑X <sub>3</sub>	∑X <sub>1</sub> X <sub>2</sub>	∑X <sub>2</sub> X <sub>3</sub>	∑X <sub>1</sub> X <sub>3</sub>	∑X <sub>1</sub> <sup>2</sup>	∑X <sub>2</sub> <sup>2</sup>	∑X <sub>3</sub> <sup>2</sup>
	=	=	=	=	=	=	=	=	=
	38	54	435	415	4720	3310	290	604	37875

### Nepal Investment Bank Limited

Year	X <sub>1</sub>	X <sub>2</sub>	X <sub>3</sub>	X <sub>1</sub> X <sub>2</sub>	X <sub>2</sub> X <sub>3</sub>	X <sub>1</sub> X <sub>3</sub>	X <sub>1</sub> <sup>2</sup>	X <sub>2</sub> <sup>2</sup>	X <sub>3</sub> <sup>2</sup>
2003	9	10	90	90	900	810	81	100	8100
2004	9	12	90	108	1080	810	81	144	8100
2005	9	12	90	108	1080	810	81	144	8100
2006	10	15	95	150	1425	950	100	225	9025
2007	10	20	95	200	1900	950	100	400	9025
	∑X <sub>1</sub>	∑X <sub>2</sub>	∑X <sub>3</sub>	∑X <sub>1</sub> X <sub>2</sub>	∑X <sub>2</sub> X <sub>3</sub>	∑X <sub>1</sub> X <sub>3</sub>	∑X <sub>1</sub> <sup>2</sup>	∑X <sub>2</sub> <sup>2</sup>	∑X <sub>3</sub> <sup>2</sup>
	=	=	=	=	=	=	=	=	=
	47	69	460	656	6385	4330	443	1013	42350

Where,

X<sub>1</sub> = Customer retention in year

X<sub>2</sub> = Customer Acquisition in percentage

X<sub>3</sub> = Customer Profitability in percentage

**For KBL**

$$r_{12} = \frac{5 \times 415 - 38 \times 54}{\sqrt{5 \times 290 - 38^2} \sqrt{5 \times 604 - 54^2}}$$

$$= 0.9207 \sim 0.92$$

$$r_{23} = \frac{5 \times 4720 - 54 \times 435}{\sqrt{5 \times 604 - 54^2} \sqrt{5 \times 37875 - 435^2}}$$

$$= 0.8807 \sim 0.88$$

**For NIBL**

$$r_{12} = \frac{5 \times 656 - 47 \times 69}{\sqrt{5 \times 443 - 47^2} \sqrt{5 \times 1013 - 69^2}}$$

$$= 0.8663 \sim 0.87$$

$$r_{23} = \frac{5 \times 6385 - 69 \times 460}{\sqrt{5 \times 1013 - 69^2} \sqrt{5 \times 42350 - 460^2}}$$

$$= 0.8663 \sim 0.87$$

$$r_{13} = \frac{5 \times 3310 - 38 \times 435}{\sqrt{5 \times 290 - 38^2} \sqrt{5 \times 37875 - 435^2}}$$

$$= 0.6667 \sim 0.67$$

$$r_{13} = \frac{5 \times 4330 - 47 \times 460}{\sqrt{5 \times 443 - 47^2} \sqrt{5 \times 42350 - 460^2}}$$

$$= 1$$

**For KBL**

$$r_{3.12} = \frac{\sqrt{0.6667^2 + 0.8807^2} - 2 \times 0.9207 \times 0.8807 \times 0.6667}{\sqrt{1 - 0.9207^2}}$$

$$= 0.9550 \sim 0.95$$

**For NIBL**

$$r_{3.12} = \frac{\sqrt{1^2 + 0.8663^2} - 2 \times 0.8663 \times 0.8663 \times 1}{\sqrt{1 - 0.8663^2}}$$

