

# Designing a Balanced Scorecard (BSC) for a mining supply company.

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## **ABSTRACT**

The purpose of this research was to formulate and develop broad guidelines for a Balanced Scorecard (BSC) for a mining supply company. This research has specific reference to Bond Equipment (Pty) Ltd. based in Klerksdorp, North West Province, South Africa. These guidelines must assist management to steer the company forward on a strategic way. The guidelines will also guide management to apply the BSC to lower levels in the company, each department and every employee will have its own BSC. This research also includes the improvement of the company's vision and mission. The BSC must be aligned with both the vision and mission of the company to ensure the successful implementation of a BSC. The BSC is not just an effective measurement and management tool but it is also an effective tool to enhance communication between different departments within the business.

Questionnaires were used to gather data from the sample group within the company. A total of 50 questionnaires were distributed to management, professionals and employees that worked for the company for more than 2 years. The head of departments of the company were informed of the research being conducted. Thirty-five questionnaires were received back. The data of the study was analysed and out of these results, broad guidelines were identified for the formulation of a BSC for the company. Three aspects from each quadrant were selected by the participants of the study. The data of the vision and mission of the company were also analysed and possible improvements were identified.

The results of the study revealed that the vision and mission must be improved to match the new strategy of the company. Bond Equipment (Pty) Ltd has to diversify and focus not only on quality but also on customer service. The three broad guidelines selected from each quadrant by the participants will form an integral part in the final design of the BSC to all levels of the company. Proposed measurement tools were also recommended to the management of Bond. These measurement

tools will assist management to manage the company in accordance with the vision and mission.

**Key terms:** vision; mission; balanced scorecard; financial perspective; customer perspective; internal perspective; learning and growth perspective.

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- Bond Equipment (Pty) Ltd

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# CHAPTER 1

## INTRODUCTION

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### 1.1 Introduction and background to the study

Performance measurement is a fundamental building block of managing any business. Historically, businesses have always measured performance in some way through the financial performance alone, be this success by profit or failure through liquidation. However, traditional performance measures, based on cost accounting information, provide little to support businesses on their quality journey, because they do not map process performance and improvements seen by the customer. In a successful total quality business, performance will be measured by the improvements seen by the customer as well as by the results delivered to other stakeholders, such as the shareholders. The Balanced Scorecard (BSC) is one of the many performance measures available to business that includes all facets of the business . (Anon, 2010c).

The BSC can provide an important value add to any business because the mission and vision of the business must be aligned to the BSC of the business. The BSC can be defined as a strategic planning, management and performance system, which is used to structure business actions according to the vision and strategy of the company and thereby improve both internal and external communication and monitor organisational performance against strategic goals (Correia *et al*, 2008:669). It addresses the basic aim of financial profit, the cornerstone of every business, by revealing the drivers to creating long-term financial and competitive performance through investment in areas such as: employees, customers, partners and technology amongst others (McCann, 2000:36-37).

The importance of the BSC was investigated in this study, with a strategy to develop the broad guidelines for a BSC within an SMME. The Balanced Scorecard was designed for a medium sized company in the engineering and supply sector with the name Bond Equipment (Pty) Ltd (Bond).

Bond has provided capital equipment on a build to order basis to numerous establishments for the past 48 years. They specialised in providing equipment to the mining, steel, aluminium, rail, airways, postal and forestry industries. This included ship to shore cranes, forklift trucks, container stackers and port and harbour trailers. Over the past 12 years, the company has moved extensively into mining processing equipment with particular emphasis on the diamond, cobalt, coal and copper mining, with a short term objective of penetrating the coal industry.

The company is a family owned business with only one of the family members currently active and involved in the business. The company consists of 79 employees with 12 middle managers and 5 top management positions

The company currently has no management tool to align business activities to the vision and mission of the company.

### **1.2 Problem statement**

Bond has grown extensively over the past 5 years, both in size and in turnover. It was a secondary priority for Bond to keep up with strategies to measure the performance of the business, management and staff in accordance with the vision and mission of the company.

With only the one family member currently involved in the business, succession is a significant problem for the family. Investors are currently looking to invest in the company. The prospective investors` main concerns were the fact that no measurement system existed to evaluate the business, management and staff in Bond.

The successful implementation of the company's succession plan relies on implementing an effective measurement system for the business, management and staff of Bond. The BSC will enable the company to align business activities to the vision, mission and strategy of the company and also to monitor organisational performance against strategic goals.

### **1.3 Objectives of the study**

#### **1.3.1 Primary objective**

The primary objective was to formulate and develop broad guidelines for a BSC for Bond.

#### **1.3.2 Secondary objectives**

- To improve the current vision and mission of Bond in accordance with the designed BSC,
- To determine the broad measurement instruments for Bond within the BSC,
- To ensure that the measurement instruments were aligned with the vision and mission of Bond.

### **1.4 Scope of the study**

The study focused on one company in the SMME range resonating from the North-West Province, South Africa. The company (Bond) is part of the mining supply sector with 79 employees.

### **1.5 Research methodology**

#### **1.5.1 Literature study**

The basis of the research was done by including a wide range of sources. Firstly, definitions and understandings of the following concepts were discussed, namely the vision and mission of businesses and the BSC. Secondly, Bond's key measures in each quadrant were determined by evaluating the marketing, operational and financial plan of the company.

The following sources were used in this research study:

- Internet
- Related articles
- Bond's financial Statements
- Bond's marketing and operational plan
- Statistics South Africa
- Ferdinand Postma Library

#### **1.5.2 Empirical study**

Questionnaires were designed in accordance with the literature study of the research. Important and relevant aspects of the business were incorporated into the questionnaire. All the participants to the study were asked to rank each aspect of the business relating to the BSC on a scale of one to four, with four being most relevant to the business.

It was decided to use a quota sampling method to obtain the study sample. A total of 50 questionnaires were distributed to management, professionals and employees that worked for the company for more than 2 years.

All the information gathered from the questionnaires was statistically analysed to determine the needs and focus areas of the company regarding the BSC.

### **1.6 Limitations of the study**

The study focused on only one company in the mining supply industry.

### **1.7 Layout of the study**

- Chapter 1 - Introduction/orientation, problem statement and aims
- Chapter 2 - Literature study
- Chapter 3 - Literature study - Current perspective: Bond Equipment (Pty) Ltd
- Chapter 4 - Empirical study
- Chapter 5 - Results, discussions, recommendations and conclusions

**CHAPTER 2**  
**LITERATURE REVIEW**  
**BALANCED SCORECARD**

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### 2.1 Introduction

It is well known that the behaviour of both managers and employees within an organisation is affected by the organisational measurement system. Traditionally, organisations used financial accounting measures such as return on investment and earnings per share as measurement systems; however, these systems can give misleading results and thereby affect continuous improvement and innovation within the organisation. In order to address these inadequate measurement systems, some studies focused on making financial measures more relevant, while others focused on the improvement of operational measures. However, since no single measurement system can adequately provide clear performance targets and focus on critical aspects within the organisation, a more balanced approach is needed. Kaplan and Norton (1992:71) therefore described the BSC as a set of balanced measures that combine financial measures with operational measures on the level of customer satisfaction, internal processes and organisational innovation and improvement that can drive future financial performance. Since its introduction, the BSC has become well known and various forms thereof have been adopted in a number of various organisations. The initial definition of the BSC was meagre; however, it was clear from the start that the selection of various measures and the clustering thereof are at the centre of this approach. The core of the BSC remained unchanged, however a modern BSC include features that clearly indicate that the BSC evolved over time (Cobbold and Lawrie, 2002:1).

The BSC cannot be designed before the company vision and mission are clearly defined and understood by all employees of the specific company. This chapter consists of a literature review to help identify the core aspects of the BSC.

### 2.2 Business vision

One of the most important aspects for future success for top management is to set a strong vision within the organisation. A clear vision aids in directing manager`s thoughts to carry their organisation into the future. In South Africa, managers face the challenge of surviving in a global environment in which new technologies and political alignments are important realities. There are numerous reasons why it is important for an organisation to have a clear vision. These reasons include:

- A clear vision promotes change as it serves as a road map that directs change;
- A clear vision also sets the basis for strategic plans;
- A clear vision enhances various performance measures, since it has been demonstrated that companies with a clear vision outperform those companies without a clear vision. This is also an important aspect considered by potential investors;
- A clear vision keeps decision making in context as it provides focus and direction. Employees therefore know on what to focus their attention, which in turn discourages them to pursue short-term opportunities that they would otherwise ignore;
- A clear vision affects the grounds on which people base their decision in the absence of direct supervision since many organisations both in South-Africa and in other countries, tend to become managerially leaner and flatter;
- A clear vision motivates individuals since it enables employees to experience how their effort contributes to organisational success;
- A clear vision facilitates the recruitment of talent as it points out which qualities are valued by the organisation, e.g. innovation and knowledge;
- A clear vision has positive consequences. When the vision of an organisation is successfully communicated, it results in a higher level of job satisfaction, commitment, loyalty, pride, productivity, encouragement and clarity about the organisational values (Smit *et al*, 1997:143-147).

A shared ultimate goal or strategy that has gained consensus and directs the organisation is the starting point from where the BSC can be formed (Kaplan and Norton, 1996: 1-13).

### **2.3 Business mission**

Pearce and Robinson (1994:49) defined the mission of an organisation as the primary, sole purpose of an organisation that differentiates the organisation from other organisations of the same type. In addition, the mission of an organisation identifies the scope of its operations in terms of the product, the market and also technologically. The mission of an organisation should therefore present answers to the subsequent questions:

- In what business is the organisation? (What product does the organisation supply?)
- Who is the client to whom the organisation supplies? (In which market does the organisation operate?)
- How will the organisation supply the product or service? (What are the technological skills needed to supply the product or service to the market?).

According to Pearce and Robinson (1994:49), the answers to these questions will clearly distinguish the organisation from other similar organisations. A mission statement should therefore, warrant agreement as to the purpose of the organisation, and serve as the grounds on which resources are allocated. Furthermore, a mission statement should also set the considerations on which decisions within the organisation is based.

Management should be sensitive to the claims of stakeholders when formulating a mission statement. The stakeholders include both inside and outside stakeholders. Inside stakeholders such as employees would prefer that their economical, social and psychological needs be addressed, while outside stakeholders such as the general public would prefer that their concern for the conservation of the environment be addressed (Pearce and Robinson, 1994:49).

