

Using the Balanced Scorecard as a Strategic Management System in the Libyan Construction Industry

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Libya is a developing country that has a growing construction industry, however, the management of construction projects frequently experiences challenges with time and cost restraints and this affects the overall performance of the project as well as the performance of the project managers. The main aim of this paper is to apply BSC in the Libyan construction industry and evaluate the factors that impact project manager performance and their ability to complete and deliver projects successfully in Libya. This study will ascertain the role of project managers, the challenges that project managers in Libya frequently encounter the cause of time and cost overruns within construction projects and the main factors for successful construction projects. This research adopted both quantitative and qualitative research methods. The findings are based upon 300 structured questionnaires distributed to general, project managers working on construction sectors in Libya (Tripoli). Completed questionnaires received were 183. This is a response rate of 61%. A statistical analysis was used to confirm and address the issues of reliability and validity of the questionnaire survey as a measuring instrument. In addition structured interviews with qualified project managers were used to confirm that the data collected were truly reflective. Upon the data analysis from the questionnaire survey and structured interview the project manager is the most important factor affecting the success of the project in construction industries Libya, furthermore project manager skills are important components that influence the performance of project manager.

Keywords: BSC, Libya, questionnaires survey, construction industry, qualitative research

Introduction

A construction project requires input from many different parties, there are many stages to a project and input from both public and private sectors is often used on projects. The priority of a construction project is to be completed successfully within the financial plan. The extent of success of a project highly depends on managerial quality, financial aspects of the project, technical factors and the general organization and performance of the parties involved. The success of a project is normally evaluated if it has been delivered within the required deadline, budget and the specifications meet the clients expectations. Often, different viewpoints are used to evaluate the success of a project, such as: clients, developers, contractors, and general public etc.

The main parameters used to determine whether a project is successful are time, cost, performance, quality,

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and safety. In most cases, a project is considered successful if the individual goals of the client and contractor have been met; especially if they are financial goals (Lim & Zain, 1999). Time, cost, and quality parameters are the most popular criteria used to assess the performance and success of construction projects (Chan & Kumaraswamy, 2002).

Certain structure and techniques should be adhered to by project management in order to manage a project successfully. As well, as certain techniques used, it is also important to consider the interpersonal and human aspect of project management as this will also play an important role in the development of the project and ensuring project activities are overseen (Shibani et al., 2012).

Every project manager is unique and has different ways of managing a team. If the same project was given to two different managers to oversee and manage, the project will be completed in the certain way the manager chooses to manage the project. The way a project is run varies depending on the perception and emotion of the manager as this can impact various aspects of a project such as the decision making process and problem solving skills; these actions may make the difference between the success and failure of a project.

Construction Project Success Performance Measurement

Project success can be evaluated using many different levels of measurement. Evaluation of project success differs as the project develops, and is dependent on stakeholders (Morris & Hough, 1987). From a client's point of view, the success of the project is unknown until payment has been made or until the client has seen signs of progress and objectives have been met. On the other hand, a contractor will not know how successful the project is until the client pays them and gives them feedback on the project. Therefore, as a result of varying views of when project success can be determined, the general concept of project success remains ambiguously defined and the definition of success often changes from project to project (Parfitt & Sanvido, 1993). The secret to a successful construction project is to manage the project efficiently through all steps. Effective performance management depends on performance measurement (Maloney, 1990). The systematic approach to measure performance has interested many construction firms, government sectors, public and private clients, and other project-orientated companies. Sinclair and Zairi (1995), Stevens (1996), Atkinson (1999), Mbugua, Harris, Holt, and Olomolaiye (1999), Love and Holt (2000), and Chan (2001) collectively define performance measurement as the regular collection and evaluation of information regarding input, efficiency, and effectiveness of construction project activities. Project performance can be evaluated both financially and non-financially, and can be compared and contrasted with the performance of others within the organization. Kelada (1999) states that performance measurement should not simply apply only to product or service quality, i.e. the business performance, but it should also extend further to quality management, customer satisfaction, needs, wants, and expectations. In this way, all three stakeholders, shareholders customers, and employees, can be satisfied. Measurement can be classified in three main ways. The first method of measurement is the numerical and quantitative indicators, the second method refers to the qualitative/subjective matters, and the third refers to deciding which performances to measure. Stevens (1996) states that there are "hard" and "soft" aspects in measuring project success; time and cost are the "hard" aspects and satisfaction is the "soft" aspect. Research conducted by Freeman and Beale (1992) and Rigs et al. (1992) separates project success into tangible and non-tangible aspects; the tangible aspect includes cost and time parameters, whereas the non-tangible aspect includes customer satisfaction, performance of project manager, weather conditions, and other attributes. Even though all the literatures stated above use different ways to characterize performance

measures, all literatures agree that results from the measurement have to be compared to the initial plan and reference values in order to identify the standard (Stevens, 1996; Mbugua et al., 1999; Love & Holt, 2000). One main factor that influences the performance of construction projects and construction organizations is the state of the national economy, the implementation of process improvement programs can have an impact on the organization both in the long and short term. Construction Industry Task (Force, 1998; Tang & Ogunlana, 2003). One way of improving project and organization performance is to integrate process improvement strategies, such as, arranging collaborative partnering, having supply chains in place, developing management-risk strategies, management safety approaches, value engineering.

Kaplan and Norton grouped their measures into four main groups, also known as perspectives. Each perspective contained measures that complement and combine traditional financial measures with strategies. The four perspectives are operational measures, internal process, customer satisfaction, and innovation and learning. Kaplan and Norton (1993, p. 139) state that the balanced scorecard “provides executives with a comprehensive framework that translates a company’s strategic objectives into a coherent set of performance measures,” it is often referred to as a “strategic management system”.

