THE EFFECT OF TOTAL QUALITY MANAGEMENT (TQM) ON FINANCIAL PERFORMANCE OF MANUFACTURING COMPANIES IN KENYA:
(Case of East African Breweries Limited)

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A RESEARCH PROJECT SUBMITTED TO THE SCHOOL OF BUSINESS IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF BUSINESS ADMINISTRATION (FINANCE OPTION) KENYATTA UNIVERSITY.
DECLARATION

This project is my original work and has not been presented for a degree in any other university or any other award.

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To my Mum Alice Muli and Dad Philip Muli for their continued support which has seen me this far. Mum and Dad, your efforts have been appreciated.
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The completion of this research project could not have been a success without the efforts of many people to whom I feel indebted. I first thank God for giving me health and an opportunity to further my education. Second, I would like to thank Mr. Maganjo, my supervisor who has guided me throughout the study period. His genuine criticism and guidance gave me morale to work harder even when matters came short of expectations.

Much gratitude goes to Stella for helping and encouraging me and my friends Naph, Athur, Juliet, Omara, Leonard, Wambia and Kanyanjua among others. Lastly my gratitude goes to my siblings Ruth, Moses, Mary, Hosea and Mbithi who have been a great encouragement, inspiration and role models to emulate. Lastly, thanks to Mr. Bojana for his editorial assistance.
ABSTRACT

Many authors have postulated that the best way to improve the performance of an organisation is to implement total quality management. Such a statement can be theoretical or may carry a missionary ardour that might be difficult to realise. This research project investigated the relationship between Total Quality Management (TQM) practice and financial performance of East African Breweries. The objective of the study was to investigate the relationship between TQM implementation and the financial ratios of a brewing manufacturing company specifically East African Breweries.

The Malcolm Baldrige National Quality Award (MBNQA) 2005 criteria for performance excellence were used as an indicator of TQM practice. TQM Data were collected using Likert’s scale questionnaire method, which was a self-administered questionnaire. Financial data were obtained from financial reports of East African Breweries. The financial ratios of the company were used to interpret the financial performance of East African Breweries. Ratios and percentages were utilised to analyse data from questionnaires and financial records. Multiple correlation analysis was used to give an insight into the relationship between TOM and financial performance. This was done with the help of the statistical package for social sciences (SPSS).

The study used international standards organisation (ISO) certification as a proxy to quality implementation in conjunction with investigation questions, while financial performance was evaluated based on the trend of the various financial ratios. Financial performance data were secondary from financial records, while TQM implementation data were primary from the questionnaires.

EABL has successfully implanted TQM as indicated by the respondents. It was also established that profitability in EABL has consistently improved over the period between the year 2001 and 2007. TQM implementation is positively correlated with profitability. It is recommended that liquidity in the company be monitored to avoid situations where the company is holding so much liquid assets which could otherwise be invested in revenue earning assets. EABL should continue with its road to perfecting its quality systems to improve its profitability and customer satisfaction.
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<td>ISO</td>
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OPERATIONAL DEFINITION OF TERMS

Certification
Means a verification that a firm has fulfilled the requirements as stipulated by some set of standards in this case, the International standards organisation (ISO).

Financial Performance
In this project, financial performance is not just looked at from the perspective of profitability but also from the perspective of share and dividend performance, Liquidity, ability to borrow and how well the company is managing its funds.

Management
Management is a process of setting and achieving quality goals and objectives through the execution of five management functions that utilise financial, human and material resources. Specifically, it involves coming up with quality plans, quality organisation, quality control, management commitment and training.

Strategy
A strategy is the setting of long-term goals and objectives and the determination of courses of action and the allocation of resources to achieve the set objectives. In this case, TQM is a corporate or strategic decision implemented by the top executives (the management staff of East African Breweries).
Quality

Quality is viewed from three perspectives: one quality in systems, two quality in management and finally quality in products. Total Quality Management is concerned with the first two aspects though it is expected that the third one should be a derivative of the first two. Quality in this article is defined as the conformance to specifications or requirements, fitness for use, fitness for purpose and customer satisfaction at the lowest cost.

Total quality management

TQM is ideologically culturally based system of managerial operation that seeks to improve continuously the total organisational system that produces goods/services to satisfy customers every time. TQM is a way of managing to improve the effectiveness, flexibility and competitiveness of a business as a whole. It involves whole company getting organised in every activity and every single person at every level.

TQM is managing the whole organization so that excellence is achieved in all dimensions of products/services that are important to the customer.
CHAPTER ONE

INTRODUCTION

This project is organised as follows: chapter one introduces the topic whereas chapter two covers the literature review on various aspects of the study; determining financial performance and issues related to total quality management. Chapter three tackles the relevant research design and methodology deployed in the study, chapters four and five cover research findings, conclusions and recommendations.

1.1 Background information

This study investigated whether there is a significant melioration in the performance of East African Breweries in the process of implementing quality management system. Performance in this context was analysed from the standpoint of financial position as indicated by the financial records of the company. This has been necessitated by the fact that the studies that have been carried out in the area concentrated in other areas including the banking sector and hospital setting. No such study has been done in the manufacturing sector specifically in the brewing industry.

The level of awareness of total quality management (TQM) has increased considerably over the last few years. There are many discussions on the subject of TQM. There is a widespread consensus that TQM is a way of managing an organization to improve its overall effectiveness but its financial implications and benefits are yet to be investigated in-depth. This was the basis of this study.
There are a number of standards and awards that have furthered the TQM idea. These include: 'the international standards organisation' standards (ISO 9000), the investment in people (IP), the European quality award, the Malcolm Baldrige quality award and the Deming prize. ISO has a number of management standards that are in use in many countries, Kenya included. It is being embraced as a way to successful quality management. ISO 9000 is a series of standards that provide a framework for the implementation of quality system in an organization. By the end of 2006, over seven hundred thousand firms from over 161 countries had obtained the highly valued ISO 9000 quality management certificate from the International Organization for Standardization (ISO).

TQM practice in Kenya is relatively a new concept that was adopted by our industries only a few years ago initiated by the multinationals acting on advice from their parent companies. The first industry wide collective effort to introduce TQM here was initiated by the federation of Kenya employers (FKE) in conjunction with the United Nation Industry Development Organization (UNIDO). This concept has widely been adopted in the physical commodity sector with quality being regulated by various bodies. (e.g. the Kenya Bureau of Standards, the ISO 9000, ISO 9001, ISO 9002). Quality in the goods/commodity sector, which includes the manufacturing sector, has clear quality standards which are to be followed under the supervision of the regulating bodies, both local and international.

The organizations practising the quality concept try to protect themselves from adverse hazards, breakdown or maladjustments of machines and late deliveries to the next stage of production.
The TQM aspect of continuously improving all processes in an organization makes defects more visible so that every weakness in the system becomes noticed and ways of eliminating them are found. Therefore, most organizations use the concept as a competitive weapon against their competitors. This also explains why the concept has gained considerable prominence with industries in Kenya. Some of the companies that have received ISO 9000 certification in Kenya as evidence of commitment to quality include: the Standard Chartered Bank, Strathmore University, Del Monte Kenya Ltd, East African Breweries Ltd, Mitchell Corts Ltd, the African Tours, Total Kenya Ltd, Samcer Africa Ltd, House of Manji, Nation Media Group, Kenya Power and Lighting Company Ltd, Akamba Bus Services and Bamburi Cement.

Since TQM is the key to value creation and customer satisfaction, it requires everyone’s responsibility for it to be achieved in any organization. The idea has been expressed well by Daniel Beckham in Kotler (1997) who states that ‘Marketers who don’t learn the language of quality improvement will become superannuated as buggy chips, the days of functional marketing are long gone. Marketers can no longer think of themselves as market researchers or strategists, but as customer satisfiers.’ This assertion affirms that in today’s management and business world, focus should no longer be on the organisation but satisfaction of the customer.

East African Breweries started the ISO 9000 system implementation in 1998 and received the ISO 9000 certification in the year 2000 (KEBS, 2000). This was
necessitated by the competition exerted on it by its major rival company Castle Lager, and the illicit brews which enjoyed a vast market in the folksy areas.

Since the time East African Breweries was incorporated by then as Kenya Breweries in 1922, it had remained to a large extent ascendant. This was because the other competitors were either too small or they served a different market niche different from the one the company was serving. This situation prevailed until Castle Lager, a South African company joined the market. This brought competition in the market. To counter the competition, the company decided among other strategies to improve quality in all aspects.

The company is also concerned about the serious problems caused by the presence of illicit or informal alcohol in East Africa. A study to quantify the impact of such drinks showed that, among other social problems, illicit drinks competed with a share of the company’s market.

It should be noted that International Standards Organisation (ISO) 9000 certification is seen both as a quality improvement mark as well as a marketing tool. This is because clients feel better placed buying a product that they feel assured it has been produced in a quality environment and systems.

Manufacturing institutions are the ones that are in best position to benefit from total quality management. This is because Total quality Management evolved from the traditional Quality assurance systems that concentrated on achieving quality at the production plant only.
Based on those premises, it was clear that Total Quality Management (TQM) could help East African Breweries do better in an effort to overcome its challenges. However, it has always been assumed that there is a theoretical relationship between quality management system and financial performance. Many studies done indicate that there is a strong relationship between quality management system and customer satisfaction and only a weak relationship between quality and financial performance. This has led to a need to evaluate the financial position of East African Breweries Ltd in light of total quality management.

1.2 Statement of the problem

Management of firms is one area that needs to be practised with diligence or else failure of the firm will be inevitable. Many theories have been developed by management gurus on the best management practice to be adopted by managers for improved financial performance. TQM is one management practice that has been claimed to have great financial implications on firms.