### 2.4 Balanced Scorecard

The BSC can be defined as a strategic planning, management and performance system, which is used to structure business actions according to the vision, mission and strategy of the company and thereby improve both internal and external communication and monitor organisational performance against strategic goals (Correia *et al*, 2008:669).

The BSC addresses the basic aim of financial profit, the cornerstone of every business, by revealing the drivers to creating long-term financial and competitive performance through investment in areas such as employees, customers, partners and technology, amongst others (McCann, 2000:36-37).

The BSC is not just an effective measurement and management tool but it is also an effective tool to enhance communication between different departments within the business. The BSC ensures that the different departments will function as one unit (Sandstrom and Toivanen, 2002:86).

Some of the following benefits can be identified from using the BSC in a business (Anon, 2010d):

- The BSC provides an effective way of communicating priorities to all levels of the company, so that all employees can see and understand how their work is related to the business and its success as a whole.
- The BSC helps the process of measuring and analysing key performance indicators in order to manage internal business processes. Such strategic management, leads to operational efficiency improvements so that businesses are empowered to achieve both their strategic and operational objectives.
- Increased creativity and unexpected ideas by more involved employees.
- The BSC provides management with a comprehensive picture of business operations.

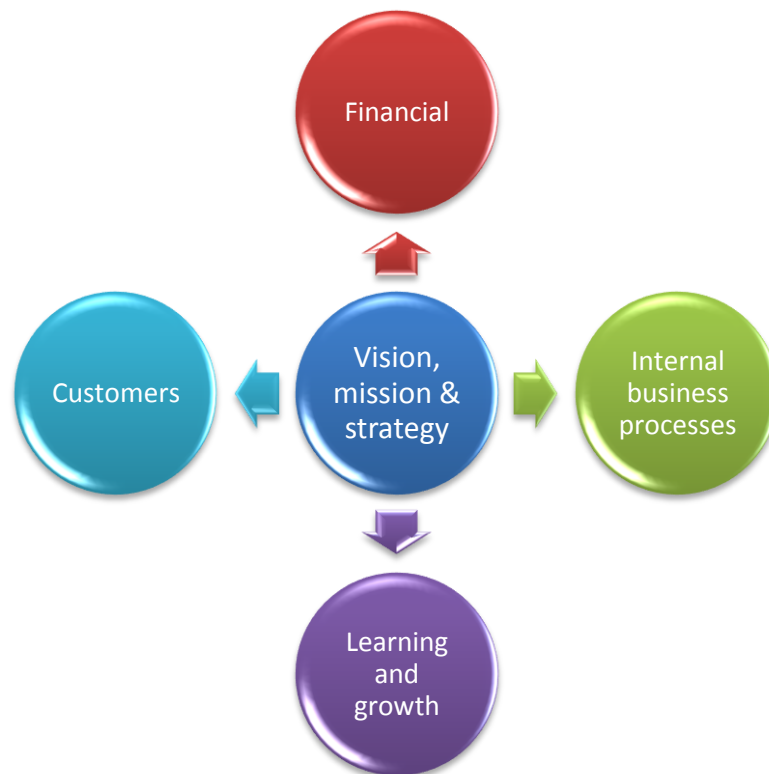
The first step in compiling a BSC is to consider the company`s vision, mission as well as key strategies of the business and to translate these factors to specific goals.

The BSC allows managers to evaluate the organisation from four perspectives:

- Financial process
- Customer process
- Internal business process
- Learning and growth process

The four quadrants of the BSC can also be defined as looking back (financial strengths of the organisation); looking from the outside in (customer service and satisfaction); looking from the inside out (internal operating efficiency) and looking ahead (learning and growth). Since the formulation of a BSC includes the use of an abundance of information, the key to success is in sorting through this information to find what is most useful within the particular organisation. Managers should therefore, only focus on those measures within each of the four categories that are most critical to the success of the organisation (Leauby and Wentzel, 2002:31; Kaplan and Norton, 1992:72).

The BSC can therefore, meet several managerial needs since it combines many of the elements of organisational competitiveness, such as becoming customer oriented, shortening response time, improving quality, emphasising team work reducing new product launch times and managing for the long-term. In addition, the BSC also considers important operational measures (Kaplan and Norton, 1992:73).

**Figure 2.1:** Quadrants of the Balanced Scorecard

(Source: Kaplan and Norton, 1996:4)

### 2.4.1 Financial perspective

This quadrant focuses on the financial objectives as expected by the shareholders, where financial measures summarise the financial outcomes of the decisions. The financial perspective is compiled from historical data and in many cases will be raised from the fact, stating that future decisions can't be made from historical data.

The financial quadrant was historically the only measurement tool for businesses; although very important, the BSC will show that the financial quadrant cannot function without the other three quadrants (Correia *et al.*, 2008:669).

The business life cycle of the company can be determined from historical data. The financial perspective is still very important and historical data can be used for budgeting, compiling forecasts and setting clear financial objectives for the business

(Kaplan and Norton, 1996:48). Financial measures can normally be divided into profitability, liquidity, solvability, equity measures and Economic Value Added (EVA).

Profitability is a primary measure of the overall success of a company. The following seven ratios can be used to measure profitability namely:

- Return on equity (ROE)
- Return on assets (ROA)
- Earnings per share
- Gross profit margin (percentage)
- Profit margin
- Fixed asset turnover ratio
- Asset turnover ratio

Liquidity refers to a company's ability to meet its current maturing debts. Tests of liquidity focus on the relationship between current assets and current liabilities. A company's ability to pay its current liabilities is an important factor in evaluating its short-term financial strength. The following four ratios can be used to measure liquidity:

- Cash ratio
- Current ratio
- Quick ratio
- Receivable turnover

Solvency refers to a company's ability to meet its long-term obligations on a continuous basis. Tests of solvency measure a company's ability to meet these obligations. The following three ratios can be used to measure solvency and equity position:

- Times interest earned
- Cash coverage
- Debt-to-equity ratio

Shareholder value based measures which focus on cash flows and EVA. EVA can be defined as the total value generated over a single reporting period, measured by net operating profit after tax (NOPAT) and the cost of capital.  $EVA = NOPAT - (\text{capital employed} \times \text{weighted average cost of capital (WACC)})$  (Correia *et al.*, 2008:628).

### **2.4.2 Customer perspective**

The customer perspective in the BSC focuses on how the organisational mission translates to customer service. It is the customer perception of the organisation and therefore includes measurable characteristics that are valued by customers. An organisation is classically assessed by customers based on its performance in four categories. These four categories include time, quality, product/service performance and cost. These measures allow managers to evaluate performance looking from the outside inwards, while also benchmarking their performance against their rivals and standards (Leauby and Wentzel, 2002:30; Kaplan and Norton, 1992:73). If these measures are put into action, it should set goals for time, quality, performance and service and these goals should translate to specific measures. In addition to these measures it is also important for organisations to remain sensitive towards the cost of their products/services (Kaplan and Norton, 1992:73). The customer perspective uses the mission statement of the organisation to develop clear market and customer based objectives.

To develop these objectives, it is vital to analyse the different customer or market segments to offer products and services which are most valued by a certain market segment. This type of approach enables the organisation to offer products and services according to the preferences of their customers. Once the different market segments are known, objectives and measures for target groups should be defined. Two sets of measures can be used to evaluate the customer perspective. The first is the customer core management group, which includes customer satisfaction, customer retention, customer acquisition, customer profitability and market share. The second measure is the performance drivers of customer outcomes or value propositions which make it possible to understand the drivers of the core measures



(Anon, 2010a). The core management group of customer outcomes are measures of:

- *Market share*: This is a share of a business in a particular market. The market share is measured after identification of the different segments in the market. Measurement of market share is performed just after market segments are identified. Market share is determined by industry groups, government statistics, trade associations and other public sources of information;
- *Customer retention*: An effective way to sustain the current revenue level is by retaining existing customers. The measurement of customer retention is important to identify changes in trends. Customer retention can also be seen as a measurement of customer loyalty;
- *Customer acquisition*: This is the attraction of new customers and a central part of the growth strategy. Customer acquisition can be evaluated by the rate at which a company attracts new customers;
- *Customer satisfaction*: Success in customer retention and customer acquisition depends on how well a company meets customers' needs. This can be measured by customer satisfaction surveys;
- *Customer profitability*: High revenue is not guaranteed if the company has satisfied customers, therefore customer profitability is a good measure of how effective the marketing strategy of the company is in meeting the above criteria. When it is impossible to meet all customer demands in a profitable way, a compromise between profitability and customer satisfaction must be reached (Anon, 2010a).

The performance drivers of customer outcomes can be further divided into three categories. The first category includes product or service attributes, the second category involves relationships, while the third is concerned with the image of the organisation (Kaplan and Norton, 2004:3).

**Figure 2.2:** The customer core management group of customer outcomes



(Source: Anon, 2010a)

Attributes of products or services include functionality, price and quality. The product or service attributes can be evaluated with the marketing mix, also known as the 4 P's concept. Marketing is the way in which a business promotes its products or services. It is not solely selling the product; it is concerned with identifying customers and satisfying their needs/wants at a profit. The marketing mix is a set of controllable tactical marketing tools that is used within an organisation to produce a favourable response from the target market (Kotler and Armstrong, 2010:72-73).

The marketing mix includes product, price, place and promotion:

- *Product or services* include anything that can be offered to a market for attention, acquisition, use, or consumption and that might satisfy a want or need (Kotler and Armstrong, 2010:76).
- *Price* is the sum of all the values that consumers exchange for the benefits of having or using the product;

- *The place* indicates the best place to sell the product/service;
- *Promotion* is the way the company will market the product/service to ensure that customers will get to know about it (Kotler and Armstrong, 2010:76).

When an organisation meets the criteria set in the marketing mix, it will result in customer satisfaction, customer retention, quality customer services and possible sales of new products/services (Kotler and Armstrong, 2010:76).

Customer relationships entail the establishment of a feedback system to learn how the customer views the products, services and product quality. It is furthermore also valuable to learn customer requests and propositions (Anon, 2010a).

A good image and reputation is important to increase the chances of acquiring new customers and retaining existing ones. A company creates its own image but also the image of a typical customer (Anon, 2010a).

### **2.4.3 Internal business perspective**

Since good customer performance is derived from processes, decisions and action within the organisation, the implementation of customer based measures is only effective if it translates into measures to improve the internal business processes to meet the expectations of the customers. The focus is therefore on critical internal operations that enable the organisation to meet the needs of their customers (Kaplan and Norton, 1992:74).