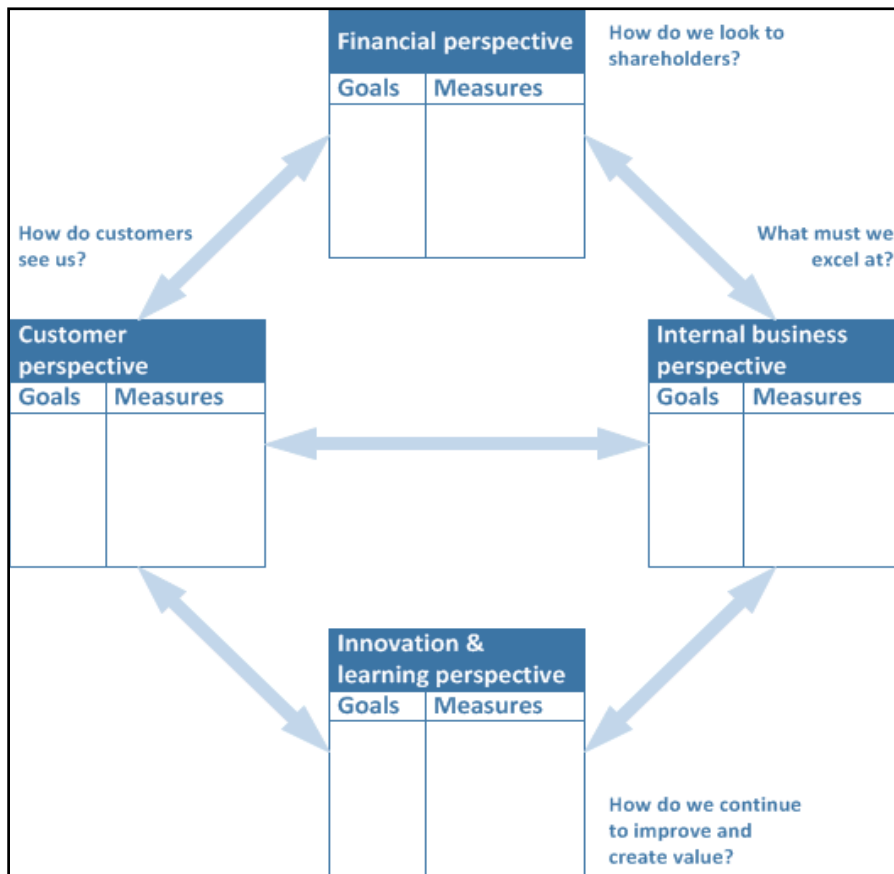


Figure 1. The balanced scorecard. Source: Kaplan and Norton (1992).

Kaplan and Norton (1992) recommended that for each perspective there should be at least four goals and measures. Performance indicators with specific and achievable targets will monitor each goal and measure; these are known as critical success factors (CSF) or key performance indicators (KPI) (Proctor, 2006, p. 43). The use of these performance indicators will ensure that each measure is kept specific and simple. Proctor

(2006) also stated that the people that are responsible for ensuring the targets are achieved should put in place action plans to guarantee the success of each perspective.

Performance Indicators

Key performance indicators (KPIs), also known as key success indicators (KSIs) help organizations identify and measure the progress made towards reaching their goals. Once an organization identifies and analyzes the objectives that need to be met, key performance indicators help measure the progress towards these goals. Performance indicators assess project impacts, outcomes, outputs, and inputs that are monitored whilst the project is being implemented. Once the project objectives are met, KPIs are used to evaluate the project's success. The project impacts, outcomes, outputs, and inputs can be clarified and linked by the use of indicators; problems that may slow down the progress of the project can also be highlighted (Effective Implementation: Key to Development Impact, September, 1992).

Performance indicators were originally created in 1960 by the Americans for use in the public sector, the UK first used indicators in 1982 as part of the Financial Management Initiative (FMI), which was introduced by Whitehall in 1982 (Carter et al, 1992).

There are numerous data measurement tools that can be used to assess the performance of a construction operation. These methods are also used to evaluate how well an employee performed on a certain task. Indicators are used for evaluation purposes to compare the actual and estimated performance, this can be in terms of effectiveness, efficiency, and quality; both for workmanship and product.

In response to Egan's report (1998), UK teams working on Key Performance Indicators (KPIs) have identified 10 parameters for benchmarking projects in order to achieve good performance. These parameters can be split into result- and process-orientated; the majority of the parameters are result-orientated, such as, construction cost, construction time, defects, client satisfaction with the product and service, profitability and productivity, process-orientated parameters are predictability of design cost and time, and predictability of construction cost and time, and safety. During the project selection phase, no indicators have been developed to help choose an appropriate project, however there are many indicators for the analysis stage where a delivery strategy is determined.

Mbugua et al. (1999) studied various construction task forces and identified a range of indicators for the UK construction industry, and these are shown in the table below.

Table 1

The Performance of Industry Measures. Adopted From Mbugua et al., (1999).

UK Industry Performance Report (Glenigan, 2014)

Latham (1994)	Egan (1998)	Construction productivity network (1998)	Construction industry board (1998)	UK industry performance (2014)
Client satisfaction	Construction cost		Capital cost	Economic
Public interest	Construction time		Construction time	Indicators
Productivity	Defects		Time Predictability	Client Satisfaction
Project performance	Client satisfaction (product)	People	Cost Predictability	Contractor Satisfaction
Quality	Client satisfaction (service)	Processes	Defects	Predictability.
Research & development	Profitability	Partners	Safety	Profitability
Training and recruitment	Productivity	Products	Productivity	Respect for People
Financial	Safety		Turnover & profitability	Environmental
	Cost predictability (const.)		Client satisfaction	Indicators
	Time predictability (const.)			Housing
	Cost predictability (design)			Non-housing
	Time predictability (design)			Consultants

Research Methods

Appropriate methods must be selected for collecting research in order to answer the specific questions addressed in the study, in order to do so, the researchers are required to make important decisions on selecting the correct method that will take into account the following:

- 1) In order to answer the research question, what methods are the most suitable?
- 2) What approaches can be used to collect and measure data that will complement the adopted methods?

This research aims to find practical solutions to a problem that exists in reality; this study is purely practical and not theoretical. Hakim (1987) distinguishes between practical and theoretical research by stating that practical research is:

An emphasis on the substantive or practical importance of research results rather than on merely “statistically significant” findings, and second, a multi-disciplinary approach which in turn leads to the eclectic and catholic use of any and all research designs which might prove helpful in answering the questions posed.

A comprehensive, thorough literature review is usually the first step taken for research as it allows the researchers to investigate what aspects have been previously explored and solutions have previously been established.