$$= 1$$

## Appendix -5

### Calculation of correlation co-efficient between Customer acquisitions with Innovation process

#### Kumari Bank Limited and Nepal Investment Bank Limited

Year	KBL					NI BL				
	X <sub>1</sub>	(X <sub>2</sub>	X <sub>1</sub> X <sub>2</sub>	X <sub>1</sub> <sup>2</sup>	X <sub>2</sub> <sup>2</sup>	X <sub>1</sub>	X <sub>2</sub>	X <sub>1</sub> X <sub>2</sub>	X <sub>1</sub> <sup>2</sup>	X <sub>2</sub> <sup>2</sup>
2003	90	8	720	8100	64	90	10	900	8100	100
2004	90	9	810	8100	81	95	12	1140	9025	144
2005	95	11	1045	9025	121	96	12	1152	9216	144
2006	97	13	1261	9409	169	97	15	1455	9409	225
2007	98	13	1274	9604	169	99	20	1980	9801	400
	ΣX <sub>1</sub>	ΣX <sub>2</sub>	ΣX <sub>1</sub> X <sub>2</sub>	ΣX <sub>1</sub> <sup>2</sup>	ΣX <sub>2</sub> <sup>2</sup>	ΣX <sub>1</sub>	ΣX <sub>2</sub>	ΣX <sub>1</sub> X <sub>2</sub>	ΣX <sub>1</sub> <sup>2</sup>	ΣX <sub>2</sub> <sup>2</sup>
	=	=	=	=	=	=	=	=	=	=
	470	54	5110	44238	604	477	69	6627	45551	1013

Where,

X<sub>1</sub> = Innovation in percentage

X<sub>2</sub> = Customer Acquisition in percentage

**For KBL**

$$r_{12} = \frac{5 \times 5110 - 470 \times 54}{\sqrt{5 \times 44238 - 470^2} \sqrt{5 \times 604 - 54^2}}$$

$$= 0.9789 \sim 0.98$$

$$P.E. = \frac{0.6745 \times (1 - 0.9789^2)}{\sqrt{5}}$$

$$= 0.0126 \sim 0.01$$

**For NIBL**

$$r_{12} = \frac{5 \times 6627 - 477 \times 69}{\sqrt{5 \times 45551 - 477^2} \sqrt{5 \times 1013 - 69^2}}$$

$$= 0.8469 \sim 0.85$$

$$P.E. = \frac{0.6745 \times (1 - 0.8469^2)}{\sqrt{5}}$$

$$= 0.0853 \sim 0.08$$



## Appendix -6

### Calculation of correlation co-efficient between Customer retention with Customer Satisfaction Kumari Bank Limited and Nepal Investment Bank Limited

Year	KBL					NIBL				
	X <sub>1</sub>	X <sub>2</sub>	X <sub>1</sub> X <sub>2</sub>	X <sub>1</sub> <sup>2</sup>	X <sub>2</sub> <sup>2</sup>	X <sub>1</sub>	X <sub>2</sub>	X <sub>1</sub> X <sub>2</sub>	X <sub>1</sub> <sup>2</sup>	X <sub>2</sub> <sup>2</sup>
2003	90	7	630	8100	49	95	9	855	9025	81
2004	95	7	665	9025	49	95	9	855	9025	81
2005	95	8	760	9025	64	98	9	882	9604	81
2006	97	8	776	9409	64	98	10	980	9604	100
2007	98	8	784	9604	64	99	10	990	9801	100
	∑X <sub>1</sub>	∑X <sub>2</sub>	∑X <sub>1</sub> X <sub>2</sub>	∑X <sub>1</sub> <sup>2</sup>	∑X <sub>2</sub> <sup>2</sup>	∑X <sub>1</sub>	∑X <sub>2</sub>	∑X <sub>1</sub> X <sub>2</sub>	∑X <sub>1</sub> <sup>2</sup>	∑X <sub>2</sub> <sup>2</sup>
	=	=	=	=	=	=	=	=	=	=
	475	38	3615	45163	290	485	47	4562	47059	443

**Where,**

**X<sub>1</sub>** = Customer satisfaction in percentage

**X<sub>2</sub>** = Customer retention in year

**For KBL**

$$r_{12} = \frac{5 \times 3615 - 475 \times 38}{\sqrt{5 \times 45163 - 475^2} \sqrt{5 \times 290 - 38^2}}$$

$$= 0.7404 \sim 0.74$$

$$P.E. = \frac{0.6745 \times (1 - 0.7404^2)}{\sqrt{5}}$$

$$= 0.1363 \sim 0.14$$

**For NIBL**

$$r_{12} = \frac{5 \times 4562 - 485 \times 47}{\sqrt{5 \times 47059 - 485^2} \sqrt{5 \times 443 - 47^2}}$$

$$= 0.7319 \sim 0.73$$

$$P.E. = \frac{0.6745 \times (1 - 0.7319^2)}{\sqrt{5}}$$

$$= 0.1401 \sim 0.14$$

**Appendix -7**  
**Calculation of correlation co-efficient between Customer Satisfaction**  
**with Employee retention and Team work**