This process encourages organisations to evaluate current operational processes and to improve the existing operational processes. This process focuses on looking from the inside out, and therefore, implies evaluation of the internal processes and systems to give maximum support to the customers of the organisation (Leauby and Wentzel, 2002:30).

Internal business processes include product design, operations, marketing, sales, distribution and customer service. Internal business processes are evaluated by designed measures to examine those internal processes that are vital to the delivering of products/services to the organisation`s customers and also in the successful achievement of the organisation`s financial strategies. These measures

include cost measures, measures to determine product quality and time-based measures. New product or process development, to satisfy changing needs of customers, may need the design of long-term measures (Correia *et al*, 2008:669).

### 2.4.4 Learning and growth

The learning and growth perspective focuses on how the organisation can continue to improve and add value. Increased value in this case, relates to both the customer and the shareholder. Since targets for success change continuously due to competition, it is important for organisational well-being and survival to keep on improving. This perspective helps organisations to stay focused towards improvement, innovation and learning, as it is set out in the vision of the organisation. These measures include the introduction of various new products/services, the time frame involved to introduce new features, the amount of new patents applied for, or technological improvements. The future success of the organisation is also highly dependent on employee relations and a typical BSC, therefore also include employee satisfaction, training, employee turnover, or the percentage of employee suggestions implemented (Leauby and Wentzel, 2002:30; Correia *et al*, 2008:669-670). This perspective can be divided into three categories, including human capital, information capital and organisation capital. Human capital includes the skills, talent and knowledge of the company's employees, while information capital is the company's databases, information systems, networks and technology infrastructure. Organisation capital relates to the company's culture, leadership, the alignment of people to the strategic goals and the employees to share knowledge (Kaplan and Norton, 2004:2).

- *Human capital:* All jobs within the organisation are important, however, some jobs have a greater impact on strategy than others. It is therefore important to identify the strategic job families – the positions in which the employees with the right skills, talent and knowledge have the biggest impact on the organisation's internal processes. After the identification of strategic job families these jobs need to be profiled to define the knowledge, skill and value requirements needed to perform the specific job. Once the competency profiling is done the current capabilities and competencies of each employee can be assessed;

- *Information capital:* This is the infrastructure needed to support internal processes and include hardware and managerial expertise to effectively deliver and use applications;
- *Organisation capital:* In successful companies there exists a culture in which the employees are deeply aware of mission, vision and core values that is needed to execute the company's strategy. It is furthermore important to strive to good leadership at all levels, clear alignment between the organisation's strategic objectives and individual, team, and departmental goals and incentives, and teamwork especially at the level of sharing strategic knowledge (Kaplan and Norton, 2004:4).

In addition to competency profiling and assessing of current capabilities and competencies of the strategic job families (human capital), it is also important to look after the general welfare, development and employee relations of the organisation's employees. Employee relations can be assessed with the, The Organisational Stress Screening Tool (ASSET). The ASSET model as developed by Cartwright and Cooper (2002) can be used as an initial screening tool to help organisations assess the risk of occupational stress in their workforce. The ASSET is a very effective tool in diagnosing occupational stress, as it combines both the source and the effect of stress. In addition, it measures potential exposure to stress in respect of a range of common workplace stressors and provides important information on current levels of physical health, psychological well-being and organisational commitment.

ASSET can be divided into four categories i.e. (1) perceptions of your job, (2) attitudes towards your organisation, (3) your health and (4) supplementary information. The first category (perceptions of your job) consists of seven subscales, including Work Relationships, Work-Life Balance, Overload, Job Security, Control, Resources and Communication and Job Characteristics. The second category (attitudes towards your organisation) measures the individual's commitment toward his or her organisation, while the third (your health) focuses on the individual's physical health and psychological well-being. The fourth category focuses on supplementary information.

For the purpose of designing this specific BSC, only the first category of the ASSET model was used to determine the perception of the workers towards their job. The seven subscales can be defined as follows:

- *Work relationships:* To have good relationships with colleagues and supervisors at work is essential. Poor interpersonal relationships at work and the absence of support from colleagues and supervisors contribute greatly to the individual's experience of work-related stress (Narayanan, Menon, & Spector, 1999);
- *Work-life balance:* Can contribute greatly to the individual's experience of work-related stress when the demands of work and non-work life roles are incompatible in some respect so that participation in one role is made more difficult by participating in the other role (Duxbury & Higgins, 2001);
- *Workload:* Refers to the total amount of work which is required to be completed within a certain time frame (Cooper *et al.*, 2001). Research findings have indicated that working under time pressure to meet deadlines is a major source of stress and has been related to high levels of strain, anxiety, depression and job performance (Westman & Eden, 1992);
- *Job security:* Downsizing and change within an organisation can cause powerlessness and feelings of job insecurity which in turn can result in fear of job losses or obsolescence (Greenhalgh and Rosenblatt, 1984);
- *Job control:* Consists of the authority that refers to the opportunity to make independent decisions and to have a say in what happens in the workplace (Ganster and Fusilier, 1989);
- *Resources and communication:* Job resources refer to those physical, psychological, social, or organisational aspects of the job that reduce job demands, are functional in achieving work goals, and stimulate personal growth, learning and development (Bakker, Demerouti, & Euwema, 2005). Typical characteristics of resources and communication would include having the appropriate training, equipment, resources (e.g., social support, and autonomy) and effective communication processes within the organisation;
- *Pay and benefits:* Rewards can be distinguished as intrinsic and extrinsic rewards (O'Driscoll & Randall, 1999). Intrinsic rewards are those rewards that exist in the job, such as variety, challenge, and autonomy. Extrinsic rewards

have elements such as pay and fringe benefits, promotions, social climate, and working conditions. Therefore, pay and benefits are seen as extrinsic rewards and include the financial rewards obtained from work.

### **2.5 Summary**

This chapter defined and described the vision, mission and the BSC with all four quadrants; it became evident that the company and all its employees must clearly understand both the vision and the mission of the company. This literature study also showed that the vision and mission is critical when designing a specific BSC.

Measurement tools and models were described for the following quadrants of the BSC, the Financial, Customer and Learning and Growth quadrants. The only quadrant with no measurement tool or model described in this chapter was the Internal Business Perspective, the focus in this quadrant was the internal and operational function of Bond, and the internal and operational plan will be described and discussed in the following chapter (3).

The information from chapter 2 was applied to assist in developing a questionnaire to compile the design of guidelines for the BSC of Bond.

**CHAPTER 3**  
**CURRENT PERSPECTIVE: BOND**  
**EQUIPMENT (PTY) LTD (BOND)**

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### **3.1 Introduction**

This chapter focuses on the current perspective of Bond; the current vision and mission of the company were under investigation. This helps to evaluate the strength of both the vision and the mission of the specific company.

A custom made BSC can only be successful when the specific company involved is evaluated and fully understood by the developer of the BSC, therefore Bond's Marketing and Operational Plan is evaluated.

The objective of this chapter was to gather information from internal sources within Bond, and to help with the development of the questionnaire and to design the guidelines for the BSC as the ultimate end result.

### **3.2 Vision**

The current vision of Bond is to be the leading company in supplying quality engineered processing plants for the mining industry.

### **3.3 Mission**

The service delivered by Bond is based on proudly engineering and supplying a quality product, specific to the customers' specifications and demands. The company focuses on the local and international customers in the mining sector. The company works on a contracting and project management basis and offers unique financing packages.

### **3.4 Bond Equipment (Pty) Ltd. marketing plan**

#### **3.4.1 Marketing strategy**

Bond Equipment introduced the proudly engineered, made on order concept and uses intensive customer input, contact and needs analysis before every order. They

implemented the following unique offering to the customer (Customer Perspective of the BSC):

- Quality individually engineered products
- Financial support packages
- Made to order within 3-6 months
- Pro-active development on made to stock with a supply time of 3-6 weeks.
- Effective and speedy after service is supplied
- Equipment has a long lifespan and guarantee
- Quick and effective service because of the healthy lay-out of the company; the channels to authorisation are short and effective unlike larger companies.

Three critical issues were identified in the engineering of equipment:

- *Customer satisfaction:* Customer satisfaction is important, the customer needs to feel that the product is a brand to feel proud of; they need to know it is of top quality, well engineered and a reliable product with a fair and competitive price. Bond equipment also introduced a team that takes the manufactured plant and helps with the structuring and placement on the site (Customer perspective of the BSC).
- *Cost effectiveness:* The plants engineered are one of a kind and specialised according to the customer's needs. The price needs to be reasonable as it is a major capital investment for the customer. The financial package needs to meet the customer half way and the after service must be reckoned in to the package.(Customer perspective of the BSC).
- *Technological advancement:* In the engineering business, technological advancement is very important. Bond has a specific team of researchers making sure that the current as well as future developments are top of the range and of specialised technological quality, (Learning and Growth perspective of the BSC)

The key objective for Bond Equipment is to keep the healthy cash flow generated from the past to secure future development. The objective is to shift to the coal

market with a 70/30 split between coal and the rest of the commodities. This forms part of the Financial and Internal and Growth perspective of the BSC.

The marketing objective of Bond Equipment (Pty) Ltd is to be a recognised brand in the mining industry. This objective will be reached by applying the following aspects:

- Introducing more sales engineers as channel members to carry risk, collect information, negotiate and promote the company brand;
- Focusing on selective distribution inside the coal mining industry as target market;
- Pro-actively providing financial packaging to help small and large mining companies;
- Establishing joint ventures with the market to help the customer carry risk and to promote branding in every target market;
- Focusing of advertising in the Coal mining industry;
- Getting website updated with the latest technological innovations in regards to the coal industry
- Creating and maintaining a consistent brand identity and values, and communicating this effectively; both internally and externally;
- Creating significant market awareness of Bond Equipment's offerings through innovative and pro-active segment, product, channel and sponsorship marketing projects.

The logo and branding for Bond Equipment (Pty) Ltd is well established and respected in the market and are used on any equipment manufactured as a quality stamp and as a branding trade in the market. The brand will form part of the customer perspective of the BSC.

### **3.4.2 Target market strategy**

The market is currently divided into two groups: small and large mining companies. Bond do not only focus on the large companies such as BHP Billiton, Anglo mines

and De Beers, but also on the smaller companies, thereby ensuring that they establish healthy relationships with all the role players in the mining industry.