Only a few studies have attempted to test the relationships between TQM practice and organisational performance in various parts of the world (Barsness et al., 1993-1994; Carman et al., 1996; Chen, 1999; Goldstein & Schweikhart, 2002; Maldonado et al., 1999; Maldonado et al., 2001; Maldonado, Zinn, & Brannon, 1999; Meyer & Collier, 2001; Shortell et al., 1995; Weech-Maldonado et al., 2003). Their researches, however, failed to identify the relationships between each element of the TQM criteria and organisational financial performance. Furthermore, previous
empirical studies were conducted in developed countries, and those done in less
developed countries specifically in Kenya were done in other fields of bailiwick.

Today in Kenya, some of the organizations that try to implement TQM never get
started because they don't know where to start and even the direction to follow.
Therefore, most organizations have failed in the implementation of the concept.
Some examples of this include Mitchell Corts and the taken off African Tours and
Hotels.

TQM emphasizes on defect prevention rather than correction but doesn't focus on
cost cutting. If costs are reduced, then this could come about as a result of more
efficient and effective production processes. On the other hand, real financial
benefits of quality management will only be achieved if the extra cost that is incurred
in implementation is less than the savings that accrue. Some other quality gurus have
suggested that the ultimate benefits of quality will only be achieved in the long-run
and not in the short-run. They suggest that the cost of poor quality should be done
away with and the savings that are achieved should surpass the cost of
implementation. This suggestion seems very plausible but its practicability is not
obvious as addressed in this study.

1.3 Purpose of the study

The purpose of this study was to identify the factors influencing TQM practice and
organisational financial performance, to examine the relationship between TQM
practice and organisational performance, and to investigate the impact of each TQM
element on financial performance in a Kenyan brewing institution.
1.4 Objectives of the study

The main objective of the study was to appraise the financial implications of total quality management. This research project investigated the relationship between Total Quality Management (TQM) practice and financial performance. Separately, financial performance was also analysed in the period between the years 2001 to 2007 in East African Breweries to get a picture of what has been happening to the company’s financial performance over the period. These objectives are:

1. To investigate the effect of TQM implementation on the Profitability of the organisation.
2. To assess the effect of TQM implementation process on Liquidity of the organisation.
3. To investigate the ability to borrow of a firm after it embarks on TQM implementation.
4. To assess the organisation’s funds management after embarking on the journey to achieve TQM

1.5 Research questions

1. What is the effect of TQM implementation process on the profitability of the organisation?
2. How is the liquidity of the organisation affected by TQM implementation process?
3. What happens to the ability to borrow of the firm upon TQM implementation journey?
4. What happens to organisation’s Funds management after TQM implementation process starts?
1.6 Significance and justification of the study

There exist a number of examples of failed or badly performing TQM programmes. Such poorly performing programmes negatively affect organizations in their development towards business excellence and ultimate survival in a competitive environment. On a wider context, TQM relies on a single fundamental principle that should serve as a core issue of a business, which is to maximise productivity while minimising costs. Many organizations have adopted TQM with inflated expectations and a quick fix mentality. However, when TQM did not produce answers to problems afflicting the firms and turnaround to the sliding performance, it was deemed inept. Furthermore, contrary to the TQM philosophy, many firms adopt TQM seeking wink and swift gratification (Ferreira, 2003).

It is also worth noting that the company studied (East African Breweries) needed to evaluate itself to establish what happened to its financial performance from the time it started implementing TQM. This study is of benefit to both the academia and practitioners. Specifically, it will give an insight into importance of quality management to East African Breweries. The company’s management of East African Breweries will find it useful in trying to evaluate how they have performed financially since embracing TQM.

From a practical perspective, this study can be used to find opportunities for improvement in the company, and the financial elements that are most affected by total quality management. The TQM relationship with financial performance and other performance indicators revealed will enable managers to allocate resources better.
It will also help in the formulation of policies and strategies that will help in running of the company. The study will form a basis for further research on how Total Quality Management can be used as a tool to help management solve problems of financial constraints. Finally it will be important to the researcher in understanding TQM in the context of financial performance.

1.7 Scope of the study

This is a case study, which focused on East African Breweries Ltd and its subsidiaries located in Kenya. The company is ISO 9000 certified and it is also among the largest manufacturing companies in Kenya.

The holistic single case study model as described by Yin (1994) that empirically examines a phenomenon in its contemporary environment was used. The researcher dealt with all the subsidiaries of East African Breweries located in Kenya. Chelly (1996) points out that: "Good story telling about a single case would provide better theoretical insights than multiple case researches based on creating good constructs. Yin (2002) also advocates that case studies are one of the research strategies used in conducting evaluations of commercial undertakings.

A case study provides a unique example of real people in real situations, enabling readers to understand ideas more clearly than simply presenting them with abstract theories or principles. A case study enables readers to understand how ideas and abstract principles can fit together (Nisbet & Watt, 1984).
The unit of analysis under study is a manufacturing company which has subsidiaries in Kenya, Uganda, and Tanzania. East African Breweries has been in the process of implementing TQM project for seven years.

1.3 Limitations of the study

1. The study to a big extent relied on secondary data which are prepared with some other objectives in mind apart from what the researcher is investigating. Primary data were collected to mitigate this problem.

2. Since the study is a case study, generalisation would not be possible without the risk of fallacious conclusion. However, other researches can be done in other manufacturing institutions in Kenya
CHAPTER TWO

LITERATURE REVIEW

2.1 Quality and the TQM approach

There seems to be no definite definition of what quality is, with every player defining it in a way that fits him/her best. Customers see quality as: the capacity to satisfy their needs and wants (Deming 1986); the degree to which a specific product satisfies the wants of a specific consumer (Gilmore, 1994); how well a product fits patterns of consumer preferences (Kuehn & Day 2003); fitness for use (Juran 1993); identifying and meeting the requirements of both internal and external customers (Oakland, 1989).

Manufacturing organizations like East African breweries view quality as: conformance to requirements (Crosby, 1984); ‘doing it right first time and all the time’ (Price, 1985); degree of excellence at an acceptable price and the control of variability at an acceptable cost (Broh et al., 1994); degree to which a specific product conforms to design or specification (Feigenbaum, 1991). Quality is to satisfy customers’ requirements continually. TQM is achieving quality at low cost by involving everyone’s daily commitment (Kanji, 1996).

The concept of Total Quality Management (TQM) was developed by an American called W. Edward Deming, after the Second World War aimed at improving the production of quality goods and services. Americans did not take the concept seriously until the Japanese, who adopted it in 1950 to resurrect their post-war businesses and industries, and used it to dominate world markets by 1980. It is a philosophy that focuses relentlessly on the needs of the customer, both internal and
external, realigns the organization from detection to prevention and aims to improve continuously via the use of statistical monitoring (Brockman, 1992).

TQM calls for continuous improvement in the processes that are involved in the functional areas of the organization. It involves a fundamental re-orientation in management as well as a culture change in employee attitudes. Everybody in the organization must be committed to the implementation of TQM for it to succeed.

According to Kotler (1997), TQM is an organisation wide approach to continuously improve quality of all organizational processes, products and services geared towards attaining the best quality products and services by an organization. The then chairman of the general electric company in the USA Welch Junior reported that, quality was one best assurance of customer allegiance, a company’s greatest defence against competitors and the only path to sustained growth and profitability. The drive to produce goods that are superior in quality world-wide has been accelerated by increased global competition which has created no operational boundaries for many companies wishing to sell their products. TQM is a comprehensive and structured approach to organizational management that seeks to improve the quality of products and services through ongoing refinements in response to continuous feedback.

2.2 ISO 9000 certification

The ISO 9000 family is primarily concerned with "quality management". This means what the organization does is to fulfil: the customer's quality requirements, and applicable regulatory requirements, while aiming to enhance customer satisfaction, and achieve continuous improvement of its performance in pursuit of these objectives. ISO 9000 is a standard for quality assurance, issued by International
Standards Organisation (ISO). To obtain the standard, procedures have to be established and then documented; staff trained to follow the procedures; the service and product measured using performance indicators and evaluated against predetermined standards; and the firm audited by an accredited external body (example Kenya Bureau of Standards). Upon successful assessment, the firm certified as ISO 9000 can display the ISO 9000 logo which demonstrates to the customer that the organisation is committed to quality. (Praxiom Research Group Limited 2004).

ISO 9000 refers to a series of quality management systems standards (introduced in 1986), while ISO 14000 refers to the series of environmental management systems standards (introduced in 1996). A “management system standard” is a set of requirements that a management system must meet, in order to receive certification of compliance, usually from a third-party auditor.

**Steps to ISO certification**

**Top management awareness training:** This training is for top management and senior management staff and is given by two experienced trainers.

**Initial training:** The second training is for middle management staff and covers the requirements of the standard, including training on the development of the necessary documentation.

**Documentation:** This stage entails the actual development of documents essential to the quality management system. These are: quality manual, procedures, and work instructions. This step takes about 4 months.
Internal quality audit training: This is a follow-up training for the purpose of having personnel qualify in internal quality system audit so that the implementation of the quality system described in the documented system (Quality Manual) may be audited as required by the standard.

Implementation: This entails internal auditing, refinement of documents and stabilizing of the system. Next is the application for certification upon the completion of the necessary forms and payments of system certification fees. This takes about 6 months.

Pre-assessment audit: This entails checking that the documents for compliance with the requirements of the standard and establishing auditing contracts.

Assessments
A detailed assessment of the Quality System known as the Implementation Audit is done.

Corrective action: During the assessment, non-compliance may be found within the quality system. Corrective Action Request (CARS) raised should be cleared within a month.

NOTE: The durations shown are for guidance purposes only and could be shorter or longer depending on the size of the organization and its operations. (www.iso.org).