**Kumari Bank Limited**

Year	X <sub>1</sub>	X <sub>2</sub>	X <sub>3</sub>	X <sub>1</sub> X <sub>2</sub>	X <sub>2</sub> X <sub>3</sub>	X <sub>1</sub> X <sub>3</sub>	X <sub>1</sub> <sup>2</sup>	X <sub>2</sub> <sup>2</sup>	X <sub>3</sub> <sup>2</sup>
2003	5	100	90	500	9000	450	25	10000	8100
2004	5	100	95	500	9500	475	25	10000	9025
2005	5	100	95	500	9500	475	25	10000	9025
2006	5	100	97	500	9700	485	25	10000	9409
2007	5	100	98	500	9800	490	25	10000	9604
	∑X <sub>1</sub>	∑X <sub>2</sub>	∑X <sub>3</sub>	∑X <sub>1</sub> X <sub>2</sub>	∑X <sub>2</sub> X <sub>3</sub>	∑X <sub>1</sub> X <sub>3</sub>	∑X <sub>1</sub> <sup>2</sup>	∑X <sub>2</sub> <sup>2</sup>	∑X <sub>3</sub> <sup>2</sup>
	=	=	=	=	=	=	=	=	=
	25	=500	475	2500	47500	2375	125	50000	45163

**Nepal Investment Bank Limited**

Year	X <sub>1</sub>	X <sub>1</sub>	X <sub>2</sub>	X <sub>3</sub>	X <sub>1</sub> X <sub>2</sub>	X <sub>2</sub> X <sub>3</sub>	X <sub>1</sub> X <sub>3</sub>	X <sub>1</sub> <sup>2</sup>	X <sub>2</sub> <sup>2</sup>	X <sub>3</sub> <sup>2</sup>
2003	1	1	100	95	100	9500	95	1	10000	9025
2004	2	2	100	95	200	9500	190	4	10000	9025
2005	2	2	100	98	200	9800	196	4	10000	9604
2006	2	2	100	98	200	9800	196	4	10000	9604
2007	2	2	100	99	200	9900	198	4	10000	9801
	∑X <sub>1</sub>	∑X <sub>1</sub>	∑X <sub>2</sub>	∑X <sub>3</sub>	∑X <sub>1</sub> X <sub>2</sub>	∑X <sub>2</sub> X <sub>3</sub>	∑X <sub>1</sub> X <sub>3</sub>	∑X <sub>1</sub> <sup>2</sup>	∑X <sub>2</sub> <sup>2</sup>	∑X <sub>3</sub> <sup>2</sup>
	=	=	=	=	=	=	=	=	=	=
	9	9	500	485	900	48500	875	17	50000	47059

Where,

X<sub>1</sub> = Employee retention in percentage

X<sub>2</sub> = Team work in percentage

X<sub>3</sub> = Customer Satisfaction in percentage

For KBL

$$\begin{aligned}r_{12} &= \frac{5 \times 2500 - 25 \times 500}{\sqrt{5 \times 125 - 25^2} \sqrt{5 \times 50000 - 500^2}} \\ &= 0\end{aligned}$$

$$\begin{aligned}r_{23} &= \frac{5 \times 47500 - 500 \times 475}{\sqrt{5 \times 50000 - 500^2} \sqrt{5 \times 45163 - 475^2}} \\ &= 0\end{aligned}$$

$$\begin{aligned}r_{13} &= \frac{5 \times 2375 - 25 \times 475}{\sqrt{5 \times 125 - 25^2} \sqrt{5 \times 45163 - 475^2}} \\ &= 0\end{aligned}$$

$$r_{3.12} = 0$$

FOR NIBL

$$\begin{aligned}r_{12} &= \frac{5 \times 900 - 9 \times 500}{\sqrt{5 \times 17 - 9^2} \sqrt{5 \times 50000 - 500^2}} \\ &= 0\end{aligned}$$

$$\begin{aligned}r_{23} &= \frac{5 \times 48500 - 500 \times 485}{\sqrt{5 \times 50000 - 500^2} \sqrt{5 \times 47059 - 485^2}} \\ &= 0\end{aligned}$$

$$\begin{aligned}r_{13} &= \frac{5 \times 875 - 9 \times 485}{\sqrt{5 \times 17 - 9^2} \sqrt{5 \times 47059 - 485^2}} \\ &= 0.5976 \sim 0.61\end{aligned}$$

$$\begin{aligned}r_{3.12} &= \frac{0.5976^2 + 0^2 - 2 \times 0 \times 0 \times 0.5976}{\sqrt{1 - 0^2}} \\ &= 0.5976 \sim 0.61\end{aligned}$$