Research Design

Research methodology refers to the systematic way of solving a research problem and proving an underlying basis for the research process by taking logical steps throughout all stages of research (Kothari, 2005).

Once research methodology has been planned and the purpose of research is clear, a suitable research design can be set up. It is important to note that research design is not the same as data collection. Research design organizes the research into a logical structure, whilst data collection is the method used to collect research (De Vaus, 2001). Yin (1994) states that research design “deals with a logical problem and not a logistical problem”, this means that it is dissimilar to a work plan which expresses what needs to be done but is only done as a consequence of the research design. In summary, research design ensures all research has been gathered so that the initial question can be answered as unambiguously as possible (De Vaus, 2001).

Questionnaires

A questionnaire is the most common research instrument used to collect quantitative data. A general definition of a questionnaire is a list of questions developed by a researcher to gather relevant data on a certain subject.

Questionnaires were defined by Gray (2006, p. 243) as “research tools through which people are asked to respond to the same set of questions in a predetermined manner”.

Once the objectives of the study are discovered, a questionnaire can be created to help gather the data required to satisfy the objectives. Designing and planning a good questionnaire can be hard to do and are often the most crucial stage. Breakwell et al. (2000) state that it is very hard, almost impossible to design a questionnaire that will provide you with exactly what you need to know. In order to help improve the questionnaire, two main things were done in this study: firstly, performance management studies were completed, and secondly a pilot study was done (details on the pilot study can be found in the next section).

Oppenheim (2008) states that there are a number of factors that have to be taken into account when designing a questionnaire, such as: the type of research, size of sample, and type of sample.

Interview Processes

The interview has been done to supplement and support the data analysis, the major aims of the interviews were to investigate the validity and support the data collection of the findings from the questionnaires survey, after 183 questionnaires were collected and analyzed. Five project construction managers from different companies in Tripoli were selected to validate authors' data analysis and develop guidelines for implementing BSC in Tripoli construction companies. The interviews were conducted in structured way due to time constrain and in order to give more freedom to the interviewees.

After analyzing data, the result showed that project managers' skills, roles, and responsibility were the most important factors affecting the success of projects in Libyan construction industries, however, to help the companies solve their problems facing them, it must look for proper method that can help the company and the manager in same time. There are many methods used such as total quality management (TQM), key performance indicator (KPI), six sigma, and balanced scorecard (BSC) (Shibani et al., 2012).

To improve the company's strategy, the researcher found the original balanced scorecard is the proper method which can be used in this study and offers a unique piece of work by evaluation of the performance of project managers affecting Libyan construction industry. BSC is strategy tool which can measure long-term factors financial and non-financial, also highlight the company's strategy, and increase consensus amongst managers.

Kaplan and Norton in 1992 developed the balanced scorecard (BSC) concept, shortly after, this concept was adopted by thousands of organizations worldwide. Tools developed in the past tended to emphasize on one singular value that the organization had to focus on, whilst BSC proposes to balance certain important factors for various stakeholders in order to improve corporate value.

Within the construction industry the balanced scorecard can be used to impact the economic circumstances of industries by defining the construction companies' strategy management process. As a result, the principle factors of long-term growth can be identified and the balanced scorecard concept can be implemented as an effective strategic management tool.

Past studies investigating management direction have adopted an intellectual capital approach, which has a significant effect on the performance of the company and is often thought to be a warning device for financial performance (Cabrita, 2006). Kaplan and Norton (1996) argued against this idea and believed that companies should focus more on developing their technology into material assets quickly through intelligent management of intangible assets and liabilities. The purpose of intellectual capital performance as a critical component for an organization was defined by Allee (2000), and as a result caused continuous success by integrating financial models into responsible locations.

Basu (2001) claims that the factors for long-term growth are always required and businesses are constantly looking for new ways to update their procedures and develop their performance by creating metrics to evaluate project performance. Therefore, the creation of the balanced scorecard was considered to be the ultimate performance measurement tool as not only can it contain financial measures and use them to analyze project improvement by taking the appropriate action and implement existing measures, but also focus on customer satisfaction within operation measures, internal processes, and companies leading growth activities. This concept can help managers conduct performance appraisals for the business and it provides driven pathways for this to occur (Kaplan & Norton, 1994).

A traditional tool commonly used as a financial indicator was known as a lagging indicator. Three other indicators were added and these are known as leading indicators (e.g. operational measures) (Kaplan & Norton, 1992). These leading indicators provide a steady perception into finance besides intellectual capital. However, if one of these indicators is neglected, the full results for business performance could not be captured (Amaratunga, Baldry, & Sarshar, 2000).

Balanced Scorecard Perspectives

This chapter will explain the main function of the balanced scorecard concept by explaining each BSC perspective. The main purpose of the balanced scorecard strategy is to interpret the organization’s vision by developing a number of objectives and measures that are based around four main perspectives. These perspectives are illustrated in Figure 2 below.

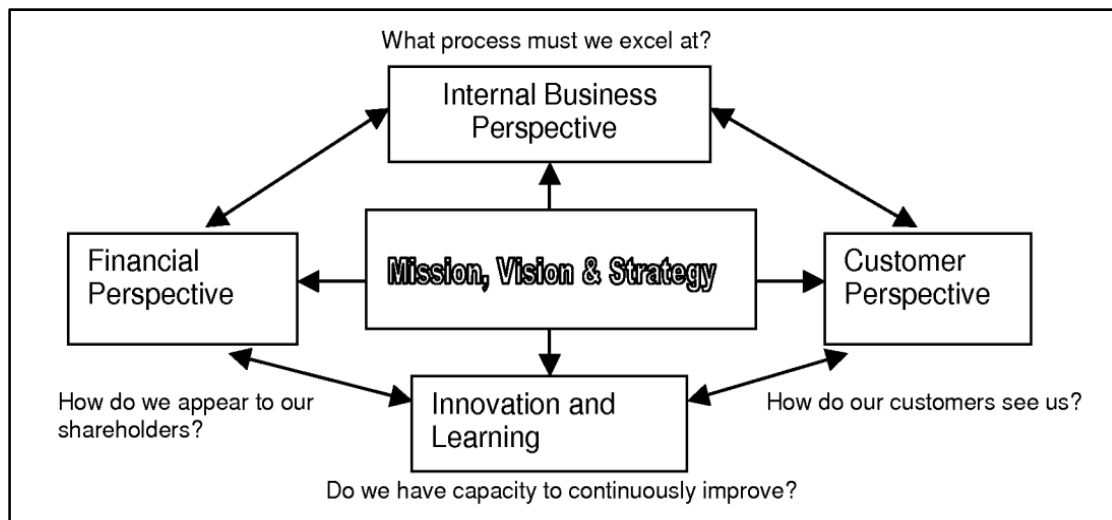


Figure 2. The balanced scorecard perspectives (Kaplan & Norton, 1994).