2.3 Relationship between ISO 9000 and TQM
TQM requirements may be defined separately for a particular organization or may be in adherence to established standards, such as the International Organization for Standardization's ISO 9000 series, (Stevenson, 2005). It must be noted that ISO 900
series of standards and TQM are not exactly one and the same thing as shown in figure 2.1

![Diagram showing the relationship between Total Quality Management (TQM) and ISO 9000 standards](image)

**Figure 2.1: The relationship between Total Quality Management and ISO 9000**  
*Source: James J. 1999*

The diagram above shows that total quality management is organisation wide activity since it affects the systems, people and the management. On the other hand, the quality standards and awards are mainly concerned with the provision of a system of managing quality in an organisation. Examples of such systems include the international organisation standards (ISO 9000) and the investment in people (I.I.P). In a nutshell, the quality management systems such as ISO and investment in people including the quality award systems such as the Malcom Baldrige Quality Award are concerned with quality systems. It is important to note that the objectives of the quality awards and systems are similar to those of total quality management. The standards and awards mentioned have advanced the TQM idea to big heights hence their relevance in TQM.
Questions have arisen whether or not there is any connection between the quality management standard ISO 9000 and total quality management. In response to this, it is possible that a company can have total quality management without ISO 9000. The perspective that ISO 9000 certification takes is similar to the objectives of TQM. ISO 9000 emphasises on top management involvement which is what Deming advocates for in total quality management. Another important aspect of ISO 9000 is that it emphasises on everybody’s involvement in issues of quality and having quality not just in the production plant only but in the systems of an organisation. It follows therefore, that ISO 9000 certification can be used as an indicator of efforts to achieve quality in an organisation.


Total Quality Management can be applied to any type of organization; it originated from the manufacturing sector and has since been adapted for use in almost every type of organization imaginable, including schools, highway maintenance, hotel management, and churches. As a current focus of e-business, TQM is based on quality management from the customer’s point of view. TQM involves everyone in the organization through teamwork, trust and empowerment. In East African Breweries, these range from the chief executive officer, middle level management to
the lower level employees. This also includes a liaison with suppliers since they also have a stake in ensuring that quality is achieved. TQM is a management philosophy that involves everyone in an organization in continuously, controlling and improving how work is done in order to meet customer expectations of quality. It is also a management practice of continuous improvement in quality that relies on active participation of both management and employees using analytical tools and teamwork. (Artley, 2001).

Other quality systems and awards

Apart from the international standards organisation (ISO 9000) series, there are other standards and awards such as: the investment in people (I.I.P), the Malcom Baldrige Quality Award, the Deming Prize and the European Quality Award. This research utilised the Malcom Baldrige Award quality criteria in examining total quality management.

The Malcom Baldrige quality criteria

The Baldrige performance excellence criteria is a framework that any organization can use to improve overall performance. Seven categories make up the award criteria:

Leadership—probes how senior executives guide the organization and how the organization addresses its responsibilities to the public and practises good citizenship.

Strategic planning—examines how the organization sets strategic directions and how it determines key action plans.
Customer and market focus—probes how the organization determines requirements and expectations of customers and markets; builds relationships with customers; and acquires, satisfies, and retains customers.

Measurement, analysis, and knowledge management—examines the management, effective use, analysis, and improvement of data and information to support key organizational processes and the organization’s performance management system.

Human resource focus—analyses how the organization enables its workforce to develop its full potential and how the workforce is aligned with the organization’s objectives.

Process management—examines aspects of how key production/delivery and support processes are designed, managed, and improved.

Business results—analyses the organization’s performance and improvement in its key business areas: customer satisfaction, financial and marketplace performance, human resources, supplier and partner performance, operational performance, and governance and social responsibility. The category also examines how the organization performs relative to competitors.

2.4. Benefits and concerns of ISO 9000 Certification

The commonly perceived benefits of having an ISO certificate is that it improves the product and service quality, efficiency and productivity, customer confidence, and competitive advantage (Quaze, Hong & Meng, 2002). Dalgleish (2002) criticizes the ISO process by pointing out that the process requires an inordinate and unnecessary paperwork. He also points out that as the certificate leads to a ‘pass/fail’ mentality,
the ISO 9000 certificate hinders quality and efficiency, the very things it is supposed to encourage.

A number of researchers have documented benefits from the ISO process. Chittenden, Poutziouris, and Mukhtar (1998) show that a majority of ISO users feel that the advantages of using the certificate far outweigh the disadvantages. MacAdam and McKeown (1999) conclude that the ISO certificate results in better control of business, increased sales, reduced costs, increased productivity and higher customer satisfaction. Sun (1999) concludes that the certificate results in both fewer defective products and fewer customer complaints. Anderson, Daly, and Johnson (1999) show that North American manufacturing firms have successfully used the ISO certificate as a credible signal of quality assurance.

2.5 Benefits of total quality management

There have been many valiant efforts to justify the importance of quality improvement but many of these have concentrated on the aesthetic and often intangible benefits of quality management. For example, quality gurus such as Deming (1986) concentrated their attention to various aspects of the organisational structure which should, in theory; result in tangible benefits to the organisation: Drive out fear; break down the barriers, and create constancy of purpose (Deming, 1986). However, it is very difficult to make any direct associations between efforts in these areas and any measurable financial benefits.

The following seem to be the theoretical benefits of TQM: Product quality is improved and becomes uniform; defects are reduced; reliability of goods is improved; cost is reduced; quantity of production is increased, and it becomes
possible to make rational production schedules; wasteful work and rework are reduced; expenses for inspection and testing are reduced; the sales market is enlarged; better relationships are established between departments; false data and reports are reduced; discussions are carried out more freely and democratically; meetings are operated more smoothly; repairs and installation of equipment and facilities are done more rationally and finally human relations are improved.

2.6 Main review of past studies

Keno et al. (1983) carried out an examination of 26 companies that won the Deming application prize between 1961 and 1980. They found that the rate of productivity, growth rate, liquidity and net worth was above the average of their industries. A report published by the United States general accounting office (1991) focused on the top 20 scores of the Malcolm Baldrige National Quality Award (MBNQA) in the period of 1988 to 1989. On the basis of a combination of questionnaires and interview methods, the companies were asked to provide information on four broad classes of performance measures. Employee related measures: Operation indicators, Customer satisfaction indicators, Business performance. Improvements were claimed in all indicators. Useful information on financial performance was obtained from 15 to 20 companies which experienced the following annual average increases: Market share 13%; sales per employee 8.6%; return on assets 1.3% and return on sales 0.4%.

Larry, (1993) studied the winners of the MBNQA and found that they yielded a cumulative 39% gain (return on investment) whereas the same investment in the standard and poor 500 stock index delivered only 33.1%. Wischer and Eakins (1994) also carried out an operational and financial review on the MBNQA winners in the
period of 1988-1993. One of the conclusions reached was that the winners appeared to be performing financially as well or better than competitors.

The effectiveness of total quality management (TQM) as a mechanism for organisational improvement has been widely debated in the literature. Proponents of TQM claim that this philosophy leads to improved firm performance and this outcome has been demonstrated by a number of studies (for example, Flynn, Schroeder & Sakakibara 1995; Powell 1995; Samson & Terziovski 1999; Terziovski and Samson 1999). Proponents of TQM also contend that the philosophy can be applied to any organisation (Powell, 1995). Wernick (1994), for example, suggests that even a “small firm with limited resources can apply total quality management (TQM) principles with measurable success and without undue expense”.

A study by Ferreira (2003) carried out in India in a public health institution indicated that although there was a positive relationship between implementation of total quality management and improvement in performance, the margin of improvement was not significant. On the other hand, there are numerous obstacles to the implementation of total quality management (Margaret, 2001). Margaret studied the various obstacles to the successful implementation of total quality management in Kenya. In his findings, the major obstacles were lack of top management involvement, resistance to change and poor understanding of the concept.

Musyoki (2003) investigated the relationship between quality improvement and financial performance for commercial banks in Kenya. The study was carried out in a service industry which differs from the study at hand. The methodology used was
found to be defective at the time of analysis hence though it contributed to TQM knowledge, the findings are questionable. The current study utilised regression analysis to avoid similar problems.

In Kenya, a study carried out by Price Water House Coopers Limited in the year 2005 showed that the top five companies out of the seven best performing companies were ISO 9000 certified. The two non-ISO 9000 certified companies that topped in the sectors that they operated were in sectors with no ISO 9000 certified companies.

2.7 TQM and financial performance

ISO 9000 certification was used as a proxy to indicate efforts by East African Breweries to implement total quality management. ISO 9000 certification indicates to buyers and other players that such an organisation has implemented the necessary systems which would allow an organisation to achieve quality management.

Financial performance measures

These are various financial measures that can be used to evaluate an organisation’s financial position. In the study the, broad categories of financial ratios: Liquidity ratios, Profitability ratios, Share and dividend performance, Funds management and Ability to borrow, were employed as indicators of the financial performance for East African breweries (see appendix II).

2.8 Gaps filled by the study

There is also a common belief that the TQM concept is obvious to rip benefits once it has been implemented. However, some studies that have been done show that the
cost of implementing TQM may at times outdo the benefits in cost savings especially for small-scale enterprises (kanji 1996).

Some studies examining TQM in the manufacturing industries have been anecdotal (Bigelow & Arndt, 1995; Montwani et al., 1996). However, few empirical studies have examined the effect of TQM adoption and practice in manufacturing institutions (Barness et al., 1993; Carman et al., 1996; Shortell et al., 1995). There has not been any attempt to systematically measure TQM effectiveness and its impact on the financial performance of manufacturing organisations (Counte et al., 1995), (Maldonado et al. 1999). Powell (1995) conducted an empirical study using a multi-industry sample that has examined the effect of TQM adoption on performance in nursing homes. Goldstein and Schweikhart (2002) is the only article examining the MBNQA model 2001 version in health care.

Oakland (1989) suggests that TQM measurement is still an embryonic practice even in most advanced businesses engaged in TQM utilisation. There is an absence of performance measurement in organisations. Sinclair and Zairi (1995) advocate that although the aims of TQM appear to have been communicated, there appears to be a gap between the message and the reality of performance measurement. Performance measurement at the organisational level is still in its infancy and needs further development to realise its potential (Lied, 2001). The link between measurement activities and long-term performance improvement is also not well-documented (Hannan, Kumar, Racz, Sui, & Chassin, 1994; Kazandjian & Lied, 1998). There is little empirical research to systematically measure TQM effectiveness and its impact on the performance of organisations. In Kenya specifically, studies have been done.
to investigate the obstacles to implementation of Total quality management by Margaret (2001), impact of TQM on financial performance in the service (banking) sector Musyoki (2003) but no study has been done to investigate the relations between quality management and financial performance in manufacturing institutions specifically in a brewing manufacturing institution.