With the new objective to reach the coal market, Bond will focus on the following companies:

- BEE companies - grew from 2 in 2002 to 29 in 2008. Many large mining houses are also eager to enter into joint ventures with these companies to meet the new ownership requirement.
- Small emerging companies – with the current energy crisis and the investing in more power stations by ESKOM, will ensure that smaller coal companies like, Coal of Africa Ltd. (CoAL), Keaton Energy, Sentula Mining, Total Coal South Africa (TCSA), Wescoal and South African Coal Mining Holdings (SACMH) are able to grow and invest in capital equipment.

The target marketing strategy forms part of the Customer and Learning and Growth perspectives.

### **3.4.3 Marketing mix (4 P`s concept)**

The marketing mix falls in the customer perspective quadrant of the BSC and will be used to determine measures for this quadrant. Bond`s marketing mix can be described as follows:

- *Product* - The Company has an ISO 9001:2000 Q.A. rating which ensures that all products are designed and manufactured to not only the highest standards, but also meet all statutory and regulatory requirements. All engineering and designs are carried out in-house with metallurgical engineers contracted in from time to time, to assist the Process Engineer for specific projects if so required (Anon, 2010b).

The plant offered is configured to meet the customer`s requirements from a range of our standard plants which have proven themselves in operational use. Each plant is supplied with detailed manuals, showing and setting out all aspects of the plant which will allow the user to fully maintain and operate the

plant. If the plant is made on order, it can take from 3-6 months to supply whereas made to stock takes 3-6 weeks.

Each Plant is planned to be fully factory assembled, water tested and cold commissioned in the presence of the client's engineer, prior to dismantling for shipment. Back-up and spares services are available from Bond and if required they will send the necessary technicians and technical assistants to the client's site (Anon, 2010b). Some of the products manufactured by Bond include the Jumbo DMS plant, Diamond plant layout, Rotary screens, Scrubbers and Screens, X-ray sort houses, Pan Washing plants and Mobile DMS plants. These units mainly consist of steel and electric motors that are designed to the client's specifications to mine the relevant resources and minerals.

- *Pricing* - Bond Equipment (Pty) Ltd. makes use of the Make to Order Process which is activated only in response to an actual order. The reason for using this process is due to the fact that each job is highly specialised and the costing of every project is done extensively in order to avoid possible over- or under estimation. This allows transparency to the client, in order to avoid a possible value perception mismatch. The orders are placed through the process engineers and project managers who have the technical background and knowledge to deal with clients. The price of a plant and equipment manufactured depends on the complexity of the design and fiscal requirements of each client, the price can be anything from R1m – R100m each.
- *Promotion* - Clients are reached by effective marketing outside the company through exhibitions, mining and engineering magazines and in the workplace of mines. Other marketing channels used by Bond include the following:
  - *Advertising*: Printed media is limited to engineering-, business- and economic publications for example the Mining-MX, Business day and Engineering news.
  - *E-commerce*: The Bond Equipment website is geared towards comprehensive assistance and sharing of information to interested and potential customers.

- *Public relations:* The main point of contact for Bond Equipment is the 3 sales engineers that are representatives in the field. With intensive knowledge of the product and professional service, they consult on a daily basis with the customer and promote the service offered by the company.
- *Promotional events:* The company makes use of industry showcase events, organised by Trade and Industry SA, to display and demonstrate their latest developments. This is mostly a demonstration of capability to produce various plants and equipment and unique and revolutionary prototypes are put on display.
- *Placement* - Bond Equipment (Pty) Ltd. is situated in the industrial area of Klerksdorp. It is central to reach their target markets and also close to their suppliers. Their channel to market consists of 3 sales representatives as the channel members and deals directly with the customer. The International market is reached in Africa, Canada and Australia.

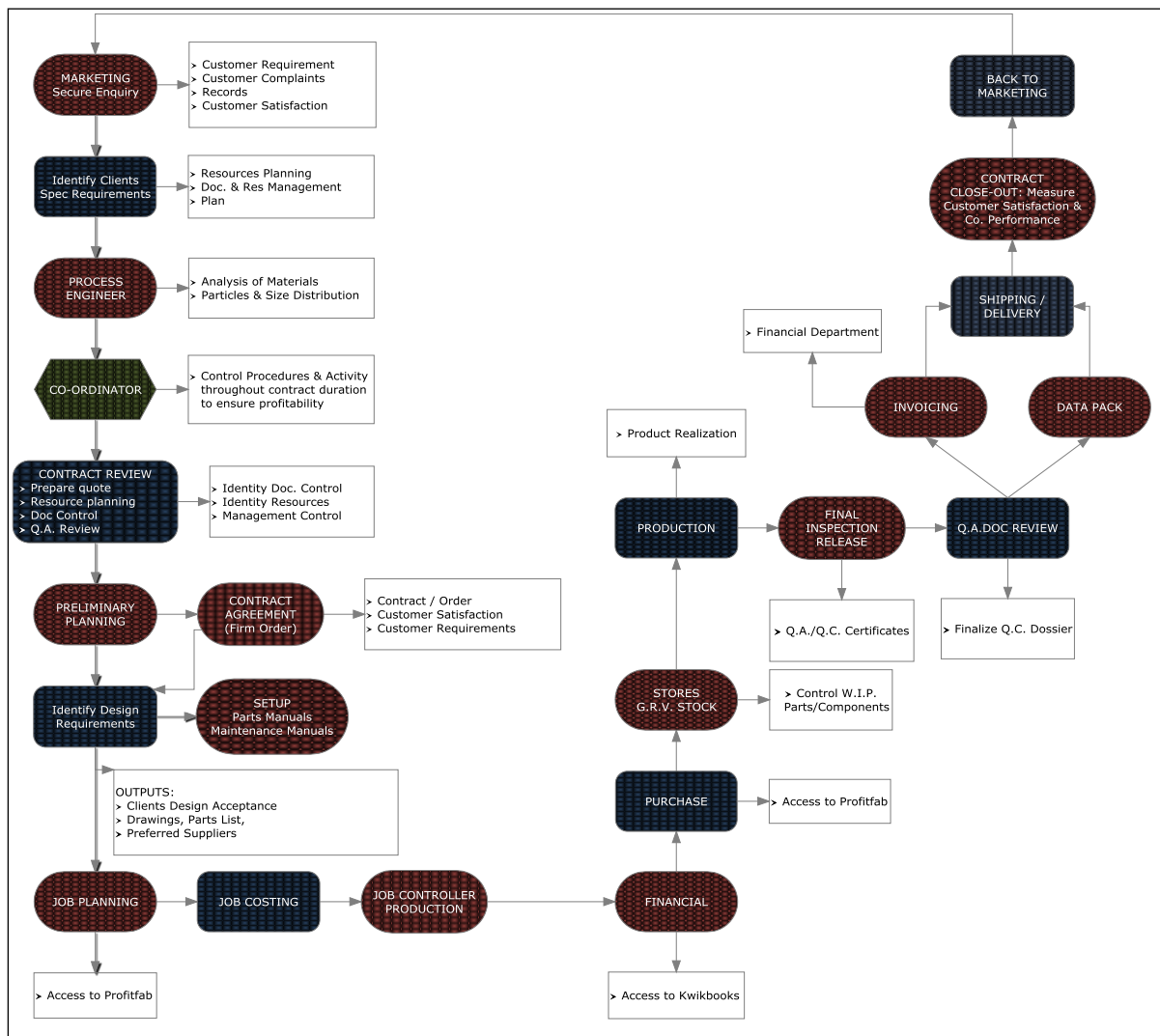
### **3.5 Bond`s operational plan**

The evaluation of the operational flow of the company will reveal key measures in compiling Bond`s Internal perspective of the BSC. The following segment is an elaboration on Figure 3.1 regarding the operations flow of Bond Equipment (Pty) Ltd.

#### **3.5.1 Marketing**

The entry point of every production line of Bond Equipment (Pty) Ltd. starts with marketing which plays an important role. The focus of the marketing department is based on the Marketing mix. The Marketing mix is the combination of elements that you will use to market your product. There are four elements: Product, Place, Price and Promotion. Refer to section 2.4.2.

Figure 3.1: Operational Flow Diagram of Bond Equipment (Pty) Ltd.



### 3.5.2 Identify client specifications and requirements

It is of great importance that the need of the client is met in all aspects. This is one of the reasons why Bond equipment makes use of a process engineer that assesses the needs and requirements of the clients. Each client's product specifications and requirements are unique, seeing that it is a highly specialised environment. A project manager is appointed for every new job taken in and they take charge of both installations commissioning as well as the after sales function of the company.

### **3.5.3 Contract review**

All jobs are quoted by the process engineer and after the client are satisfied with the official quote the legal advisor steps in and draws up a bankable contract. In this area we already observe a weakness due to the Chief Financial Officer that is not part of the quotation process and this could have a negative implication on the accuracy of the price due to volatility of costs. A deposit of 50% is payable at this stage to ensure that the client is satisfied and that all the research costs as well as labour hours are covered.

### **3.5.4 Preliminary planning**

At this stage the contract agreement is signed by the client for the basic product and now only the design and finer technical detail will be drawn up and analysed. The design department is the main role-player in the drawing processes of the product. The drawings are accompanied by the part and maintenance manuals of the product offering. Each drawing and manual is unique to the order and specifications of the product.

### **3.5.5 Job planning**

Production planning is playing a tremendous role in this segment due to numerous processes that take place simultaneously and to ensure that the job orders are finished on time they make use of critical paths to ensure that the products reach the clients in time as contracted.

### **3.5.6 Job costing**

At this stage the final design and drawing is signed off by the client and the costing of the product is captured into the costing / stock system of the company.

### **3.5.7 Production manager**

The production manager gets a job card out of the costing / stock system and the production process begins.



### **3.5.8 Orders and purchases of raw materials (Purchase department)**

From the abovementioned job cards received requisitions will be issued to the buyers who will start placing orders at various suppliers. They specifically focus on obtaining the best quality for the lowest prices.

### **3.5.9 Stores**

Stock is received and captured (GRV) on the system and allocated to the specific job.

### **3.5.10 Production**

Here the product offering is assembled according to the drawings and careful monitoring takes place to ensure that it is built to the industry standards and specifications.

### **3.5.11 Quality control and final inspection**

After the production is finalised the quality control officer steps in to evaluate the quality and give suggestions on possible improvements on the products. The final inspection is conducted by the process engineer, project manager and the client with when all the parties is satisfied with the quality of the product, it is signed off by all parties.

### **3.5.12 Invoicing and payment (Accounts department)**

The next step in the process will be the invoicing of the product and payment of 40% of the total invoice before the shipment of the product.