## Appendix -8

### Calculation of correlation co-efficient between Team work with Training & development and Strategic job coverage

#### Kumari Bank Limited

Year	X <sub>1</sub>	X <sub>2</sub>	X <sub>3</sub>	X <sub>1</sub> X <sub>2</sub>	X <sub>2</sub> X <sub>3</sub>	X <sub>1</sub> X <sub>3</sub>	X <sub>1</sub> <sup>2</sup>	X <sub>2</sub> <sup>2</sup>	X <sub>3</sub> <sup>2</sup>
2003	90	95	100	8550	9500	9000	8100	9025	10000
2004	90	95	100	8550	9500	9000	8100	9025	10000
2005	95	95	100	9025	9500	9500	9025	9025	10000
2006	95	95	100	9025	9500	9500	9025	9025	10000
2007	98	95	100	9310	9500	9800	9604	9025	10000
	∑X <sub>1</sub>	∑X <sub>2</sub>	∑X <sub>3</sub>	∑X <sub>1</sub> X <sub>2</sub>	∑X <sub>2</sub> X <sub>3</sub>	∑X <sub>1</sub> X <sub>3</sub>	∑X <sub>1</sub> <sup>2</sup>	∑X <sub>2</sub> <sup>2</sup>	∑X <sub>3</sub> <sup>2</sup>
	=	=	=	=	=	=	=	=	=
	468	475	500	44460	47500	46800	43854	45125	50000

#### Nepal Investment Bank Limited

Year	X <sub>1</sub>	X <sub>2</sub>	X <sub>3</sub>	X <sub>1</sub> X <sub>2</sub>	X <sub>2</sub> X <sub>3</sub>	X <sub>1</sub> X <sub>3</sub>	X <sub>1</sub> <sup>2</sup>	X <sub>2</sub> <sup>2</sup>	X <sub>3</sub> <sup>2</sup>
2003	95	80	100	7600	8000	9500	9025	6400	10000
2004	97	80	100	7760	8000	9700	9409	6400	10000
2005	97	90	100	8730	9000	9700	9409	8100	10000
2006	98	95	100	9310	9500	9800	9604	9025	10000
2007	98	95	100	9310	9500	9800	9604	9025	10000
	∑X <sub>1</sub>	∑X <sub>2</sub>	∑X <sub>3</sub>	∑X <sub>1</sub> X <sub>2</sub>	∑X <sub>2</sub> X <sub>3</sub>	∑X <sub>1</sub> X <sub>3</sub>	∑X <sub>1</sub> <sup>2</sup>	∑X <sub>2</sub> <sup>2</sup>	∑X <sub>3</sub> <sup>2</sup>
	=	=	=	=	=	=	=	=	=
	485	440	500	42710	44000	48500	47051	38950	50000

**Where,**

X<sub>1</sub> = Training in percentage

X<sub>2</sub> = Strategic job coverage in percentage

X<sub>3</sub> = Team work in percentage



**For KB L**

$$\begin{aligned}r_{12} &= \frac{5 \times 44460 - 468 \times 475}{\sqrt{5 \times 43854 - 468^2} \sqrt{5 \times 45125 - 475^2}} \\ &= 0\end{aligned}$$

$$\begin{aligned}r_{23} &= \frac{5 \times 47500 - 475 \times 500}{\sqrt{5 \times 45125 - 475^2} \sqrt{5 \times 50000 - 500^2}} \\ &= 0\end{aligned}$$

$$\begin{aligned}r_{13} &= \frac{5 \times 46800 - 468 \times 500}{\sqrt{5 \times 43854 - 468^2} \sqrt{5 \times 50000 - 500^2}} \\ &= 0\end{aligned}$$

$$r_{3 \cdot 12} = 0$$

**FOR NIBL**

$$\begin{aligned}r_{12} &= \frac{5 \times 42710 - 485 \times 440}{\sqrt{5 \times 47051 - 485^2} \sqrt{5 \times 38950 - 440^2}} \\ &= 0.8076 \sim 0.81\end{aligned}$$

$$\begin{aligned}r_{23} &= \frac{5 \times 44000 - 440 \times 500}{\sqrt{5 \times 38950 - 440^2} \sqrt{5 \times 50000 - 500^2}} \\ &= 0\end{aligned}$$

$$\begin{aligned}r_{13} &= \frac{5 \times 48500 - 485 \times 500}{\sqrt{5 \times 47051 - 485^2} \sqrt{5 \times 50000 - 500^2}} \\ &= 0\end{aligned}$$

$$\begin{aligned}r_{3 \cdot 12} &= \frac{\sqrt{0^2 + 0^2} - 2 \times 0.8076 \times 0 \times 0}{\sqrt{1 - 0.8076^2}} \\ &= 0\end{aligned}$$