**Historical background of East African Breweries**

EABL traces its history to 1922 when Kenya Breweries was founded at Ruaraka, on the outskirts of Nairobi. EABL is made up of seven operating units and associate companies: The first one is Kenya Breweries Limited, (KBL) which was established in 1922 and since that time, it has remained the dominant brewing company in Kenya. Second is United Distillers & Vintners Kenya (UDV Kenya) Limited which produces a wide range of spirits including global brands such as Johnnie Walker, Smirnoff vodka and Gilbey’s Gin. EABL owns 46% of UDVK and has management control, while Diageo holds 54%. Thirdly, we have Kenya Maltings Limited currently called East African Maltings (EAML) which produces malt and processes barley for the Group’s brewing operations. Central Glass Industries (CGI) is another of the subsidiaries which manufactures bottles for the brewery operations in conjunction with other glass containers. (www.CompanyProfile/EASTAFRICAN BREWERIESLIMITED.htm)
This structure depicts only the companies in Kenya
Under every subsidiary, there are functional areas which are:
- Human resources
- Finance
- Quality
- Procurement
- Information technology

Figure 2. 2 The organisational structure of East African Breweries LTD
Source: Field data.

Apart from the Kenyan subsidiaries, the company has others in Uganda and Tanzania. For proposes of the study, subsidiaries that are located outside Kenya were not studied.

Identification of TQM factors

One major objective of survey-based research in the area of quality management has been the development of scales to measure the key dimensions of quality management. Saraph, Benson, and Schroeder (1989) wrote one of the first papers to address scale development. Their work provided a model and measures for assessing managers’ perceptions of quality management practices at organizational level. Their instrument comprised the following scales: The role of top management leadership,
the role of the quality department, training, product/service design, supplier quality management, process management, quality data and reporting, and employee relations.

In trying to understand the Obstacles to TQM success, Flynn, Schroeder, and Sakakibara (1994; 1995) extended the above line of research by developing a scale for use at the plant level with various categories of job titles such as direct labourers as well as quality managers. Their scale measured seven core dimensions of quality: 1) top management support; 2) quality information; 3) process management; 4) product design; 5) workforce management; 6) supplier involvement; and 7) customer involvement. Moreover, their studies attempted to link quality management practices to quality performance. They found that “quality leadership” had the strongest relationship to quality performance (1994) and that employee involvement was the best differentiator among low, intermediate-, and high-performing plants (1995). Similarly, Yavas (1995) surveyed employees from different departments within one company about factors that contribute to product quality in their firm. Eight employee-related factors that emerged included, communication, internal and external customer expectations, and employee commitment to quality. In their synthesis of the survey-based quality management research published between 1989 and 2000, Sila and Ebrahimpour (2002) determined that 76 studies (including those cited previously) involved identifying TQM factors, most of which were empirically derived using factor analysis.

The factors that receiving the highest coverage in the TQM articles surveyed were issues related to customer focus and satisfaction, employee training, leadership and
top management commitment, teamwork, employee involvement, continuous improvement and innovation, and quality information and performance measurement. In conclusion: leadership, strategy, information analysis, STAFFS focus, and Process management seem to be the main and best TQM indicators. These are also utilised by the Malcolm Baldrige Quality Award as a result the study utilised the same indicators of TQM.

2.9 Conceptual framework

The dependent and independent variable can diagrammatically be represented as shown in the figure below:

![Diagram](image)

**Figure 2.3 relationship between total quality management and financial performance**

**Source:** Researcher 2008

**TQM practice indicators**

This study used the following factors as the main indicators of TQM: Leadership, Strategy, Customer focus, Information analysis, Staff focus, and Process management.
Financial performance measurement

The main indicators of financial performance were the financial ratios. These were calculated from year 2001 to year 2007.

Operational Definitions of the Six TQM Elements

<table>
<thead>
<tr>
<th>Independent variables</th>
<th>Operational definitions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Leadership</strong></td>
<td>Appreciation of efforts of personnel to improve quality, set organisational values, directions and performance expectations, and transfer to the whole organisation. Use of performance review findings to improve leadership effectiveness.</td>
</tr>
<tr>
<td><strong>Strategic Planning strategy</strong></td>
<td>Take into account opinions or desires of stakeholders. Use of information sources in formulating and evaluating strategic policies translated into departments. Management attention to clarifying expectations of customers. Strategic policy periodically evaluated and adjusted.</td>
</tr>
<tr>
<td><strong>Customer Focus</strong></td>
<td>Customer satisfaction measured periodically Listen and learn from customers. Effective solution of customers complaints Analyse the customers complaints to improve products.</td>
</tr>
<tr>
<td><strong>Informational Analysis</strong></td>
<td>Comprehensive information system to gather data for analysis in decision making. Align daily operation to organisational performance. Measures to ensure data integrity and accuracy. Analysed results act as the basis for improvement and benchmarking.</td>
</tr>
<tr>
<td><strong>Staff focus</strong></td>
<td>Satisfaction of personnel measured periodically Improving level of expertise (recruitment, training, career development). Open communication through seminars, or on site information Staff performance management to reward high performance. Ensure occupational safety and workplace health.</td>
</tr>
<tr>
<td><strong>Process satisfaction Management</strong></td>
<td>Identifying processes for a high degree of customer satisfaction. Measures are taken to identify needs and wishes of clients Information on service process is gathered for evaluation and improvement. Sharing successful strategies across the organization. Process analysis and research (e.g., process mapping, optimization experiments, and error proofing).</td>
</tr>
</tbody>
</table>
Research and development results.
Using alternative technology.
Using information from customers of the processes - within and outside your organization.
Improvement of service processes by comparison with other organisations.
Guidelines and procedures for dealing with complaints.
Reduced time to fulfill commitments or to complete tasks (cycle time)

(Source: Malcolm Baldrige Criteria for Performance Excellence, 2005)

Table 2.1: Operational Definition of financial indicators

<table>
<thead>
<tr>
<th>Dependent variables</th>
<th>Operational definitions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Profitability</td>
<td>Profitability is the difference between total revenues and total expenses. This profitability was analysed in comparison to investment.</td>
</tr>
<tr>
<td>Liquidity</td>
<td>Liquidity is used to indicate the ability of the firm to meet its maturing obligations. Ability of East African Breweries to pay its debts when they become due.</td>
</tr>
<tr>
<td>Ability to borrow</td>
<td>The ability to borrow was analysed depending on the basis of current liabilities and total assets.</td>
</tr>
<tr>
<td>Funds management</td>
<td>This is an indicator of how well the organisation is able to manage its funds in light of how well it pays and collects debts.</td>
</tr>
</tbody>
</table>

Source: Author (2008)

The above variables were analysed using financial ratios. A full list of ratios is indicated on appendix II.
CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

3.1 Research design

A descriptive research design was used. Gay (1981) defines descriptive research as a process of collecting data in order to test hypothesis or to answer questions concerning the current status of the subjects in the study. This is a case study of East African Breweries. The case study investigated the TQM practice, its performance, and the relationship between them. A holistic single case study model as described by Yin (1994) was used to empirically examine the phenomenon in its contemporary environment. The researcher examined the five East African breweries subsidiaries that are located in Kenya. Chelly (1996) points out that: ‘Good story telling about a single case would provide better theoretical insights than multiple case researches based on creating good constructs’. Yin (2002) also advocates that case studies are one of the research strategies used in conducting evaluations of commercial undertakings.

A case study provides a unique example of real people in real situations, enabling readers to understand ideas more clearly than simply presenting them with abstract theories or principles. A case study enables readers to understand how ideas and abstract principles can fit together. The characteristics of case studies are that it not only offers in-depth, detailed data from a wide data source, but that it also enables individuals and groups to be compared (Nisbet & Watt, 1984).
3.2 Target population
The unit of analysis under study was East African Breweries Limited and its five subsidiaries located in Kenya. The target population comprise 45 departmental managers and a total of 927 employees of the various subsidiaries of EABL group.

3.3 Sampling techniques
Survey of the departmental managers was carried out. For the other employees, stratified random sampling was used with the stratum being the various subsidiaries of EABL. This method is appropriate since it ensures representation of the various characteristics of the individual subsidiaries. Stratified random sampling procedure was used in coming up with the final employee sample.

3.4 Sample size
Roscoe (1975) proposes the rule of thumb for determining sample size in four points. (1) A sample size larger than 30 and less than 2000 are appropriate for most research; (2) Where samples are to be broken into sub-samples (males/ females, juniors/ seniors, etc.), a minimum sample size of 30 for each category is necessary; (3) in multivariate research (including multiple regression analyses), the sample size should be several times (preferably 10 times or more) as large as the number of variables in the study; (4) for sample experimental research with tight experimental controls, successful research is possible with samples as small as 10 to 20 in size.

The other way to determine the sample size for research using regression analysis is to calculate the ratio of the cases per independent variables. Green (1991) suggests
that a desirable sample size should be more than or equal to $50 + 8m$ (m being the number of independent variables) for testing the multiple correlation. In addition, Hair et al., (1998) point out that sample size could also affect the generalisability of the results by the ratio of observations to independent variables. The desirable ratio should be between 15 to 20 observations for each independent variable. However, it is acceptable if the ratio is as low as 5 to 1.