### **3.5.13 Shipment and installation**

Shipment and installation will be the responsibility of the project manager and any problems must go through him. After successful installation, a certificate of

acceptance is issued and signed off by the client. The final 10% of the invoice is now payable to Bond Equipment.

### **3.5.14 After sales**

The project manager is responsible for after sales service as well as maintenance of the product.

## **3.6 Summary**

The BSC can only be applicable to a specific company when the current perspective of the company is taken into consideration in designing a BSC. The specifically designed BSC must be developed from the input of all employees of the company.

From the information gathered in chapter 2 and 3, a questionnaire was compiled and completed by all employees of Bond. This ensures the design of a unique BSC for this company.

Chapter 4 will explain the questionnaire developed and will also evaluate the data statistically.

# CHAPTER 4

## EMPIRICAL STUDY

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### **4.1 Introduction**

This chapter addressed the approach to the study. It provides an explanation of the research design, details regarding the sample, instrumentation, means of data collection, and data analysis.

A thorough literature study of the BSC forms the core of this study. Through an analysis of the factors from the internal operations of Bond (Chapter 3), and some theories on the vision, mission and the quadrants of the BSC (Chapter 2), the background was established for this study.

This chapter describes the development of the guidelines for the BSC and also determines the focus areas of the company.

### **4.2 Description of population**

The population of the study was drawn from the all employees of Bond Equipment (Pty) Ltd. The company consisted of 79 employees.

#### **4.2.1 Description of the sample**

It was decided to use a quota sampling method to obtain the study sample. A total of 50 questionnaires were distributed to management, professionals and employees that worked for the company for more than 2 years.

The head of departments (HOD`s) of the Bond were informed of the research being conducted. Thirty-five questionnaires were received back, which gives a return rate of 70 percent.

The response rate of 70% is considered very good when weighed against guidelines in the literature. A 50% response rate is adequate, a 60 percent response is considered good, while a 70% response rate is considered very good (Laka-

Mathebula, 2004:126). The total response rate in this study was good, most probably also because the questionnaire length was effective and not too long. It is suggested that a questionnaire length of 40-50 items spread over 4-5 pages would elicit high response rates, and it is also argued that if a survey is under 4 or 5 pages, resistance to participate would be lower and the response rate higher (Frochlich, 2002:555). The lack of a 100% response rate can be contributed to employees that were not on duty, because of annual or sick leave.

### **4.3 Gathering of data**

#### **4.3.1 Research design**

By using a survey method as the method of data collection, the survey describes a method of data collection in which questionnaires are used to gather data about an identified population. The questionnaire was analysed and approved by the Statistical Consultation Services of the North-West University: Potchefstroom. SPSS and STATISTICA software were used to analyse the data.

The HOD`s of Bond were informed of the research being conducted. The HOD`s were ask to inform all employees from each department of the study being conducted. Management, professionals and employees working for Bond for more than 2 years were asked to answer the questionnaire. The questionnaire was explained to each employee, which ensured that every individual understood all the questions asked.

#### **4.3.2 The questionnaire as research instrument**

In this research, a quantities questionnaire survey was used to obtain individual responses from Bond Equipment (Pty) Ltd. The benefit of a questionnaire is that the same questions can be asked at all sample departments. The responses were in writing and respondents had the opportunity to respond to the questions without feeling intimidated. Questionnaires, however, cannot probe deeply into respondents' opinions and feelings. In addition, if the questionnaire is distributed, it is not possible

to modify the items, even though they may be unclear to some respondents (Gall *et al*, 1996:289).

### 4.3.3 Construction of the questionnaire

A letter (Annexure A) to explain the purpose of the questionnaire to the respondents was included. Best and Kahn (2003:307-308) state that the construction of a questionnaire has to fulfil certain requirements, namely:

- The significance should be clearly and carefully stated on the questionnaire or in the letter that accompanies it;
- It only seeks information that cannot be obtained from other sources;
- It must be as short as possible and only long enough to obtain the essential data. The writing required of the respondent must be kept to a minimum and the response system must be made clear and easy;
- It must be attractive in appearance, neatly arranged and clearly duplicated or printed;
- Directions need to be clear and complete. Important terms must be defined. Each question must deal with a single idea and must be worded as simply and clearly as possible. Avoid asking two questions contracted in one;
- The questions must be objective, with no leading suggestions as to the responses desired;
- Questions have to be presented in good psychological order, proceeding from general to more specific responses. If possible, avoid annoying or embarrassing questions. When questions of a delicate nature are necessary, the questionnaire should be anonymous.

The questionnaire used in this research was based on the literature as referred to in chapters 2 and 3 (Annexure B). The questionnaire consisted of three sections:

#### A. Vision and Mission Questionnaire:

These questions were related to the current vision and mission of the company; questions were asked to determine if the current vision and mission

were still relevant to the current operations of the company. Questions were also asked to determine where the current vision and mission of the company is going.

Five questions relating to the vision and 4 questions relating to the mission of the company were asked.

A 4 level lickert scale was used in this questionnaire in the following format:

1. Strongly disagree
2. Disagree
3. Agree
4. Strongly agree

The respondents chose the answer to the item that suited them best.

### B. The Balanced Scorecard (BSC) Questionnaire:

These questions were related to the different quadrants of the BSC as researched in chapter 2. As the different quadrants of the BSC were identified in the literature study, the questionnaire was constructed to fit the quadrants.

The different quadrants were:

1. Customer Perspective
2. Internal Perspective
3. Financial Perspective
4. Learning and Growth Perspective

In each quadrant 1 to 2 questions were asked and each question required the respondent to rank the factors mentioned below each question. A ranking of 1 to 4 were required. This ranking method was used to determine the important factors under each quadrant as seen by the employees of the company.

### C. Demographic Questionnaire:

The questions posed in the demographic questionnaire were based on the biographical data and gives the researcher an insight into the different

responses to certain questions in relation to the way in which the questions were filled.

## 4.4 Statistical analysis

### 4.4.1 Demographic analysis

**Table 4.1:** Demographic Analysis

<b><u>Age Categories</u></b>	<b><u>#</u></b>
18 - 30 years	3
30 - 40 years	8
40 - 50 years	8
50 - 60 years	11
60+ years	5
Total	<b>35</b>
<b><u>Job Departments</u></b>	<b><u>#</u></b>
Admin / Stores	14
Design and Planning department	10
Workshop	11
Total	<b>35</b>
<b><u>Job levels</u></b>	<b><u>#</u></b>
Top management and support	5
Professionals	7
Middle management	14
General	9
Total	<b>35</b>
<b><u>Gender</u></b>	<b><u>%</u></b>
Male	82.9
Female	17.1

### 4.4.2 Vision and mission analysis

Section A of the questionnaire was based on the vision and the mission of Bond and the aim of the questions was to determine if the current vision and mission were still relevant to the company. Another aim was to determine if the vision and mission required some modification to adapt to current change in the 21<sup>st</sup> century.



The lickert scale was numbered from 1 to 4, 1 represented strongly disagreed, 2 disagreed, 3 agreed and 4 represented strongly agreed. The mean represented the average selection of the participants.

**Table 4.2:** Analysis of the vision and mission

Number	Question	Strongly disagree	Disagree	Agree	Strongly agree	Missing	Mean	Std Dev
		1	2	3	4			
1	To what degree are you familiar with the vision of the company?	17.10%	22.90%	45.70%	14.30%	0	2.57	0.948
2	Is the vision still relevant to the current operations of the company?	17.10%	28.60%	45.70%	8.60%	0	2.46	0.886
3	Quality is the most important factor when engineering products for our clients ?	0	8.60%	17.10%	74.30%	0	3.66	0.639
4	Reduced prices offered to our customers are most important?	17.10%	20%	40%	22.90%	0	2.69	1.022
5	Client service is the most important factor in conducting business ?	0	2.90%	40%	57.10%	0	3.54	0.561
6	Are you familiar with the mission of the company?	8.60%	28.60%	45.70%	17.10%	0	2.71	0.860
7	Is the mission still relevant to the current operations of the company?	11.80%	35.30%	41.20%	11.80%	1	2.53	0.861
8	Bond Equipment only manufactures mining processing equipment?	20%	34.30%	20%	25.70%	0	2.51	1.095
9	Bond Equipment should manufacture for more than one industry?	0	0	25.70%	74.30%	0	3.74	0.443

In question 1 45.7% of the participants agreed and 14.3% of the participants strongly agreed that they were familiar with the vision of the company, while 22.9% disagreed and 17.1% strongly disagreed. The mean (average) was at 2.57- this indicate that the participants of the study were overall familiar with the vision of the company, although 40% of the participants disagreed or strongly disagreed about the vision (Table 4.2).

Question 2 was asked to determine if the current vision was still relevant to Bond and current operations of the company. The following analysis was made from the data in Table 4.2. A mean of 2.46 indicated that more than 50% of the participants agreed or strongly agreed that the vision of the company was still relevant of the participants, 17.10% strongly disagreed and 28.60% disagreed and believed that the vision was not relevant to Bond`s business anymore.

Question 3 was asked to determine if the most important factor, namely quality, was still the most important factor in Bond as defined in the vision of the company. Of the participants, 74.30% strongly agreed and 17.10% agreed, while only 8.60%

disagreed. The mean of 3.66 also indicated that the majority of participants strongly agreed to this question (Table 4.2).

On the contrary, question 4 refers to the importance of reduced prices offered to customers. The data in Table 4.2 showed that 40% agreed, 22.90% strongly agreed, only 20% disagreed and 17.10% strongly disagreed.

Question 5 of Table 4.2 refers to the importance of client and after service when conducting business; 57% strongly agreed and 40% agreed that client and after service was very important, only a mere 2.9% of the participants disagreed.

Question 6 and 7 of Table 4.2 refers to the mission of the company, the answers to these questions were to determine if the mission of Bond was still relevant to the current operation of the company. The mean in question 6 was 2.71 and this suggests that the average of the participants were familiar with the current mission of the company. In question 7, 41.2% of the participants agreed that the mission was still relevant in the current business operations.

Table 4.2 refers to Question 8 of the questionnaire, the question was asked to determine if Bond was still only manufacturing and supplying to the mining industry, 34.3% disagreed and 20% strongly disagreed that Bond still only supplied the mining sector.

The answers to question 9 of Table 4.2 clearly indicated that the participants felt that Bond must diversify its current business operations to other industries, With 74.3% strongly agreeing and 25.7% agreeing to diversify current business operations.