## Appendix -9

### Calculation of correlation co-efficient between Strategic job coverage with Core competency and skill

#### Kumari Bank Limited and Nepal Investment Bank Limited

Year	KBL					NI BL				
	X <sub>1</sub>	X <sub>2</sub>	X <sub>1</sub> X <sub>2</sub>	X <sub>1</sub> <sup>2</sup>	X <sub>2</sub> <sup>2</sup>	X <sub>1</sub>	X <sub>2</sub>	X <sub>1</sub> X <sub>2</sub>	X <sub>1</sub> <sup>2</sup>	X <sub>2</sub> <sup>2</sup>
2003	5	95	475	25	9025	5	80	400	25	6400
2004	6	95	570	36	9025	5	80	400	25	6400
2005	8	95	760	64	9025	10	90	900	100	8100
2006	8	95	760	64	9025	20	95	1900	400	9025
2007	10	95	950	100	9025	20	95	1900	400	9025
	∑X <sub>1</sub>	∑X <sub>2</sub>	∑X <sub>1</sub> X <sub>2</sub>	∑X <sub>1</sub> <sup>2</sup>	∑X <sub>2</sub> <sup>2</sup>	∑X <sub>1</sub>	∑X <sub>2</sub>	∑X <sub>1</sub> X <sub>2</sub>	∑X <sub>1</sub> <sup>2</sup>	∑X <sub>2</sub> <sup>2</sup>
	=	=	=	=	=	=	=	=	=	=
	37	475	3515	289	45125	60	440	5500	950	38950

**Where,**

**X<sub>1</sub>** = core competency and skill in percentage

**X<sub>2</sub>** = Strategic job coverage in percentage

For KBL

$$r_{12} = \frac{5 \times 3515 - 37 \times 475}{\sqrt{5 \times 289 - 37^2} \sqrt{5 \times 45125 - 475^2}}$$

$$= 0$$

$$P.E. = \frac{0.6745 \times (1 - 0^2)}{\sqrt{5}}$$

$$= 0.3016 \sim 0.30$$

For NIBL

$$r_{12} = \frac{5 \times 5500 - 60 \times 440}{\sqrt{5 \times 950 - 60^2} \sqrt{5 \times 38950 - 440^2}}$$

$$= 0.9565 \sim 0.96$$

$$P.E. = \frac{0.6745 \times (1 - 0.9565^2)}{\sqrt{5}}$$

$$= 0.0257 \sim 0.03$$

## Appendix -10

### Calculation of correlation co-efficient between Employee retention and Employee satisfaction

#### Kumari Bank Limited and Nepal Investment Bank Limited

Year	KBL					NIBL				
	X <sub>1</sub>	X <sub>2</sub>	X <sub>1</sub> X <sub>2</sub>	X <sub>1</sub> <sup>2</sup>	X <sub>2</sub> <sup>2</sup>	X <sub>1</sub>	X <sub>2</sub>	X <sub>1</sub> X <sub>2</sub>	X <sub>1</sub> <sup>2</sup>	X <sub>2</sub> <sup>2</sup>
2003	90	5	450	8100	25	92	1	92	8464	1
2004	90	5	450	8100	25	92	2	184	8464	4
2005	90	5	450	8100	25	92	2	184	8464	4
2006	90	5	450	8100	25	93	2	186	8649	4
2007	90	5	450	8100	25	94	2	188	8836	4
	∑X <sub>1</sub>	∑X <sub>2</sub>	∑X <sub>1</sub> X <sub>2</sub>	∑X <sub>1</sub> <sup>2</sup>	∑X <sub>2</sub> <sup>2</sup>	∑X <sub>1</sub>	∑X <sub>2</sub>	∑X <sub>1</sub> X <sub>2</sub>	∑X <sub>1</sub> <sup>2</sup>	∑X <sub>2</sub> <sup>2</sup>
	=	=	=	=	=	=	=	=	=	=
	450	25	2250	40500	125	463	9	834	42877	17