In this study, multiple regression and correlation were utilised to examine the factors influencing the TQM practice and performance of East African Breweries. According to Roscoe’s (1975) rule of thumb, the sample size should be 10 times as large as the variables. In the present study, sample size of 100 is suitable for 10 variables (six independent variables and four dependent variables). Based on the suggestion of Green (1991), the sample size should be more than the formulation $[50 + (8 \times \text{numbers of independent variables})]$, so that the sample size in this case should be more than 98, $[98 = 50 + (8 \times 6)]$. Furthermore, according to the suggestion of Hair et al., (1998), the desirable ratio should be between 15 to 20 observations for each independent variable. There are six independent variables in this study, therefore, a sample of 90 to 120 $(15 \times 6 - 20 \times 6)$ is the desired ratio for testing the independent variables. In sum, it can be seen that the sample size of 100 in this study was sufficient.

There are a total 45 departmental managers in the company and all of them were selected to fill in the questionnaires. For the 927 employees in all the subsidiaries a stratified random sampling was used to pick respondents with the stratum being
proportionate to the number of employees in every subsidiary. A total of 55 employees were selected to complete the questionnaires.

East African Breweries group has a structural business unit departmentalisation (SBU), that is why there are some shared functions and other activities that are carried out at the subsidiaries. Summing up, the 45 managers and the sampled 55 employees gave the required sample of 100 respondents.

3.5 Data collection procedures and instruments

Both primary and secondary data were utilised as sources of data for the study. Secondary data were gathered from the financial records of East African Breweries, other publications by the company, magazines and books. Secondary data provided information pertaining to the financial performance of the company. The collected data were recorded in the table shown in appendix III.

Primary data was collected by the use of open-ended and closed matrix questionnaire see appendix IV. The questionnaires were delivered by the researcher to the managers of the various subsidiaries of EABL. The employees were selected by the researcher from the employees list from the HR department of the firm. The researcher then chose randomly the number of respondents required in each sample strata. In the case of one employee in a stratum, the researcher chose the supervisor or the most senior person to fill in the questionnaire. The questionnaires were self-administered since all the employees are in a position to answer the questions.

3.6 Data collection

Since the subsidiaries of East African Breweries are located within Nairobi, the questionnaires were delivered by the researcher to the companies. The questionnaires
were pre-tested before distribution to respondents and adjustments done where necessary. Secondary data were obtained from the group financial records of the company.

3.7 Data analysis

Secondary data (financial statements) were used to calculate financial ratios (see appendix II). Primary data were analysed with the help of the statistical package for social sciences SPSS. Percentages and ratios were the main method of analysing the data. The study utilised the six criteria of the Malcom Baldrige national quality award to examine the practice of TQM and EABL's performance and to examine the relationships between six TQM elements and the organisational performance of the company.

The measurement scale used in dependent variables and independent variables was a continuous scale. The Likert four-point response scale, to indicate the extent to which respondents agree or disagree with each statement at the time was used. The 4-point response scale is strongly disagree, disagree, agree or strongly agree. The participants were asked to rate TQM elements in the organisation and their judgement pertaining to financial performance since the start of TQM process implementation using the four-point scale.

Pearson’s product-moment correlation method was performed before regression analysis, in order to examine the construct validity, and also to reveal the correlation within the six independent variables and to check the presence of multicollinearity, which may exist when the inter-correlation between independent variables exceeds 0.8 (Berry & Feldmann, 1985). Construct validity deals with the use of instruments
and measures that accurately measure and operationalise the constructs of interest in a study because most instruments and measures are not necessarily as accurate as would be desired.

The aim of regression analysis is to summarise data as well as to quantify relationships among variables, expressed via an equation for predicting typical values of one variable given the values of other variables. There are two methods in the linear regression analysis: they are simple linear regression and multiple linear regression. When there is only one independent variable, the simple linear regression analysis would be selected, while if there are more than one independent variables; the multiple linear regression is employed. In the present study, there are six independent variables, thus, multiple linear regression method was utilised to analyse the collected data. SPSS was used to estimate coefficient for multiple linear regression with more than two independent variables and list all of the possible regression models.

Pearson's moment correlation was used to assess which of the six TQM elements most influence the four broad financial ratios. A trend analysis was also carried out to depict the change in the financial performance over time since the company started the implementation of TQM.

3.8 Data presentation

Collected data is presented using bar charts, pie charts and simple and multiple trend line graphs. Data is also presented in tables.
CHAPTER FOUR
DATA ANALYSIS AND INTERPRETATION

4.1 Introduction
In the previous chapter, the research methodology for the study was discussed. This chapter first depicts the results of questionnaire administration including qualitative and quantitative analysis, descriptive statistical results of the study variables, Pearson correlation, and regression analysis.

One hundred employees/managers were chosen through a stratified random sampling method as the respondents for this study. Out of the 100 employees/managers to whom questionnaires were administered, 91 (91%) questionnaires were returned. One of 91 questionnaires was not completed. Hence, the valid sample was 90. Data from the questionnaires was entered into the Statistical Package for the Social Science, SPSS version 11.0, for analysis (SPSS, 2001). The information pertaining to the questionnaire administration is summarised in table 4.1.
The response rate was 90 percent as indicated in table 4.1. This response level was found satisfactory for the research. Nunnally (1978) states that any pre-test must be carried out on a similar group. In this case, five managers were asked if the completing of the questionnaire created any difficulties. The four respondents replied that they faced no problems in completing the questionnaires. The final questionnaire version then followed their comments and suggestions. Therefore, the instrument can be considered to have face and content validity.
4.2 Quantitative analysis

There were 27 (30%) employees who had been in E.A.B.L for less than 5 years. Majority of the employees 41 (45%) had been in the organisation for an average of 13 ½ years. This period is long enough to understand the operations of the organisation. Surprisingly only 3 employees (3%) had been in EABL for more than 20 years. Respondents' period of employment is presented in Table 4.1. All the three employees who had been in the organisation for over 20 years where top managers.

Table: 4.2: Duration of employment at E.A.B.L

<table>
<thead>
<tr>
<th>Period in employment</th>
<th>Number of employees</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 5 years</td>
<td>27</td>
<td>30%</td>
</tr>
<tr>
<td>5-10 years</td>
<td>41</td>
<td>45%</td>
</tr>
<tr>
<td>11-15 years</td>
<td>11</td>
<td>13%</td>
</tr>
<tr>
<td>16-20 years</td>
<td>8</td>
<td>9%</td>
</tr>
<tr>
<td>More than 20 years</td>
<td>3</td>
<td>3%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>90</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

Source: Field data

From the data EABL has a moderate labour turnover. Most of the employees have been in the company for between 5 to 10 years. This shows that respondents had been in the organisation for long enough to understand the operations of the company.
Table 4.3: Practice of Leadership variables

<table>
<thead>
<tr>
<th>Name of subsidiary/group function</th>
<th>Agree</th>
<th>Percentage</th>
<th>Disagree</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shared functions</td>
<td>3</td>
<td>3.33%</td>
<td>1</td>
<td>1.11%</td>
</tr>
<tr>
<td>Subsidiaries</td>
<td>35</td>
<td>38.89%</td>
<td>8</td>
<td>8.89%</td>
</tr>
<tr>
<td>Managers</td>
<td>39</td>
<td>43.33%</td>
<td>4</td>
<td>4.44%</td>
</tr>
<tr>
<td>Total</td>
<td>77</td>
<td>85.56%</td>
<td>13</td>
<td>14.44%</td>
</tr>
</tbody>
</table>

Source: Field data

Out of the 90 respondents 77 (85.56%) reported that leadership variables related to total quality management where in practice at the EABL. All categories of management and employees including the people in the shared functions seemed satisfied with the leadership management system in place at the EABL. Only 13 employees representing (14.44%) of the respondents had the opinion that leadership variables where not being utilised fully at EABL.
Table 4.4: Practice of Strategic planning variables

<table>
<thead>
<tr>
<th>Name of subsidiary/group function</th>
<th>Agree</th>
<th>Percentage</th>
<th>Disagree</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shared functions</td>
<td>2</td>
<td>2.22%</td>
<td>2</td>
<td>2.22%</td>
</tr>
<tr>
<td>Subsidiaries</td>
<td>30</td>
<td>33.33%</td>
<td>13</td>
<td>14.44%</td>
</tr>
<tr>
<td>Managers</td>
<td>32</td>
<td>35.56%</td>
<td>11</td>
<td>12.22%</td>
</tr>
<tr>
<td>Total</td>
<td>64</td>
<td>71.12%</td>
<td>26</td>
<td>28.88%</td>
</tr>
</tbody>
</table>

Source: Field data

EABL deploys strategic management variables in an endeavour to achieve quality and hence sound financial performance in the company. This is evidenced by 64 respondents (71.12%) who affirmed that the company practices strategic management. It seems a sizable proportion of management still believe that some strategic management tools are not in place. This is an indicator that the company can still do a better job in the area of strategic management.
Table 4.5: Practice of Focus on customers and market variables

<table>
<thead>
<tr>
<th>Name of subsidiary/group function</th>
<th>Agree</th>
<th>Percentage</th>
<th>Disagree</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shared functions</td>
<td>2</td>
<td>2.22%</td>
<td>2</td>
<td>2.22%</td>
</tr>
<tr>
<td>Subsidiaries</td>
<td>38</td>
<td>42.22%</td>
<td>5</td>
<td>5.56%</td>
</tr>
<tr>
<td>Managers</td>
<td>40</td>
<td>44.45%</td>
<td>3</td>
<td>3.33%</td>
</tr>
<tr>
<td>Total</td>
<td>80</td>
<td>88.89%</td>
<td>10</td>
<td>11.11%</td>
</tr>
</tbody>
</table>

Source: Field data

Figure 4.4: Customer focus and markets

The study established that the company was concerned with its customers as well as the markets. Most of the respondents affirmed that the company clearly set the target market and potential market. EABL has clear system of collecting information from its customers and also solving customer complaints especially distributor complaints. 10 (11.11%) employees seemed to disagree with the majority and stipulated that the company did not have proper systems of analysing changing needs of customers.