### **4.4.3 Balanced Scorecard analysis**

The BSC was analysed within the 4 quadrants and the participants were asked to assist in determining the broad guidelines for the company's BSC.

The **Financial perspective** is the most important quadrant for shareholders because the main reason why shareholders invest in a company is to receive a certain return from the invested funds.

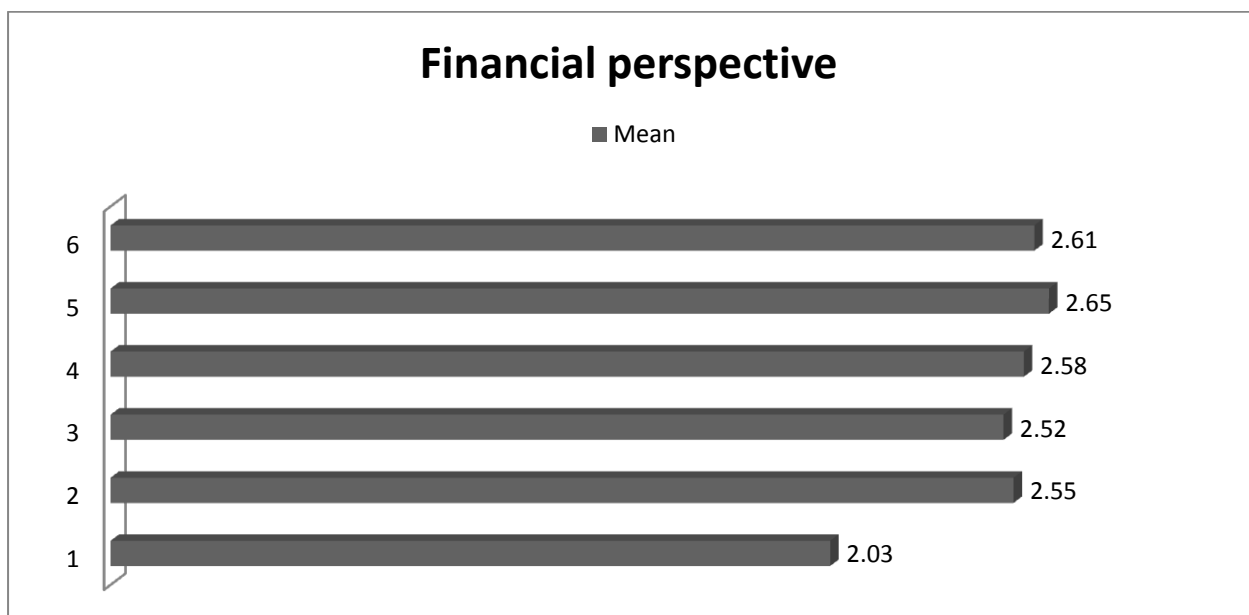
The participants were asked to determine the most important financial measures of the company, as well as the company strategy used by Bond.

**Table 4.3:** Company strategy regarding the financial perspective

10	Choose which one of the following perspectives are the most relevant strategy of the company?	#
	Cost leadership: the company strives to obtain a competitive advantage by selling similar products as competitors, but producing them at a lower cost	10
	Product differentiation: the organisation strives to offer a better quality/unique product to the consumer at a higher price than competitors.	25
	Total	35

Figure 4.3 revealed that 25 or 74.1% of the participants agreed that Bond was applying the product differentiation strategy.

**Figure 4.1:** Financial perspective analysis



In Figure 4.1 on the y-axis representing (1) Net Profit margin - Profitability (bottom line), (2) Gross Profit margin - Profitability of sale/cost of sales, (3) Liquidity ratio`s - the ability to meet current debts, (4) Growth percentages, e.g. Growth in sales, net profit etc. (5) Shareholders value-based measures which focus on, (6) The ability to utilise assets for maximum profit.

The participants were asked to rank the most important factors stated in Figure 4.1 from 1 to 4 with one being the most important. The figure illustrated the average (mean) of every aspect in question 11. The smallest mean represent the most important aspect of the question as selected by the respondents. Thus, no. (1) Net profit margin was selected as the most important financial aspect followed by (3) Liquidity ratio and (2) Gross profit margin.

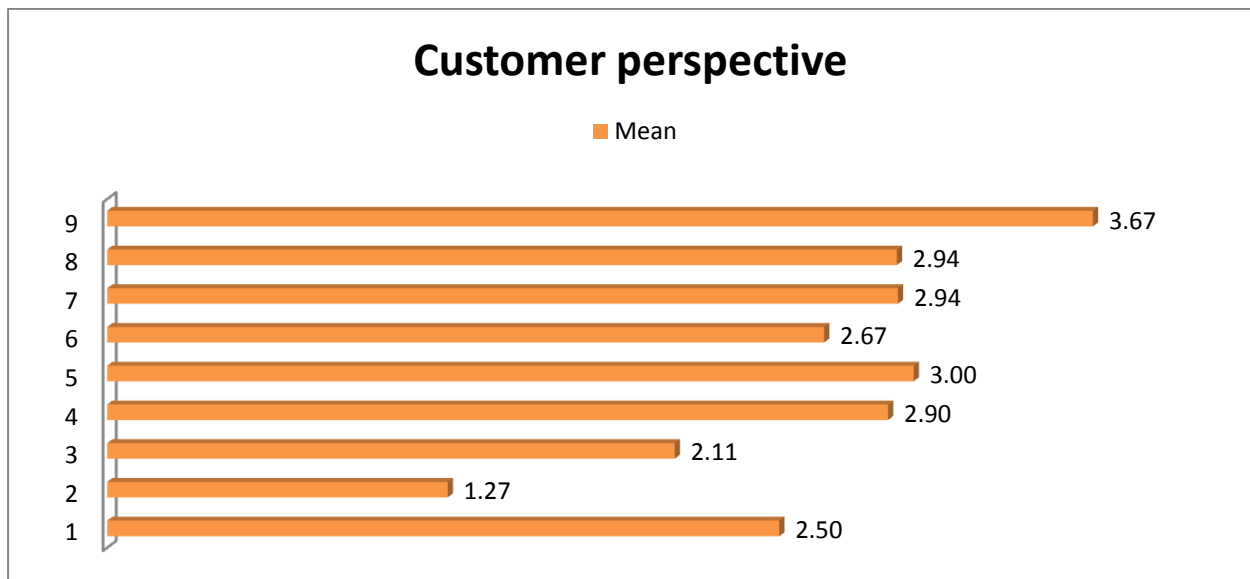
The **Customer perspective** in the BSC focus on how the organisational mission translates to customer service. An organisation could be assessed by customers based on its performance in 4 categories. These 4 categories include time, quality, product/service performance and cost.

The first question asked to the participants was to determine the company strategy regarding customers. Second, was to determine the most important aspects regarding the company`s customer base.

**Table 4.4:** Company strategy regarding the customer perspective

12 Which one of the following statements best describes the company`s strategy with regards to its customers?	
	#
The company tries to expand its customer base as widely as possible to ensure a large market share.	13
The company rather focus on specific market segments which it can service better than its competition.	22
Total	<b>35</b>

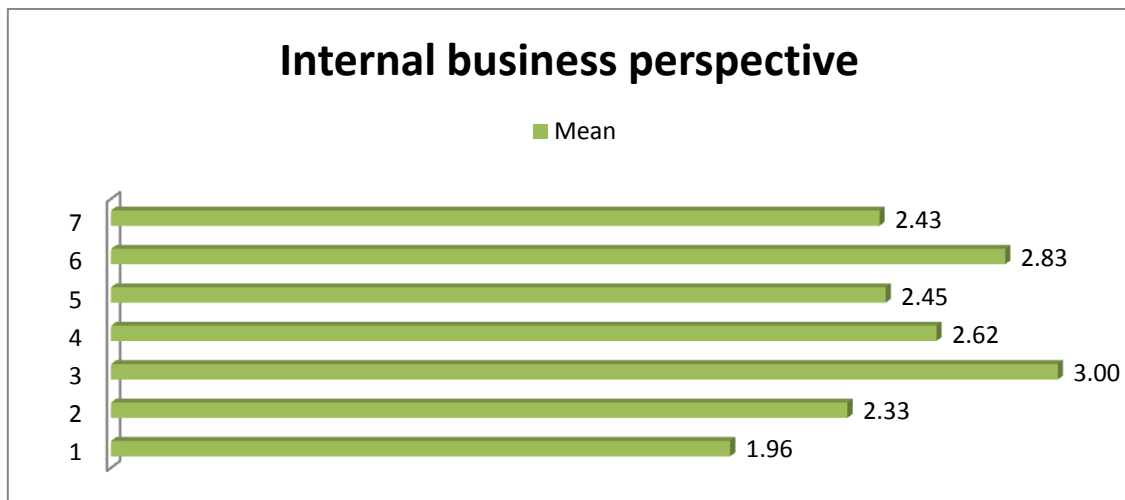
Table 4.4 revealed that 13 of the 35 participants selected that the company must try to expand its customer base to ensure a larger market share. Twenty-two of the participants selected that the company must rather focus on the specific market segment to secure better service to customers.

**Figure 4.2:** Customer perspective analysis

In Figure 4.2 on the y-axis representing (1) Fair competitive price, (2) The quality of the product, (3) Products made to order, (4) Quick response time to customer`s requirements, (5) Customer acquisition - the rate at which the company attracts new customers, (6) Market share, (7) Effective service (time to deliver), (8) After service to the customer, (9) Providing financial support.

The participants were asked to rank the most important factor stated in Figure 4.2 from 1 to 4 with 1 being the most important. The figure illustrated the average (mean) of every aspect in question 13. The smallest mean represents the most important aspect of the question as selected by the respondents. From the analysis made from the data in Figure 4.2 no. (2) The quality of the product was selected to be the most important with a mean of 1.27 followed by no. (3) Products made to order and no. (1) Fair competitive priced.

The focus of **Internal operations** will enable the organisation to meet the needs of their customers (Kaplan and Norton, 1992:74). This perspective is very important and sufficient control measures must be implemented to ensure best operational practice.