Where,

X<sub>1</sub> = Employee satisfaction in percentage

X<sub>2</sub> = Employee retention in percentage

For KBL

$$r_{12} = \frac{5 \times 2250 - 450 \times 25}{\sqrt{5 \times 40500 - 450^2} \sqrt{5 \times 125 - 25^2}}$$

$$= 0$$

$$P.E. = \frac{0.6745 \times (1 - 0^2)}{\sqrt{5}}$$

$$= 0.3016 \sim 0.30$$

For NIBL

$$r_{12} = \frac{5 \times 834 - 463 \times 9}{\sqrt{5 \times 42877 - 463^2} \sqrt{5 \times 17 - 9^2}}$$

$$= 0.375 \sim 0.37$$

$$P.E. = \frac{0.6745 \times (1 - 0.375^2)}{\sqrt{5}}$$

$$= 0.2592 \sim 0.26$$

## Appendix -11

### Calculation of correlation co-efficient between Employee Satisfaction and Employee Motivation

#### Kumari Bank Limited and Nepal Investment Bank Limited

Year	KBL					NIBL				
	X <sub>1</sub>	X <sub>2</sub>	X <sub>1</sub> X <sub>2</sub>	X <sub>1</sub> <sup>2</sup>	X <sub>2</sub> <sup>2</sup>	X <sub>1</sub>	X <sub>2</sub>	X <sub>1</sub> X <sub>2</sub>	X <sub>1</sub> <sup>2</sup>	X <sub>2</sub> <sup>2</sup>
2003	80	90	7200	6400	8100	60	92	5520	3600	8464
2004	85	90	7650	7225	8100	60	92	5520	3600	8464
2005	85	90	7650	7225	8100	70	92	6440	4900	8464
2006	90	90	8100	8100	8100	70	93	6510	4900	8649
2007	90	90	8100	8100	8100	70	94	6580	4900	8836
	∑X <sub>1</sub>	∑X <sub>2</sub>	∑X <sub>1</sub> X <sub>2</sub>	∑X <sub>1</sub> <sup>2</sup>	∑X <sub>2</sub> <sup>2</sup>	∑X <sub>1</sub>	∑X <sub>2</sub>	∑X <sub>1</sub> X <sub>2</sub>	∑X <sub>1</sub> <sup>2</sup>	∑X <sub>2</sub> <sup>2</sup>
	=	=	=	=	=	=	=	=	=	=
	430	450	38700	37050	40500	330	463	30570	21900	42877

Where,

X<sub>1</sub> = Employee Motivation in percentage

X<sub>2</sub> = Employee satisfaction percentage

For KBL

$$r_{12} = \frac{5 \times 38700 - 430 \times 450}{\sqrt{5 \times 37050 - 430^2} \sqrt{5 \times 40500 - 450^2}}$$

$$= 0$$

$$P.E. = \frac{0.6745 \times (1 - 0^2)}{\sqrt{5}}$$

$$= 0.3016 \sim 0.30$$

For NIBL

$$r_{12} = \frac{5 \times 30570 - 330 \times 463}{\sqrt{5 \times 21900 - 330^2} \sqrt{5 \times 42877 - 463^2}}$$

$$= 0.6124 \sim 0.61$$

$$P.E. = \frac{0.6745 \times (1 - 0.6124^2)}{\sqrt{5}}$$

$$= 0.1885 \sim 0.19$$

## Appendix - 12

### Calculation of rank correlation co-efficient

#### Kumari Bank Limited and Nepal Investment Bank Limited

Perspectives	Financial	Customer	Internal Business	Learning & Growth
Weight give by KBL%	40	30	10	20
Weight given by NIBL%	40	40	10	10

Let,

$R_1$  denotes the series of ranking by KBL and  $R_2$  the series by NIBL .

Calculation of rank correlation co-efficient:

Perspectives	Financial	Customer	Internal Business	Learning & Growth	Sum
$R_1$	1	2	4	3	
$R_2$	1.5	1.5	3.5	3.5	
d i.. diff. $R_1-R_2$ )	-0.5	0.5	0.5	-0.5	0
$d^2$	0.25	0.25	0.25	0.25	1

$$R_s = \frac{1 - [6 \times 1 + 2(2^2 - 1)/12]}{4^3 - 4}$$
$$= 0.85$$