Financial Perspective

Generally, financial performance measures can be regarded as the most important component in applying company strategy; this is due to main role of supporting and improving companies. The main financial perspective goal is to increase shareholders value, growth, and profitability (Kaplan & Norton, 1992). Long-term financial growth can be attained by using the BSC to set objectives that measure financial performance combined with a series of activities that can be used to engage with employees, systems, financial processes, internal process, and the customer.

Financial objectives, measures, and critical goals assist in evaluating the financial performance predicted by using BSC. Table 2 below outlines the main measure, factors, and objectives to consider as a financial perspective (Kaplan & Norton, 2000b).

However, Schneiderman (2001) believes that if businesses wish to gain optimum advantage from BSC then non-financial factors should also be considered. If businesses only focus on accomplishing short-term financial outcomes, it could lead the organization to only develop short-term targets and ignore the long-term value and investment and neglect the importance of intellectual and intangible assets which have a main role in developing the organization (Kaplan & Norton, 1996b).

Table 2

The Financial Perspective's Measures and Objectives

Factors	Measures	Objectives
Contribution margin (%)	Profitability	Survive
Cash flow	Revenue	Prosper
Solvency (%)	Productivity improvement	Profitability
Return on investment (%)	Market value	Lowest cost
Total costs	Economic value added	Profitable growth
Total assets/employee	Reduction in risk	Enhance emergency preparedness
Revenues/employee	Profit/total assets	Improve communication
Profits/employee	Enhancement of assets	Improve collaboration
Market value	Cost reduction	Logistical support
Return on net assets	Reliability of performance	
Return on total assets (%)	Profit margin	

Customer Perspective

In more recent years, the majority of organization has developed their vision based on their customer; as customer focus and satisfaction are regarded very important for any sector. The main aim of an organization based on a customer perspective is to provide excellent services, quality and to ensure customers are satisfied so that the business can maintain a good reputation amongst their customers (Amaratunga et al., 2000). There are many factors, measures, and objectives that have to be followed by organizations in order to be established as the best business aimed both present and potential customers. These factors, measures, and objectives are presented in Table 3 below (Kaplan & Norton, 1993):

Table 3

Customer Perspective Measures, Objectives, and Factors

Factors	Measures	Objectives
Brand-image index (%)	Short lead time	Delight the target consumer
Average customer size	Repeated business	Customer relationship.
Customer rating (%)	Customers' retention	Customer satisfaction
Service expense/customer.	Customers' profitability	The money value
Number of customers	Annul income/customer	Competitive price
Market share (%)	Average customer duration	High-performance professional image
Customer lost	New customer acquisition	Innovation
Satisfied-customer index (%)	Customer loyalty	Reputation
Customer-loyalty index (%)		

Another important factor that all business must consider is to ensure all products are delivered on time and the market circumstance is classified in order to measure the account share in directed sectors (Kaplan & Norton, 1996b).

Internal Process Perspective

Internal factors can be used to categorize the customers and organization objectives. Measuring the company's process in order to reach the best performance outcome does this. By implementing the internal process perspective, customer and financial strategic targets can be attained (Kaplan & Norton, 1996a). Organizational processes can be observed through the use of BSC and it can ensure that results will be

sufficient. There are two main differences between the traditional approach and the BSC style of measuring performance management; the two main differences are as follows:

- The main method used in traditional approaches was to observe and develop existing processes, whereas the BSC approach generates new processes that allow the organisation to surpass in meeting financial and customer objectives.
- In order to achieve new services and products, the BSC also integrates innovation processes to increase the outcome (Amaratunga et al., 2000).

In terms of internal processes, there are some factors, measures, and objectives that have to be contemplated, as shown in Table 4 below (Kaplan & Norton, 1996b; 2000a).

Table 4

The Internal Business Perspective Factors, Measures, and Objectives

Factors	Measures	Objectives
Industrial accident	Value of rework	Risk management
Cost of administrative error (%)	Commitment to budget	Tender effectiveness
Administrative expense	Productivity & cost reduction	Providing responsive service
Contracts filed without error	Non-conformance to standards	Increase customer value
Time for decision making	Defect rates	Creating innovation products
Processing time	Cost & time predictability	Shaping customer requires
On-time delivery (%)	Environment incidents	Understand customer needs
Average lead time	Corporate quality performance	Supply chain management
Inventory turnover	Investment in technology	Joint ventures & partnerships
Improvement in productivity (%)	Research and development	Good corporate citizenship
IT capacity/employee	IT expenses/employee	Safety (loss control)
Emissions from production	Ethical incidents	Quality service
Environmental impact	Safety incidents	

Learning and Growth Perspective

Whilst some consider this last factor as not as important as the other three; learning and growth perspective is the foundation that companies have to produce in order to determine long-term enhancement and growth. This is the last factor but ultimate factor that must be used in order to support the company’s vision and enhance potential value for owners. This factor not only encompasses employee skills, framework, and structure but also the efficiency of data and activities that support the achievement of company’s aims. Learning and growth factors constitute the basis for achievement of any learning associations (both present and future learning ventures).

According to Kaplan and Norton (1996b; 2001a), learning and growth factors can be split into two main sections:

- Employee objectives: employee competencies can be improved by the use of training programmes, employee enhancement, and reskilling personnel. Also, productivity and retention, personal satisfaction is also achieved which provides a suitable environment for activities.
- Processes and system objectives: this aspect focuses on advancing the organisations’ practical infrastructure, so continuous learning can be achieved and information administration capabilities will be improved, e.g. communication skills, data structure, and databases.