**Figure 4.3:** Internal business perspective analysis

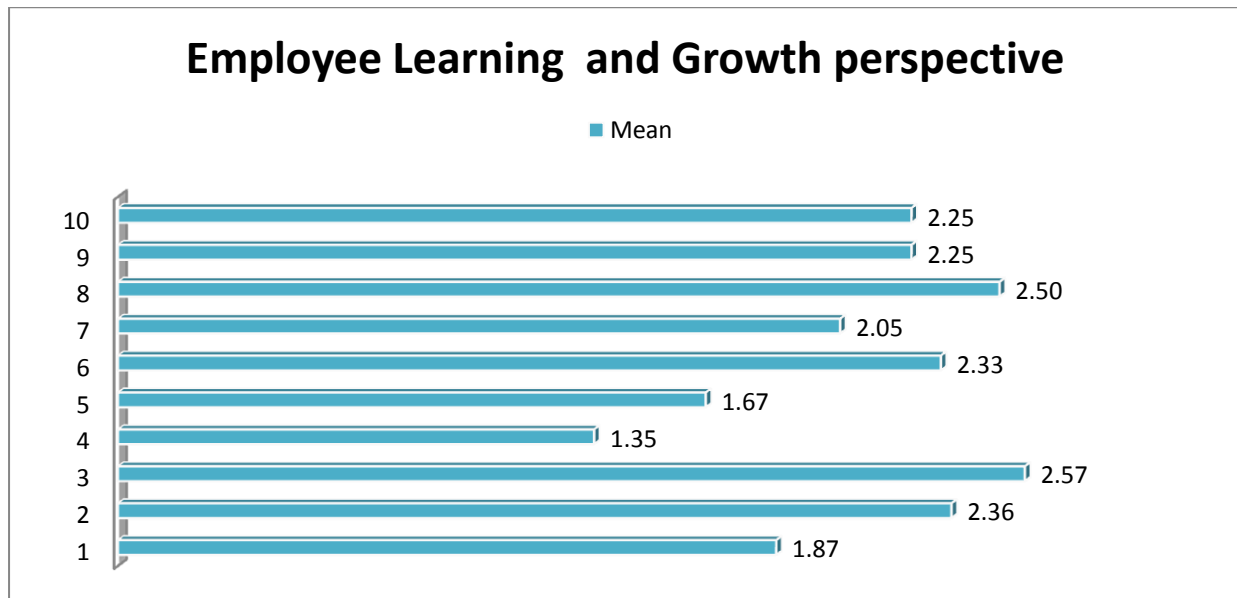
In Figure 4.3 on the y-axis representing (1) Planning and design of products/new planning and patents, (2) Inward logistics , i.e. purchasing, stock control, (3) Outward logistics, i.e. Shipment and installation, after sales, (4) Workshop, (5) Marketing and sales, (6) I.T. , Accounts and cash management, (7) Quality control.

The participants were asked to rank the most important factor stated in Figure 4.3 from 1 to 4 with 1 being the most important. The figure illustrated the average (mean) of every aspect in question 14. The smallest mean represents the most important aspect of the question as selected by the respondents. The data showed that no. (1) Planning and design of products/new planning and patents, was the most important activity with a mean of 1.96 followed by no. (2) Inward logistics , i.e. purchasing, stock control with a mean of 2.33 and no. (7) Quality control with a mean of 2.43.

The **Learning and Growth perspective** focuses on how the organisation can continue to improve and add value. Increased value in this case relates to both the customer and the shareholder. Since targets for success change continuously due to competition, it is important for organisational well-being and survival to keep on improving.

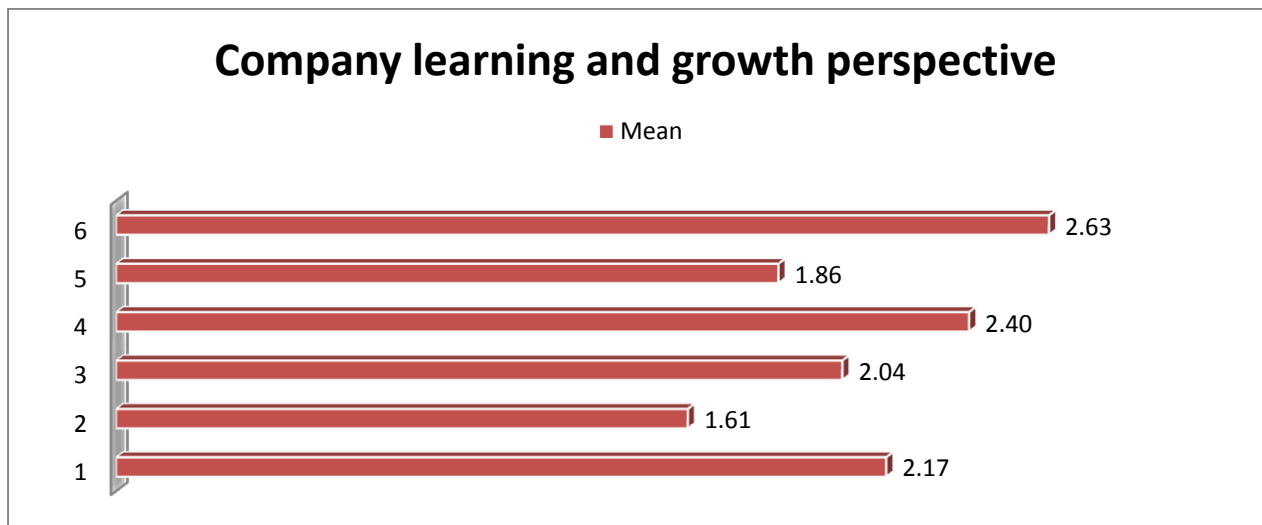
The Learning and Growth perspective was divided into two sections, namely the employee and the company. The participants were asked to rank the most important factor from 1 to 4 with one being the most important.

**Figure 4.4:** Employee Learning and Growth perspective analysis



In Figure 4.4 on the y-axis representing (1) Work relationships, (2) Work-life balance, (3) Workload (overload), (4) Job security, (5) Job control, (6) Resources and communication, (7) Pay and benefits, (8) Take responsibility and ownership, (9) Rewarded for work successfully completed, (10) Personal growth and obtaining new skills.

The data in Figure 4.4 revealed that the participants selected no. (4) Job security as the current most important aspect when it comes to employee relations with a mean of 1.35, no. (5) Job control followed with a mean of 1.67 and no. (1) Work relationships with a mean of 1.87.

**Figure 4.5:** Company Learning and Growth perspective analysis

In Figure 4.5 on the y-axis representing (1) New features on existing products, (2) New products designed, (3) New technological improvements, (4) Information systems complying to current needs of company, (5) Job control, (6) Research time.

Figure 4.5 revealed that the participants selected no. (2) New products designed as the most important activity with a mean of 1.61 followed by no. (5) Job control (mean of 1.86) and no. (3) New technological improvements with a mean of 2.04.

#### 4.4.4 Proposed guidelines for the BSC

The guidelines illustrated in Figure 4.6 were formulated from the analysed data in the previous sectors of chapter 4. The three most important aspect of each quadrant in accordance with the data analysed were applied as the guidelines for each quadrant of the BSC.

These guidelines will be applied by the management of Bond to guide the company forward on a strategic method. The guidelines will also guide management to apply the BSC to lower levels in the company, each department and each employee will have its own BSC, but these guidelines will form the basis for each BSC within Bond.



**Figure 4.6:** Proposed guidelines for the BSC

<p><b>Financial perspective</b></p> <ul style="list-style-type: none"> <li>• Net profit margin</li> <li>• Liquidity ratio</li> <li>• Gross profit margin</li> </ul>	<p><b>Customer perspective</b></p> <ul style="list-style-type: none"> <li>• Quality of product</li> <li>• Custom made products</li> <li>• Fair competitive prices</li> </ul>
<p><b>Internal business perspective</b></p> <ul style="list-style-type: none"> <li>• Planning and design of products/new planning and patents</li> <li>• Inward logistics , i.e. purchasing, stock control</li> <li>• Quality control</li> </ul>	<p><b>Learning and Growth perspective</b></p> <p><b>Employee</b></p> <ul style="list-style-type: none"> <li>• Job security</li> <li>• Job control</li> <li>• Work relationships</li> </ul> <p><b>Company</b></p> <ul style="list-style-type: none"> <li>• New products design</li> <li>• Job control</li> <li>• New technological improvements</li> </ul>

## 4.5 Summary

This chapter dealt with the method used for the empirical study. The choice and compilation of the study population, research method and the designed questionnaire were discussed. The data of the study were analysed and out of these results, broad guidelines were identified for the formulation of a BSC for Bond (Figure 4.6). The data of the vision and mission of Bond were also analysed and chapter 5 will deal with the results, discussion and recommendations of the empirical study.

Chapter 5  
RESULTS, DISCUSSION,  
RECOMMENDATIONS AND  
CONCLUSIONS

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### 5.1 Introduction

The preceding chapter presented the result obtained from the empirical research conducted from the employees of Bond Equipment (Pty) Ltd.

In this chapter, results, discussion, recommendations and conclusions will be given, based on the literature review on the vision, mission, the BSC and the result obtained from the research.

The primary objective was to formulate and develop guidelines for a BSC for Bond. These guidelines will be on a broad basis and will guide management to steer Bond forward on a strategic method. The three secondary objectives were:

- Improve the current vision and mission of Bond in accordance to the designed BSC;
- Determine the broad measurement instruments for Bond within the BSC; and
- Ensure that the measurement instruments were aligned with the vision and mission of Bond.

### 5.2 Vision and mission

#### 5.2.1 Discussion

The analysed results regarding the vision revealed that 60% of the participants were familiar with the vision of the company and 40% of them were not. This result must be very concerning to the management of Bond because the vision of a company should be the corner stone of every business.

The vision must be incorporated in all business operations. The current vision of Bond focuses on quality, therefore every employee of the company must be driven to deliver quality in their work (also refer back to chapter 2.2 for a more elaborate discussion on the importance of a clear vision for a company).

The mission of any company goes hand in hand with the vision of the company, but the mission is all about the sole purpose of the business. The analysis in Table 5.2 indicated that 62.9% of the participants were familiar with the mission but 37.1% were not. The analysis also indicated that 54.3% of the participants acknowledged that Bond does supply other industries with products, and all the participants agreed that Bond must diversify to supply other industries as well.

The analysed results also indicated that the vision and mission must include exceptional client service. Also indicated from the data in Table 5.2 was the fact that 62.9% of the participants asked for lower prices to customers. This can be interpreted as to rather offering better value for money to customers than lower prices, with delivering better quality and client service to customers compared to the competitors.

### **5.2.2 Recommendations**

The current vision of bond is to be the leading company in supplying quality engineered processing plants for the mining industry.

The study revealed that quality is most definitely a very important factor for Bond, but the study also revealed that the company must expand its business to other sectors and produce more than only processing plants to the market.