To sum it up EABL is doing fairly pertaining to customer satisfaction endeavour. It is surprising that the employees in the shared functions still feel that the company is
not doing well in focus on the customer and markets however; this can be attributed
to the fact that most of these employees do not interact with external customs.

Table 4.6: Practice of Informational analysis variables

<table>
<thead>
<tr>
<th>Name of subsidiary/group function</th>
<th>Agree</th>
<th>Percentage</th>
<th>Disagree</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shared functions</td>
<td>4</td>
<td>4.44%</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Subsidiaries</td>
<td>32</td>
<td>35.56%</td>
<td>11</td>
<td>12.22%</td>
</tr>
<tr>
<td>Managers</td>
<td>36</td>
<td>40%</td>
<td>7</td>
<td>7.78%</td>
</tr>
<tr>
<td>Total</td>
<td>72</td>
<td>80%</td>
<td>18</td>
<td>20%</td>
</tr>
</tbody>
</table>

Source: Field data

Figure 4.5: Information analysis

Source: Field data

Majority of the employees at the EABL have been involved in information analysis
practice contributing to quality in the organisation. All the 4 (4.44%) employees in
the shared functions included in the sample agreed that information analysis is
effectively utilised. This is not surprising since the shared functions are support
functions which would mostly be involved in information analysis for both internal
and external users.
The employees who disagreed with the adequacy of information analysis 18 (20%) in the company mainly highlighted communication of analysed information to users as inadequate. Other employees seemed to find information supplied not in the form that would be most useful for their use.

Table 4.7: Practice of Staff focus variables

<table>
<thead>
<tr>
<th>Name of subsidiary/group function</th>
<th>Agree</th>
<th>Percentage</th>
<th>Disagree</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shared functions</td>
<td>1</td>
<td>1.11%</td>
<td>3</td>
<td>3.33%</td>
</tr>
<tr>
<td>Subsidiaries</td>
<td>29</td>
<td>32.22%</td>
<td>14</td>
<td>15.56%</td>
</tr>
<tr>
<td>Managers</td>
<td>33</td>
<td>36.67%</td>
<td>10</td>
<td>11.11%</td>
</tr>
<tr>
<td>Total</td>
<td>63</td>
<td>70%</td>
<td>27</td>
<td>30%</td>
</tr>
</tbody>
</table>

Source: Field data

Figure 4.6: Staff focus
Source: Field data

Among all the TQM variables analysed in the research staff focus was given the lowest ranking with 27 (30%) of the respondents disagreeing with the adequacy of staff focus measures. Specifically many employees indicated that the company does not regularly measure employees' satisfaction. The low ranking of staff focus can be attributed to the fact that during the period EABL had a major restructuring process that left many employees either retrenched or declared redundant. It should be noted
that TQM requires that organisations change the way they do business as a result restructuring becomes inevitable.

Many employees in in the sample suggested that the company needs to consider its internal customer who is the employee. Since TQM requires that all clients internal and external be satisfied then this is an area that will need to be addressed by the company.

Table: 4.8 Practice of process management variables

<table>
<thead>
<tr>
<th>Name of subsidiary/group function</th>
<th>Agree</th>
<th>Percentage</th>
<th>Disagree</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shared functions</td>
<td>3</td>
<td>3.33%</td>
<td>1</td>
<td>1.11%</td>
</tr>
<tr>
<td>Subsidiaries</td>
<td>34</td>
<td>37.78%</td>
<td>9</td>
<td>10%</td>
</tr>
<tr>
<td>%Managers</td>
<td>36</td>
<td>40%</td>
<td>7</td>
<td>7.78%</td>
</tr>
<tr>
<td>Total</td>
<td>73</td>
<td>81.11%</td>
<td>17</td>
<td>18.89%</td>
</tr>
</tbody>
</table>

Source: Field data

Figure 4.7: Practice of process management
Source: Field data

On inquiry of whether process management was practiced in EABL, 73 (81.11%) of the respondents where of the opinion that process management is practiced while 17 (18.89%) felt otherwise. A large proportion of the respondents in the shared
functions tended to affirm the practice of process management with majority of those giving different opinion being from the other functions especially those who did not hold managerial positions.

Many of the respondents who rated presence of process management in the company lowly tended to question the use of efficiency factors of production processes at the design stage. This indicates that EABL has a well documented quality process but employees could be overlooking the key issue of quality involvement at the design stage. However with majority of the other factors being present then it can only indicate that most of the employees are not consulted when products are being designed.

Table 4.9: EABL had experienced an improvement in financial performance

<table>
<thead>
<tr>
<th>Name of subsidiary/group function</th>
<th>Agree</th>
<th>Percentage</th>
<th>Disagree</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shared functions</td>
<td>4</td>
<td>4.44%</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Subsidiaries</td>
<td>40</td>
<td>44.45%</td>
<td>3</td>
<td>3.33%</td>
</tr>
<tr>
<td>Managers</td>
<td>42</td>
<td>46.67%</td>
<td>1</td>
<td>1.11%</td>
</tr>
<tr>
<td>Total</td>
<td>86</td>
<td>95.56%</td>
<td>4</td>
<td>4.44%</td>
</tr>
</tbody>
</table>

Source: Field data

Figure 4.8: Improved financial performance
Source: Field data
In this section the researcher sought to find the inferences of the respondents pertaining to the financial performance of EABL. Majority of the respondents were of the opinion that financial position of the company has improved over time. This is consistent with the analysis of financial records. 4 respondents representing 4.44% had the opinion that EABL has not experienced an improvement in its financial performance. This is true for some years when the company did not perform very well.

Table 4.10: EABL had experienced a reduction in costs

<table>
<thead>
<tr>
<th>Name of subsidiary/group function</th>
<th>Agree</th>
<th>Percentage</th>
<th>Disagree</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shared functions</td>
<td>3%</td>
<td>3.33</td>
<td>1</td>
<td>1.11%</td>
</tr>
<tr>
<td>Subsidiaries</td>
<td>34%</td>
<td>37.78</td>
<td>9</td>
<td>10%</td>
</tr>
<tr>
<td>Managers</td>
<td>30%</td>
<td>33.33</td>
<td>13</td>
<td>14.45%</td>
</tr>
<tr>
<td>Total</td>
<td>67%</td>
<td>74.44</td>
<td>23</td>
<td>25.56%</td>
</tr>
</tbody>
</table>

Source: Field data

Figure 4.9: Company reduced costs
Source: Field data
Increased profitability as a result of implementation of quality in an organisation is normally attributed to reduction in costs as wastes reduce and company does it right the very first time. Respondents conducted affirmed that the costs of the company had reduced over time. This can be seen as the cause of the improved financial performance.

It is surprising that more managers than ordinary employees felt that the costs of the organisation had not reduced over the period. This shows that the company has a lot of room for improvement in the field of cost reduction. This however is not very much supported by the financial statements analysis.

Table 4.11: EABL had experienced an increase in profits

<table>
<thead>
<tr>
<th>Name of subsidiary/group function</th>
<th>Agree</th>
<th>Percentage</th>
<th>Disagree</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shared functions</td>
<td>4</td>
<td>4.44%</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Subsidiaries</td>
<td>37</td>
<td>41.11%</td>
<td>6</td>
<td>6.67%</td>
</tr>
<tr>
<td>Managers</td>
<td>39</td>
<td>43.33%</td>
<td>4</td>
<td>4.45%</td>
</tr>
<tr>
<td>Total</td>
<td>80</td>
<td>88.88%</td>
<td>10</td>
<td>11.12%</td>
</tr>
</tbody>
</table>

Source: Field data

EABL profits have increased over time
Both the financial statements and respondents indicate that EABL has experienced an increment in the profits over time. It should however be noted that EABL has to a big extend been a monopoly in the industry as such this can not all be attributed to quality but also the improved economic performance in the country.

### Financial performance from financial records

#### Table 4.12: Profitability

<table>
<thead>
<tr>
<th>Years</th>
<th>Profit before tax ‘000’</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yr 2001</td>
<td>2,499</td>
</tr>
<tr>
<td>Yr 2002</td>
<td>3,400</td>
</tr>
<tr>
<td>Yr 2003</td>
<td>3,641</td>
</tr>
<tr>
<td>Yr 2004</td>
<td>7,042</td>
</tr>
<tr>
<td>Yr 2005</td>
<td>8,599</td>
</tr>
<tr>
<td>Yr 2006</td>
<td>8,577</td>
</tr>
<tr>
<td>Yr 2007</td>
<td>10,635</td>
</tr>
</tbody>
</table>

Source: Field data

The trend line above shows that EABL has consistently had an increment in its profitability over the period between year 2001 and tear 2007. The increment in profitability seems to have slackened in years 2003 and 2006 but generally the profitability of the company has
been increasing over time. Profitability has increased from 2 million to 10 million in a period of 7 years.

Table 4.13: Earnings per share

<table>
<thead>
<tr>
<th>Year</th>
<th>Earnings per share</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yr 2001</td>
<td>2.48</td>
</tr>
<tr>
<td>Yr 2002</td>
<td>3.55</td>
</tr>
<tr>
<td>Yr 2003</td>
<td>2.29</td>
</tr>
<tr>
<td>Yr 2004</td>
<td>5.87</td>
</tr>
<tr>
<td>Yr 2005</td>
<td>7.24</td>
</tr>
<tr>
<td>Yr 2006</td>
<td>8.18</td>
</tr>
<tr>
<td>Yr 2007</td>
<td>9.31</td>
</tr>
</tbody>
</table>

Source: Field data

Figure 4.12: Earnings per share

Source: Field data

The earnings per share for EABL has been increasing over the period 2001 to 2007. It seems to have dipped in the year 2003. This year the company had experience a reduction in profitability hence the reduction in earnings per share. On the other hand a reduction in profitability will normally require more investment to reverse the trend hence this can also be attributed to the same.

Analysis of earning per share indicated that it has consistently been increasing over time. This is attributed to the increment in profitability of the company. It however
shows that the increment in earning per share is increasing at a decreasing rate which indicates that it may stagnate over time.