Findings from Kim and Mauborgne's study (1997) led them to reiterate the importance of innovation and emphasize that neglect and bad communication can lead to the loss of consumers. The study also highlighted that if a business wishes to comply with the growth and learning factors, there are a number of measures actions that must be put in place, such as: finding time to adopt a new approach, investing capital into learning and innovation, leadership research, effective and quality partnerships, listening and taking on board personal ideas, personnel satisfaction, flexibility ratings, securing trust on all levels, availability to existing information and strategic data, ensuring the groundwork for accessible learning is created and representative strengthening indexes (Kim & Mauborgne, 1997; Kaplan & Norton, 1996b; 2000a).

Using the Balanced Scorecard as Strategic Management

Most organizations tend to focus on the financial aims and measures and neglect the long-term planned objectives. As a result of paying less attention to the long-term goals, there is a lack of development and strategy implementation (Kaplan & Norton, 1996a). The implementation of BSC can also be used to help organizations concentrate on their long-term objectives. This can be done through four main processes, these are illustrated below in Figure 3.

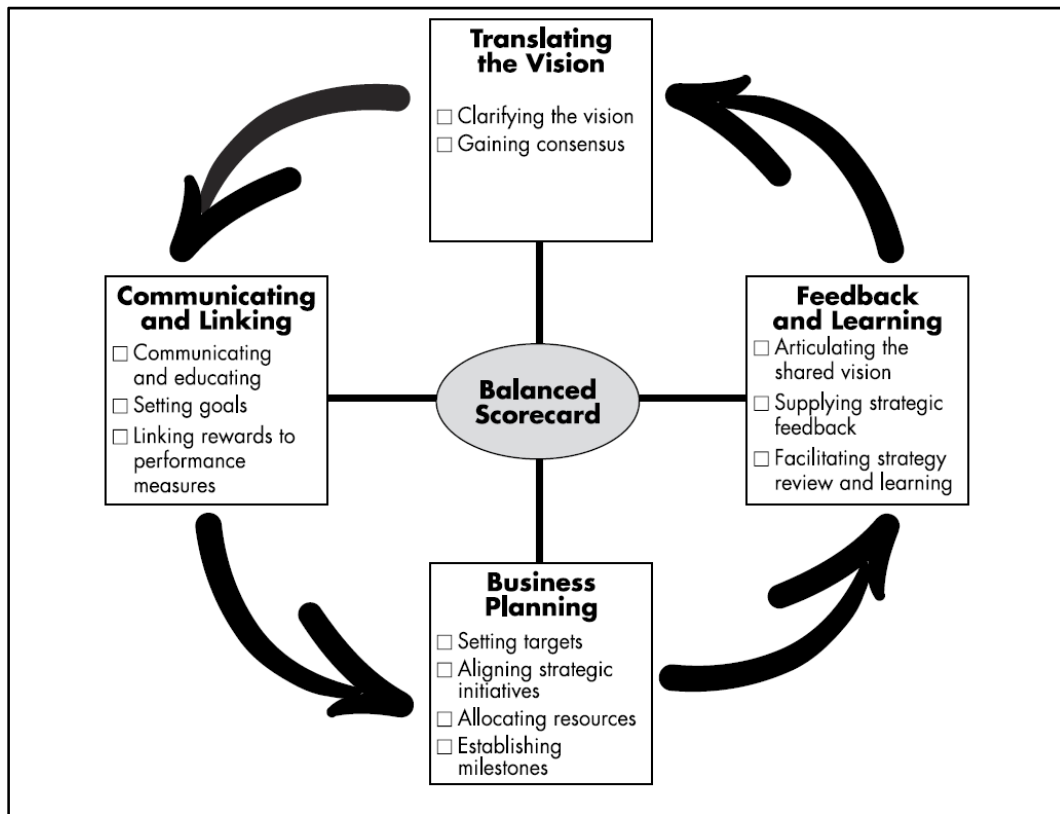


Figure 3. Managing strategy by the four processes (Kaplan & Norton, 1996a).

Translating the Vision

Most companies put together a specific mission statement for all strategies; this mission statement should also describe how the strategy can change if needs be. The main purpose of the mission statement is to emphasize the organizations values and objectives so high personnel services can be used to achieve customer

requirements (Kaplan & Norton, 1996a). The first process of managing the strategy is translating the vision, which means the mission statement should be explained coherently to all employees and managers so that the goals of the company can be put into action and so employees are aware of their roles and responsibilities in achieving the organizations vision (Kaplan & Norton, 1993).

If all the processes shown above are satisfying then the business strategy can excel and provide an excellent service to the consumer. Kaplan and Norton (1996a) outlined five main factors that are required in order to provide excellent service to the consumer, depending on the type of consumer. The five factors are shown in Figure 4 below:

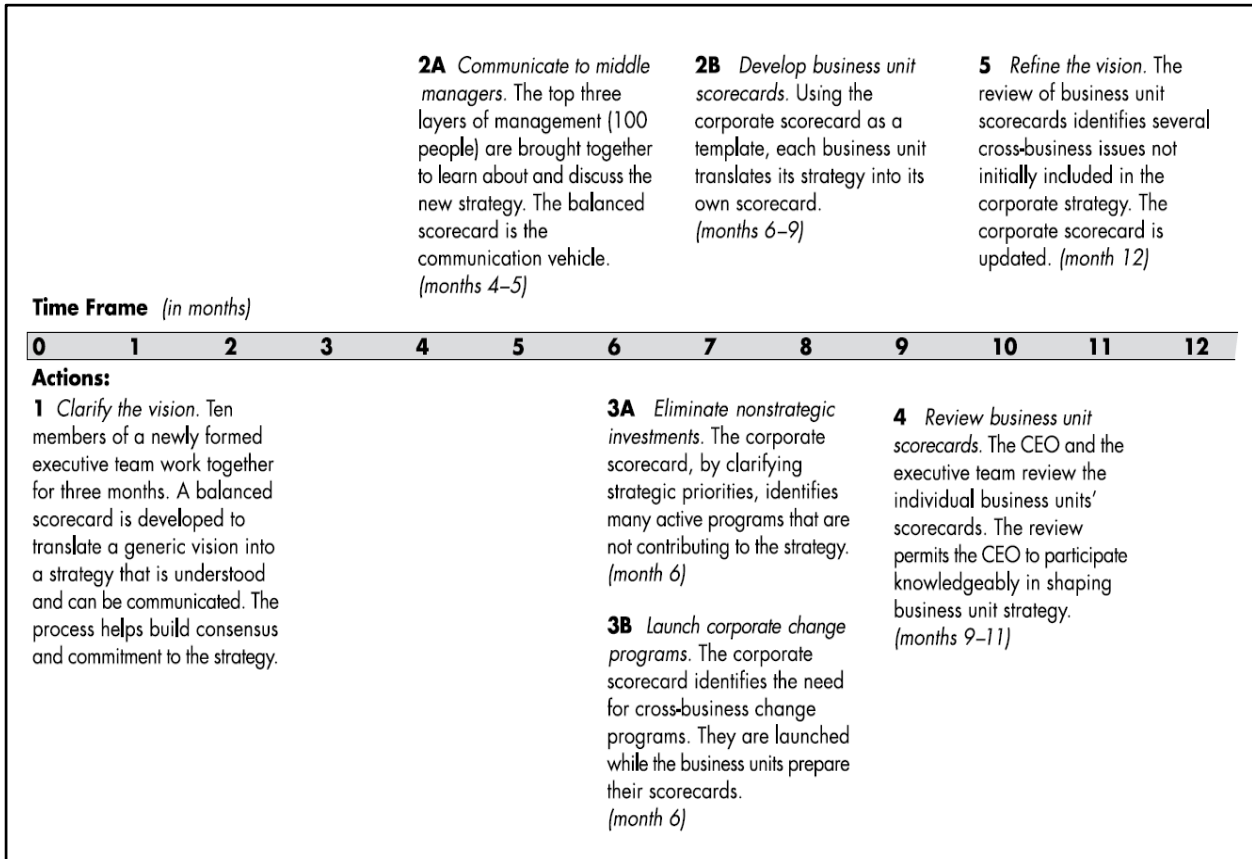


Figure 4. The definitions of translating the vision to superior service (Kaplan & Norton, 1996a).

Communicating and Linking

The second stage to developing business strategies is known as communication and linking; this stage encourages effective communication through all stages of the business. Each department’s individual goals should be modified to ensure all departments goals link; this can be done by using assessment methodology and other incentives (Kaplan & Norton, 2000a). To ensure each department objectives link with others, the balanced scorecard concept is used to highlight three main factors: communication and education, setting objectives, and connecting incentives and execution measures together to make the overall management system connected (Kaplan & Norton, 1996a).

Communication and educating the workplace ensure that all employees are aware of the aims and strategies of the company at all times. Another imperative aspect to this process is that lower level employees

must be confident and comfortable enough to be able to voice their opinions on whether the aims are practical to attain from an operational point of view to their managers.

Simply, choosing appropriate objectives is not enough to ensure employees are working to achieve those objectives; a method needs to be used to guarantee that the objectives are linked to the target by applying the personal scorecard. This method should be used to produce a card which explains the company's aims, targets, measures, and objectives so that they can all be interpreted into actions that will help achieve the goals.

By offering rewards and incentives linked to employee performance, the employee is further motivated to satisfy the organizations business goals. For this factor, the BSC concept is seen more as a holistic vision as the traditional method depending on financial performance only (Organisation, 2001). BCS can be used to ensure all standards have been completed before incentives are given to employees. The concept is that if certain standards have not been completed then the employee risks not being able to receive an incentive (Kaplan & Norton, 1996a).

Business Planning

As mentioned previously, the sole purpose of BSC is to combine strategic budgeting and planning processes in order to ensure the budget allocated can be used to enhance the business strategy. The BSC outlines four fundamental measures that can increase revenue, achieve fixed goals, and define the best resources to use to help achieve these goals (Kaplan & Norton, 1992; 1994).

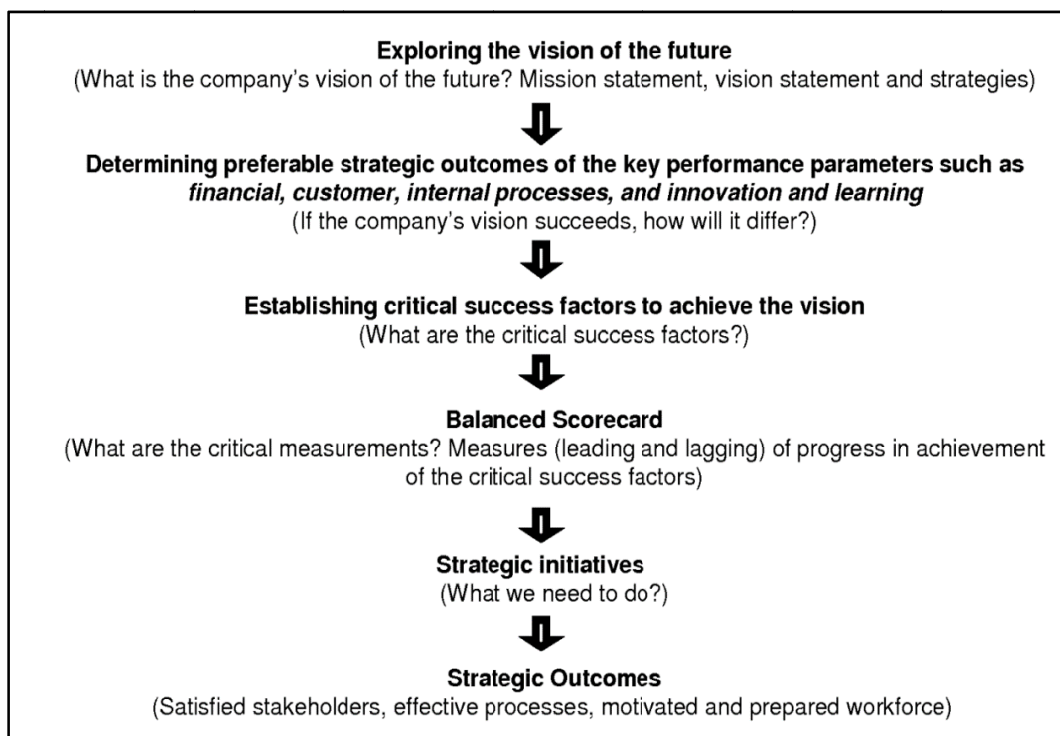


Figure 5. Business planning in linking measurement to strategy (Kaplan & Norton, 2000a).