It is recommended that the vision is adjusted to fit the proposed changes and to align the vision with the BSC. The proposed vision for Bond's approval is;

*To be a leading company in supplying quality engineered products.*

The current mission of Bond is the following: service is based on proudly engineering and supplying a quality product, specific to the customers' specifications and demands.

The study revealed that Bond must also focus on client service and diversification of supplying products to more than one market.

It is recommended that the mission is adjusted to fit the proposed changes and to align the mission with the BSC. The proposed mission for Bond's approval is:

*Proudly engineering and supplying quality products as well as delivering exceptional client service globally.*

Before implementing any performance measure, management must ensure that the vision and mission of the company reach the entire work force of Bond. The vision and mission must be the driving force when enforcing any job or assignment.

Bond can start to broadcast the vision and mission by putting up signs or banners to advertise the vision and mission internally. Information sessions to all employees must also be held on a continuous basis to make sure that the vision and mission are clearly understood and lived by. It is also important to broadcast both the vision and mission to all stakeholders externally. This must form part of the tasks of the Human Resource (HR) team to ensure that everybody internally and externally are aware of the vision and mission of the company.

### **5.3 Discussion and recommendations regarding the Balanced Scorecard**

A BSC of any company must be designed with assistance from every stakeholder in the business, that's why the important aspects from this questionnaire were used to design the broad guidelines for the BSC for Bond. The management and shareholders of the company must approve the design to ensure total buy in from all stakeholders. The management will have to manage the BSC with the assistance of the measuring tools; it is also important to elaborate that the BSC is not fixed and must be reviewed on a regular basis to ensure that the BSC is still relevant to the current situation.

The 3 most important aspects in the 4 quadrants were identified as the guidelines from the results of the empirical study; Figure 4.6 illustrates the proposed guidelines for the BSC for approval by management and shareholders.

The study showed that the *Financial perspective* must consist out of the net profit margin, liquidity ratio and gross profit margin;

- The net profit margin measures the company`s over-all profit for the year.

It is proposed that the net profit margin be measured and evaluated on a 6 month basis

- The liquidity ratio refers to the company`s ability to meet its current maturing debt and the test of liquidity focuses on the relationship between current assets and current liabilities. A company`s ability to pay its current liabilities is an important factor in evaluating its short-term financial strength.

Current assets consist out of inventory, cash reserves and debtors; liquidity can be improved by managing the current assets correctly. Current liabilities consist out of creditors and overdrafts. If these operational factors are managed correctly, liquidity will improve.

It is proposed that the liquidity be measured on a monthly basis to ensure that effective management of this aspect.

- The gross profit margin is a reflection of the company`s ability to charge a premium on price and to produce goods and services at lower cost.

It is proposed that this aspect be measured and evaluated every 6 months and the financial manager will be managing and driving the financial perspective.

The *Customer perspective* will consist of quality of product, custom made products and fair competitive prices;

- Quality of product can be measured by an annual customer survey where the customers are asked about the overall quality of the product. A monthly report must also be generated where the number of warranty claims, number of comebacks, number of customers queries on products are captured;

- Custom made products can be measured at the end of every quarter when all projects or jobs are evaluated at a feedback session on sales;
- Fair competitive prices can also be measured at the same feedback session on sales at the end of a quarter. The marketing team must compare prices by doing market research on a continuous basis.

The marketing manager will be overseeing the *Customer perspective*.

Figure 5.6 indicates that the most important factors in the *Internal business perspectives* consist out of planning and design of products/new planning and patents, inward logistics , i.e. purchasing, stock control and quality control.

- Planning and design of products/new planning and patents; must be evaluated on a 6 monthly basis with a scheduled design meeting where all new designs are noted. This will then be compared with previous results.
- Inward logistics , i.e. purchasing and stock control, can be measured with current accounting and auditing control measures, namely the annual stock take, comparing stock losses and ageing stock with the performance of previous years and budget objectives. The purchasing department must be evaluated on the gross profit margin and also the ability to comply to standard operating procedures (SOP`s).
- Quality control will be measured with the compliance and renewal of ISO 9001:2000 policies and standards.

The Operational manager will be managing this perspective.

The most important factors in the fourth quadrant according to the study were;

*Learning and Growth perspective*

**Employee** – this function will be managed by the human resource (HR) department

- Job security ;
- job control ;
- work relationships.

The only way to manage these aspects is to interact with every single employee on a regular basis; it is proposed that the HR manager must meet with every employee alongside his or her line manager every six months to ensure effective management of this HR function.

**Company** – this function will be overseen by the design engineer.

- New products design ;
- Job control ;
- New technological improvements

The design engineer and operational manager must work together to achieve the desired end result. This part of the learning and growth perspective will go hand in hand with the operational perspective.

### **5.4 Conclusive summary**

The study revealed the broad guidelines to develop a BSC for Bond, 3 aspects from each quadrant were selected by the participants of the study. These guidelines will guide management to steer Bond forward on a strategic way. The guidelines will also guide management to apply the BSC to lower levels in the company, each department and each employee will have its own BSC, but the guidelines in Figure 4.6 will form the basis for each BSC within Bond.

The vision and mission were also improved to match the new strategy of the company. The study indicated that Bond have to diversify and focus not only on quality but also on customer service.

Proposed measurement tools were also recommended to the management of Bond, these measurement tools will assist management to manage the company in accordance to the vision and mission.

The BSC is a performance measurement tool and must be designed to fit every department and employee of the company; this will ensure successful design of the



BSC. The broad guidelines established in this study, will form the basis of the design of a BSC for Bond.

The BSC is also a management tool; determining and managing the weight of each quadrant of the BSC, will ensure change to the focus areas of the business. Management can adapt to the ever changing economic climate by changing the weights of the quadrants. For example, in a good economic climate the weight of the Balance Scorecard will shift from focusing on financial (cost saving) and customer (marketing of products) to the learning and growth of workers.

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## Annexure A & B

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## Annexure A

### **QUESTIONNAIRE: Designing a Balanced Scorecard for a mining supply company**

Dear Bond Employee,

I am conducting research on the designing of a balanced scorecard.

The Balanced Scorecard (BSC) can be defined as a strategic planning, management and performance system, which is used to structure business actions according to the vision, mission and strategy of the company and thereby improve both internal and external communication and monitor organisational performance against strategic goals.

At the completion of the research the results will be shared with you. We expect the results of the study to provide useful input into the development of a performance measurement tool for the company.

Your participation will be greatly appreciated.

Kind regards,

Hannes Mels



**Annexure B****Research Questionnaire****Section A: Vision and Mission****The vision of Bond Equipment**

- \* Please indicate on a scale of 1 - 4 to what extent you agree with the following statements

Strongly agree	Agree	Disagree	Strongly disagree
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1	To what degree are you familiar with the vision of the company ?	4	3	2	1
2	Is the vision still relevant to the current operations of the company?	4	3	2	1
3	Quality is the most important factor when engineering products for our clients ?	4	3	2	1
4	Reduced prices offered to our customers are most important ?	4	3	2	1
5	Client service is the most important factor in conducting business ?	4	3	2	1

**The mission of Bond Equipment**

- \* Please indicate on a scale of 1 - 4 to what extent you agree with the following statements

6	Are you familiar with the mission of the company?	4	3	2	1
7	Is the mission still relevant to the current operations of the company?	4	3	2	1
8	Bond Equipment only manufacture mining processing equipment ?	4	3	2	1

9 Bond Equipment should manufacture for more than one industry ?

4	3	2	1

**Section B: The Balanced Scorecard**

**Financial Perspective**

10 Choose which one of the following perspectives are the most relevant strategy of the company?

Cost leadership: the company strives to obtain a competitive advantage by selling similar product as competitors, but producing them at a lower cost	✘
Product differentiation: the organisation strives to offer a better quality/unique product to the consumer at a higher price than competitors.	

11 With regards to measuring financial performance of the business and its divisions, choose the four most important performance measures for the company and arrange them in order of importance. Use the number 1 to 4 where 1 indicates the most important and 4 the least important option?

**Number  
1-4**

Net Profit margin - Profitability (bottom line)	
Gross Profit margin - Profitability of sale/cost of sales	
Liquidity ratio`s - the ability to meet current debts	
Growth percentages, e.g. Growth in sales, net profit etc.	
Shareholders value-based measures which focus on cash flows and economic value added	
The ability to utilise assets for maximum profit	

**Customers Perspective**

12 Which one of the following statements best describes the company`s strategy with regards to its customers?

The company tries to expand its customer base as widely as possible to ensure a large market share.	✘
The company rather focus on specific market segments which it can service better than its competition.	

- 13 It is important for the company to pay attention to the following:  
Use the number 1 to 4 where 1 indicates the most important and 4 the least important option.

**Number  
1-4**

Fair competitive price	
The quality of the product	
Products made to order	
Quick response time to customer`s requirements	
Customer acquisition - the rate at which the company attracts new customers	
Market share	
Effective service (time to deliver)	
After service to the customer	
Providing financial support	

#### **Internal Business Perspectives**

- 14 Which four of the following activities are viewed as the most important for the company?  
Use the number 1 to 4 where 1 indicates the most important and 4 the least important option.

**Number  
1-4**

Planning and design of products/new planning and patents	
Inward logistics,i.e. purchasing, stock control,	
Outward logistics, i.e. Shipment and installation, after sales	
Workshop	
Marketing and sales	
I.T. , Accounts and cash management	
Quality control	

### Learning and Growth Perspectives

- 15 Which of the following three aspects are the most important to yourself ?  
Use the number 1 to 3 where 1 indicates the most important and 3 the least important option.

**Number  
1-3**

Work relationships	
Work-life balance	
Workload (overload)	
Job security	
Job control	
Resources and Communication	
Pay and Benefits	
Take responsibility and ownership	
Rewarded for work successfully completed	
Personal growth and obtaining new skills	


- 16 Which of the following three aspects are the most important to yourself ?  
Use the number 1 to 3 where 1 indicates the most important and 3 the least important option.

**Number  
1-3**

New features on existing products	
New products designed	
New technological improvements	
Information systems complying to current needs of company	
Job control	
Research time	

### Section C: Personal Information

- 17 Please indicate your age

18 - 30 years	
30 - 40 years	
40 - 50 years	
50 - 60 years	
60+ years	

18 Please indicate in which department you are working



Admin / Stores	
Design and Planning department	
Workshop	

19 Please indicate your level of employment at the company



Top management and support	
Professionals	
Middle management	
General	

20 Please indicate your gender



Male	
Female	