Table 4.14: Return on capital employed

<table>
<thead>
<tr>
<th>YEAR</th>
<th>ROCE (Return on capital employed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yr 2001</td>
<td>16.38</td>
</tr>
<tr>
<td>Yr 2002</td>
<td>20.93</td>
</tr>
<tr>
<td>Yr 2003</td>
<td>21.05</td>
</tr>
<tr>
<td>Yr 2004</td>
<td>41.76</td>
</tr>
<tr>
<td>Yr 2005</td>
<td>45.99</td>
</tr>
<tr>
<td>Yr 2006</td>
<td>41.86</td>
</tr>
<tr>
<td>Yr 2007</td>
<td>46.44</td>
</tr>
</tbody>
</table>

Source: Field data

Figure 4.13: Return on capital employed
Source: Field data

ROCE is considered a major indicator of the success of failure of business. It measures the ability of an organisation to convert sales into profits and earn profits on assets employed. EABL indicates that it had high level of ROCE that consistently increased over the period between year 2001 and 2007. However Year 2004 and 2006 recorded slackened growth.
Table 4.15: Liquidity

<table>
<thead>
<tr>
<th>YEAR</th>
<th>CURRENT RATIO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yr 2001</td>
<td>1.65</td>
</tr>
<tr>
<td>Yr 2002</td>
<td>1.71</td>
</tr>
<tr>
<td>Yr 2003</td>
<td>2.45</td>
</tr>
<tr>
<td>Yr 2004</td>
<td>2.82</td>
</tr>
<tr>
<td>Yr 2005</td>
<td>3.14</td>
</tr>
<tr>
<td>Yr 2006</td>
<td>3.23</td>
</tr>
<tr>
<td>Yr 2007</td>
<td>2.20</td>
</tr>
</tbody>
</table>

Source: Field data

Figure 4.14: Current ratio

As rule of the thumb the Current ratio must be 2:1 in a normal situation. Looking at the financial statements of EABL in the period 2001 to 2007 the company had a current ration of over 2:1 from the year 2003 to 2007. In the years 2001 and 2002 the company had a current ratio less than 2 which can be attributed to the fact that this is the period the company was starting the implementation of Quality systems.
Table: 4.16 Ability to borrow

<table>
<thead>
<tr>
<th>Year</th>
<th>Debt Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yr 2001</td>
<td>35.63</td>
</tr>
<tr>
<td>Yr 2002</td>
<td>34.77</td>
</tr>
<tr>
<td>Yr 2003</td>
<td>19.92</td>
</tr>
<tr>
<td>Yr 2004</td>
<td>23.16</td>
</tr>
<tr>
<td>Yr 2005</td>
<td>21.62</td>
</tr>
<tr>
<td>Yr 2006</td>
<td>20.94</td>
</tr>
<tr>
<td>Yr 2007</td>
<td>35.82</td>
</tr>
</tbody>
</table>

Figure 4.15: Debt ratio
Source: Field data

The debt ratio indicates proportion of current debt of a company relative to its assets. At EABL the debt ratio declined between years 2003 to 2006 before jumping up back to the point 35.82 in the year 2007. This indicates that the company experienced a reduced debt relative to its assets in the period 2003 to 2006.

Table: 4.17 Funds management

<table>
<thead>
<tr>
<th>Year</th>
<th>Debt Collection Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yr 2001</td>
<td>17.16</td>
</tr>
<tr>
<td>Yr 2002</td>
<td>15.59</td>
</tr>
<tr>
<td>Yr 2003</td>
<td>17.77</td>
</tr>
<tr>
<td>Yr 2004</td>
<td>38.85</td>
</tr>
<tr>
<td>Yr 2005</td>
<td>37.34</td>
</tr>
<tr>
<td>Yr 2006</td>
<td>41.14</td>
</tr>
<tr>
<td>Yr 2007</td>
<td>59.13</td>
</tr>
</tbody>
</table>

Source: Field data
The debt collection period has been increasing over the period between 2005 and 2006. This is something the management would be concerned about.

### Table 4.18: Pearson Correlations among Variables

<table>
<thead>
<tr>
<th></th>
<th>Profitability</th>
<th>Liquidity</th>
<th>Ability to borrow</th>
<th>Funds management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leadership</td>
<td>0.81</td>
<td>0.69</td>
<td>0.64</td>
<td>0.56</td>
</tr>
<tr>
<td>Strategic planning</td>
<td>0.80</td>
<td>0.72</td>
<td>0.67</td>
<td>0.71</td>
</tr>
<tr>
<td>Customer focus</td>
<td>0.73</td>
<td>0.58</td>
<td>0.73</td>
<td>0.50</td>
</tr>
<tr>
<td>Information analysis</td>
<td>0.81</td>
<td>0.76</td>
<td>0.56</td>
<td>0.51</td>
</tr>
<tr>
<td>Staff focus</td>
<td>0.71</td>
<td>0.46</td>
<td>0.46</td>
<td>0.64</td>
</tr>
<tr>
<td>Process management</td>
<td>0.58</td>
<td>0.56</td>
<td>0.62</td>
<td>0.57</td>
</tr>
</tbody>
</table>

Source: Field data
According to the correlation coefficient shown in Table 6.4, it was apparent that all the correlation coefficients were larger than 0.3; this indicated that there was a significant correlation between the company financial performance and the six TQM elements. Referring to table 4.1, good leadership or an appropriate leadership style, tended to achieve better profitability (0.81); liquidity (0.69); Ability to borrow (0.64) and funds management (0.56).

The correlation between leadership and profitability was ranked the highest, information and liquidity was ranked second and the correlation between leadership and funds management was ranked the lowest. As can be seen from the table, there were significant positive relationships between leadership and the four dependent variables.

4.3 Qualitative analysis
The primary purpose of this study was to investigate the practice of TQM variables and relate them with the financial performance variables over a period of 7 years. The hope was that the aggregated TQM variable would be positively correlated with a change in financial performance which has been confirmed as indicated in the project.

The data collected from the company indicated that the organisation had a moderate staff turn over. Majority of the employees had been in the organisation for between 5 to 10 years. This contradicts the finding that the company has not embarked on staff focus. The explanation of this based on the fact that employees will judge a company more on what happens in a day and not what is the overall position. The staff lay off
undertaken in the year 2007 which is the year of the research explains this contradiction.

The results indicated that EABL had successfully implemented TQM and had a significant improvement in financial performance over the period of implementation. As expected there was a positive correlation between financial performance and the implementation of TQM.

The results indicated that there was a correlation between Profitability, Liquidity, ability to borrow and the implementation of TQM. However there is negative correlation between implementation of TQM and the funds management by the company as indicated by the debt collection period.

4.4 Answers to research questions
The following section gives a verbatim explanation of the research questions posed in chapter two of the research.

On the effect of TQM implementation process on profitability 85.56% of the respondents confirmed that leadership quality variables have been implemented at the company. Another 71.12% of the respondents stated that strategic management variables that would ensure quality had been put in place and were being practiced. The company focuses on its customers as evidenced by 88.89% of the respondents. EABL practices information analysis activities that would ensure quality in the company. This was stated by 80% of the respondents. Out of the above analysis EABL has implemented TQM.

Turning to financial performance 95.56% of the respondents affirmed that EABL has experienced an improvement in financial performance. This improvement was
confirmed by financial statements analysis which shows that profitability before tax increased from 2 million to 10 million in the period between year 2001 and 2007.

Table 4.19: Correlation between TQM variables and profitability

<table>
<thead>
<tr>
<th>TQM variables</th>
<th>Profitability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leadership</td>
<td>0.81</td>
</tr>
<tr>
<td>Strategic planning</td>
<td>0.80</td>
</tr>
<tr>
<td>Customer focus</td>
<td>0.73</td>
</tr>
<tr>
<td>Information analysis</td>
<td>0.81</td>
</tr>
<tr>
<td>Staff focus</td>
<td>0.71</td>
</tr>
<tr>
<td>Process management</td>
<td>0.58</td>
</tr>
</tbody>
</table>

Source: Field data

Correlation analysis indicated that TQM variables are positively correlated with profitability with the strongest correlation being between profitability and leadership and also information analysis both having a correlation of 0.81.

Data analysis of the effect of TQM implementation on the liquidity of EABL the following results were obtained (table 4.20)

Table 4.20: Correlation between TQM variables and liquidity

<table>
<thead>
<tr>
<th>TQM variables</th>
<th>Liquidity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leadership</td>
<td>0.69</td>
</tr>
<tr>
<td>Strategic planning</td>
<td>0.72</td>
</tr>
<tr>
<td>Customer focus</td>
<td>0.58</td>
</tr>
<tr>
<td>Information analysis</td>
<td>0.76</td>
</tr>
<tr>
<td>Staff focus</td>
<td>0.46</td>
</tr>
<tr>
<td>Process management</td>
<td>0.56</td>
</tr>
</tbody>
</table>

Source: Field data

The analysis indicated that liquidity is positively correlated with leadership TQM variables. There is moderately strong correlation between the two with the weakest correlation being between liquidity and staff focus at 0.46.
Analysis of data collected elucidated that there is correlation between TQM variables and the ability to borrow as summarised in table 4.21.

Table 4.21: Correlation between TQM variables and ability to borrow

<table>
<thead>
<tr>
<th>TQM variables</th>
<th>Ability to borrow</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leadership</td>
<td>0.64</td>
</tr>
<tr>
<td>Strategic planning</td>
<td>0.67</td>
</tr>
<tr>
<td>Customer focus</td>
<td>0.73</td>
</tr>
<tr>
<td>Information analysis</td>
<td>0.56</td>
</tr>
<tr>
<td>Staff focus</td>
<td>0.46</td>
</tr>
<tr>
<td>Process management</td>
<td>0.62</td>
</tr>
</tbody>
</table>

Source: Field data

There is positive correlation between TQM variables and the ability to borrow. A company that implements TQM is likely to find it easier to borrow as indicated by the moderate correlation levels from EABL analysis ranging from 0.46 to 0.73. The final research question that the researcher had posed was the effect of organisation’s Funds management after TQM implementation. The findings to answer this question are summarised in table 4.22.