Figure 5 above shows a concept developed by Kaplan and Norton in 1993 that defines how organizational strategy and BSC measurement can be connected through good business planning to develop a strategic model.

Targets must be set and met in order to expand on the traditional processes for planning and budgeting to combine with the financial and strategic goals. Using the traditional approach, managers often only focused on

the short-term outcomes, but now using the four perspectives and targets can help managers assess the implementation of the strategy and the theory underlying the strategy (Kaplan & Norton, 1996a). Managers should also have organized the different strategic initiatives and choose the most important resources that will support these initiatives.

Feedback and Learning

The final process for BSC is feedback and learning. This stage helps managers monitor the progress of the organization through feedback and results. It gives managers a chance to review individual employee performance and department performance to see whether planning and financial targets have been met. This process also identifies how well the organization has implemented a strategic learning approach.

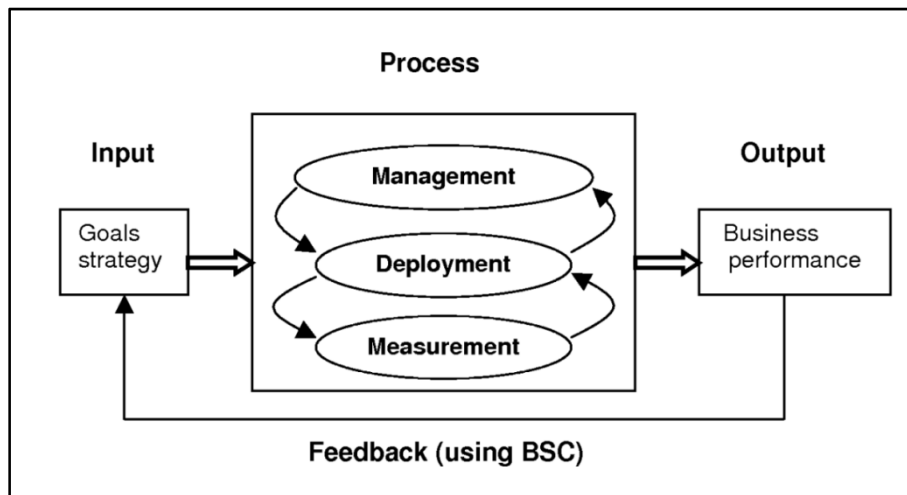


Figure 6. Feedback performance management process (Kagioglou et al., 2001).

When reviewing business performance and how well previous processes were implemented, any deviation from the strategy is described as a fault. The three main processes for the BSC management system provide both short- and long-term results; the last process (feedback and learning) can help modify strategies according to results. Feedback and learning is considered as the optimal element that helps evaluate how well strategic learning was implemented (Kaplan & Norton, 2000a).

Balanced Scorecard and Strategy Maps

Norton and Kaplan stated,

The measurement system should focus on the entity's strategy—how it expects to create future, sustainable value...Without a comprehensive description of strategy, executives cannot easily communicate the strategy among themselves or to their employees. Without a shared understanding of the strategy, executives cannot create alignment around it. And, without alignment, executives cannot implement their new strategies.

Setting up a strategy map. The implementation of the BSC strategy allows companies to plan their strategies efficiently based on the BSC perspectives. One of the main benefits of planning and establishing business strategies is that the company's aims to transform their assets into outcomes are demonstrated effectively (Kaplan & Norton, 2000a). By transforming intangible assets into tangible outcomes, the business strategy can be well understood and recognized by employees. Strategy maps are very useful to a business as they illustrate how employees' responsibilities and roles are involved in achieving the organizations objectives.

They also provide a cooperative work atmosphere which can help employees exceed the company's projected targets (Kaplan & Norton, 2000b).

The strategy map also helps guide the company into future positions and roles, it also outlines specific hypotheses for the company and establishes how companies can find these hypotheses. An example of a strategy map is shown in Figure 7.

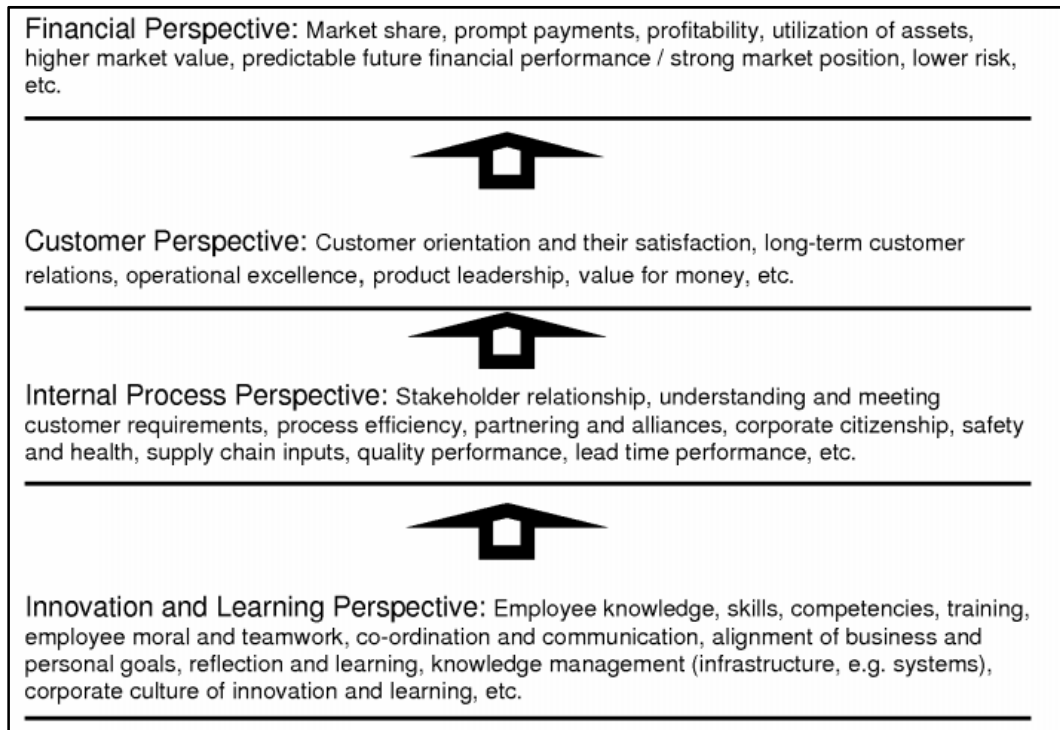


Figure 7. An example of a strategy map (mapping of causes and consequences) (Norton & Kaplan, 1996).

Implementing the Balanced Scorecard BSC on the Libyan Construction Industry

The current growth in the use of performance measures illustrates the demand companies have for expanding their knowledge and information, more so than the time, cost, and quality triangle (Walker & Johannes, 2001). However, the construction sector has yet to understand how more shareholders can impact the organizations performance. However, they have realized how the use of balanced scorecard strategies and triple bottom lines are gaining in popularity due to more companies in the service and management sector adopting their approach.

Therefore, within the construction industry, the effectiveness of adopting a BSC approach has improved company performance as it has taken into account the critical managerial requirements and ensured all activities are completed. The construction industry urgently requires a tool to measure project performance and help enhance the sector, as this would revolutionize construction management and increase performance by adding monetary value to procurement procedures. It would also help review other methods and tools used and project performance can be evaluated more efficiently and effectively.

It was recommended by Chan and Hiap (2012) that the BSC concept should be used by the construction industry. The reason for this is because BSC develops performance management and offers stakeholders a chance to see all objectives and long-term plans of the company in order to meet the strategy objectives. Chan

and Hian (2012) also stated that the BSC approach can be used to assess critical achievement factors, make recommendations to modify the strategy in order to exceed the vision of the company and out-perform all other competitors.

Conclusion

Approach of BSC into Libyan companies has many advantages. The main advantages are briefly described below:

- Highlights the company's strategy and increases consensus amongst managers.
- Defines the directions, objectives, and differences between the new and old strategy to shareholders through education and effective communication to the company.
- Offers managers the chance to observe the organisation from four essential points of view and allows them to focus on what actions to take to meet the objectives in the allocated budget.
- Allows managers to make rapid decisions by providing managers with measures that are most important for the business, it keeps all information concise to avoid overload of information.
 - Puts emphasis on combining personal and departmental goals.
 - Supports alignment and recognition of strategic initiatives.
 - Outlines the managerial roles in companies, such as: human resource management, controlling and planning of organisation actions, managing the organisation's resources and their distribution etc.
- Improves the organisation's performance through strategic feedback by evaluating the processes and assessing performance measurement techniques, defining the right measures that need to be monitored, establishing the groundwork to lead to the growth of the company, and indicating performance orientation.
 - Ensures long-term performance of the company is improved by tracking the intellectual capital and intangible performance for the organisation.
 - Guarantees organisation outcome by building a respectable reputation amongst personnel, stockholders, and customers.

Even though, BSC has many advantages, there are also some disadvantages. Many authors have criticized it for being too over-simplistic and not containing a rigid measuring classification (Kagioglou et al., 2001). Letza (1996) explained some critical mistakes made by organizations when designing and implementing BSC, they are as follows:

- Lack of knowledge on what to measure; this occurs when managers miss connections between the organisation's strategic goals and measures.
- Not measuring strategic actions; this occurs when managers believe that certain things cannot be measured or the activities are conducted in a professional way.
- Dispute between managers on what needs to be measured; disputes can also occur if certain departments are under performed.

One flaw of the balanced scorecard concept is that it ignores the fact that critical parties can impact the success and performance of the company. For example, BSC makes no mention of employees, suppliers, pressure groups, alliance partners, local communities, and regulators (Neely, Adams, & Crowe, 2001).

Gautreau and Kleiner (2001) state that problems may occur in using BSC when organizations attempt to automate the system. As the BSC defines strategies, there could be many different performance measures in place, which could make quantify the measures and relate the measures to specific items difficult. The

application of successful performance measures is very complex and difficult because it takes a large amount of time and requires a great amount of resources in order to update the scorecard.

An advantage of using the balanced scorecard concept in Libya is that it generates an image of how performance enhancement choices that are in line with corporate targets can be developed. Therefore, with this concept in mind, the balanced scorecard can be defined as being an integral scorecard strategy that is connected with the company's future vision, daily process, and desired operative behavior.

Kaplan and Norton (1992) believe that BSC limits should be tested so it can be seen how far BSC can be used to accomplish business objectives in construction. There are many types of performance-based assessment structures that the balanced scorecard technique can be implemented in, such as: supervision, work environment, progress, internal work, and quality.

Key Findings

The study's findings were mainly based on the results and analysis of the questionnaire and interviews. It can be seen from the responses received from the questionnaire that experienced project managers who answered the questionnaires, have ample knowledge on the organizations implemented strategy and developed specific skills within the Libyan construction industry.

The main challenges that face the Libyan construction industry were demonstrated from different perspectives.

According to chapters 8 and 9, the findings of the research have to be centralised of producing the balanced scorecard role:

1. BSC can be used to evaluate the overall business and produce ways in obtaining the company vision. However, it is important that the implementation of the balanced scorecard strategy is evaluated to see the weakness and strength of the business and how well the four perspectives were applied. This study found BSC ultimate performance measurement tool and new strategy, which measures financial and non-financial aspects of the business and analyzes these factors to help improve existing measures and focus on operational measures such as: customer satisfaction, internal processes, and companies leading growth activities.

2. Application of the new strategy will encourage the growth and progression of the construction industry in Libya. BSC will help transform the vision, increase communication and linking, develop business plans, and will also boost feedback and learning.

3. However, the BCS strategy does have some disadvantages if it is not implemented effectively. The data analysis findings developed some recommendations on how the balanced scorecard strategy should be applied within the Libyan construction industry.

4. Another key finding is that the current organization strategy within the Libyan construction industry needs to be evaluated to see how effectively it is transforming the vision into actions that are understood and communicated by all employees. Evaluating the current strategy will also highlight any issues and give the new strategy a chance to address these issues by modifying certain areas and establishing measures for budget and long-term plans.

5. Improving the strategic outlook between managers by the ability to solve management problems.

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