Table 4.22: Correlation between TQM variables and funds management

<table>
<thead>
<tr>
<th>TQM variables</th>
<th>Funds management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leadership</td>
<td>0.56</td>
</tr>
<tr>
<td>Strategic planning</td>
<td>0.71</td>
</tr>
<tr>
<td>Customer focus</td>
<td>0.50</td>
</tr>
<tr>
<td>Information analysis</td>
<td>0.51</td>
</tr>
<tr>
<td>Staff focus</td>
<td>0.64</td>
</tr>
<tr>
<td>Process management</td>
<td>0.57</td>
</tr>
</tbody>
</table>

Source: Field data

The relationship between TQM and funds management in EABL are positively over the period under study.
4.5 Summary

The data was analysed and presented in bar chart, pie charts and trend lines. This proved effective as it helped give an inference on the performance of the company over the period between 2001 and 2007 and the response of the respondents pertaining to the practice of TQM variables in EABL.

Majority of the respondents affirmed that total quality management variables are in place and practiced in the company. Out of the respondents who participated at least 70% confirmed practice of total quality management principles in the company.

All the financial ratios calculated and plotted indicated a general major improvement over time except for the debt collection period ratio.

Turning to the correlation analysis there was a high correlation between total quality management variables and financial performance in the EABL. This was large enough to suggest that a company that implements total quality management is likely to do better financially.
CHAPTER FIVE
SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary
The findings on the effect of Total Quality Management on financial performance in a manufacturing organisation specifically in EABL are varied and not straightforward to explain. Generally, there is a positive correlation between total quality management and financial performance. This is because the company has had an improvement of financial performance over the period of implementation, however it is a monopoly in the market to a big extend and therefore economic performance could be having a major influence on its performance.

The major findings based on the four objectives of the study are: TQM implementation is positively correlated with Profitability. This is only achieved if the savings made out waste elimination the cost of implementation. Initially the company may not do well as costs increase during TQM implementation but once the process is in place benefits are achieved.

TQM implementation is positively correlated with liquidity of EABL. The organisation's liquidity slackened during the initial years of implementation but later improved to levels where the organisation seemed to hold a lot of unnecessary liquid assets. This was later corrected by expansion plans and introduction of new brands in the market to capture niche markets that had previously been ignored. The best example was the introduction of keg beer to be sold to the low end market.
Ability to borrow by EABL has deteriorated over the period between year 2001 and 2006 as indicated by the debt. It later bounced back to the original average position of 35 in the year 2007. This indicates that EABL had reduced its total assets and also increased its short term borrowing in an endeavour to implement TQM. Initially it seems to have embarked on long time financing the reverted to utilising its short term borrowing.

EABL's Funds management as indicated by the debt collection has deteriorated with no signs of improvement over the period 2001 to 2007. This can be explained by the fact that TQM does not have any methodology of ensuring that debts are paid in good time. TQM mainly focuses on satisfying the customer. The company has management to implement TQM with a lot of success and has reaped the benefits of TQM within the said period.

5.2 Conclusion
This study indicates that the initial years of implementation of TQM are not very pleasant. Financial performance deteriorates as organizations invest in quality with no tangible benefits yet realized. In the later years the organization does well but still needs to monitor other financial variables that are not directly influenced by TQM. Additionally, this research confirms the proposition that the duration of TQM is positively correlated with financial variables.

Further, the TQM aggregate score (combined factors) gets stronger with age or continued emphasis. Said another way, companies embracing the TQM philosophy should get better and better with continued emphasis on improving the TQM component factors.
In the early years of implementation of TQM costs increase resulting in a negative a fair financial performance, however in the long run after the TQM variables are in place and the effect are felt the financial performance improves.

5.3 Recommendations

EABL should continue with its road to perfecting its quality systems to improve its profitability and also specifically it needs to improve its internal customer satisfaction. It needs to view its employees as internal customers who need to be treated with the same importance as the other external clients.

Liquidity in the company should be monitored to avoid situations where the company is holding so much liquid assets which could otherwise be invested in revenue earning assets. Specifically it should monitor coming up competitors and if need be use the excess liquid assets to combat competition or at least reduce it.

In the coming years EABL will need to monitor its debt ration to avoid major fluctuations which can be disadvantageous to the company. Any other quality endeavour must be well thought especially in terms of financing. The quality procedure must be analysed and planned in terms of implementation and the financial implications. It is not a surprise that companies fail if they don’t plan the financing of the activity in the short run before benefits set in and are realised.

EABL will need to curb the deterioration in its funds management. Specifically it will need to employ mechanisms to collect its receivables in the shortest time possible. This is likely to help it sort out its short term financial problems.
Given the benefits so far achieved by EABL out of its quality endeavours the company should continue with the ends road to quality perfection and continue realising the benefits associated with the process.

5.4 Suggestion for further research

An in-depth, boarder-based study, covering a wider geographical region and embracing greater demographic, ethic, political, economic and social diversity than what was achievable in this study would be valuable, to establish whether the conclusions can be generalized.

A study should be carried out to find out how TQM affect other aspects of businesses especially making management easier and internal customer satisfaction. It is also necessary to investigate the effect of TQM on financial performance in small scale institutions in Kenya. Finally it is strongly recommended that research be undertaken in this area of TQM which seems to have potential of benefits yet it has been ignored for so long since the time it was introduced in the early 1950’s.
REFERENCES


Barsness et al., (1994). *The quality march national survey profiles quality improvement activities health and health networks*.


http://nces.urban.org/nkee-cc/index.htm

http://www.baldrige.nist.gov/

http://www.isixsigma.com/library/content/six-sigma-newbie.asp

http://www.CompanyProfile/EASTAFRICAN BREWERIESLIMITED.htm


www.iso.org


Appendix I: Introductory letter

To ....................
P.O Box ..................
Nairobi.

Through The Dean,
School of Business,
Department of accounting and finance,
P.O Box 43844,
Nairobi.

Dear sir/madam,

RE: ASSISTANCE IN RESEARCH PROJECT.
I am a student of Kenyatta University, school of business perusing a Masters Degree in Business Administration.

Your organization has been chosen to aid in the research topic ‘effect of total quality management on financial performance.’

This research is wholly intended for academic purposes and information gained will be dealt with strict confidentiality and only for the purpose of the study.

Your assistance is highly appreciated.

Yours faithfully,

DENNIS M. MULILI.

Sign ................. Date .........................
## Appendix II: Financial ratios

<table>
<thead>
<tr>
<th>RATIOS</th>
<th>FORMULA FOR CALCULATION</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Liquidity ratios</strong></td>
<td></td>
</tr>
</tbody>
</table>
| Current ratio:       | \[
|                      | \frac{\text{current assets}}{\text{current liabilities}} \]
| **Profitability ratios** | \[
| Return on capital employed: | \frac{\text{net profit before interest and tax}}{\text{total capital employed}} \times 100 \]
| **Funds management** |                                                              |
| Debtors collection period: | \[
|                      | \frac{\text{debtor}}{\text{sales revenue}} \times 365 \text{ days} \]
| Average payment period: | \[
|                      | \frac{\text{creditors}}{\text{purchases}} \times 365 \text{ days} \]
| **Ability to borrow** |                                                              |
| Debt ratio:          | \[
|                      | \frac{\text{current liabilities}}{\text{total assets}} \times 100 \]

Source: Jankowicz 1996.
### Appendix III: Record of financial variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>The various readings</th>
<th>Year</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current assets</td>
<td></td>
<td></td>
<td>8,978,267</td>
<td>9,656,545</td>
<td>8,439,807</td>
<td>10,996,706</td>
<td>12,698,983</td>
<td>13,873,011</td>
<td>18,103,247</td>
</tr>
<tr>
<td>Current liabilities</td>
<td></td>
<td></td>
<td>5,436,621</td>
<td>5,656,715</td>
<td>3,444,966</td>
<td>3,905,915</td>
<td>4,042,591</td>
<td>4,290,427</td>
<td>8,203,822</td>
</tr>
<tr>
<td>Sales revenue</td>
<td></td>
<td></td>
<td>28,865,311</td>
<td>28,918,151</td>
<td>27,734,679</td>
<td>16,592,335</td>
<td>19,186,425</td>
<td>20,906,885</td>
<td>27,328,764</td>
</tr>
<tr>
<td>Net profit before interest and tax</td>
<td></td>
<td></td>
<td>2,499,563</td>
<td>3,400,411</td>
<td>3,640,784</td>
<td>7,041,897</td>
<td>8,599,051</td>
<td>8,577,049</td>
<td>10,635,771</td>
</tr>
<tr>
<td>Total capital employed</td>
<td></td>
<td></td>
<td>15,257,256</td>
<td>16,267,566</td>
<td>17,297,637</td>
<td>16,864,622</td>
<td>18,695,903</td>
<td>20,491,270</td>
<td>22,902,373</td>
</tr>
<tr>
<td>Profits available for distribution</td>
<td></td>
<td></td>
<td>2,156,364</td>
<td>1,500,008</td>
<td>2,300,794</td>
<td>3,849,058</td>
<td>4,769,912</td>
<td>5,392,488</td>
<td>6,133,215</td>
</tr>
<tr>
<td>Earnings per share</td>
<td></td>
<td></td>
<td>2.48</td>
<td>3.55</td>
<td>2.29</td>
<td>5.87</td>
<td>7.24</td>
<td>8.18</td>
<td>9.31</td>
</tr>
<tr>
<td>Debtors</td>
<td></td>
<td></td>
<td>1,356,983</td>
<td>1,235,421</td>
<td>1,350,484</td>
<td>1,766,262</td>
<td>1,963,000</td>
<td>2,356,436</td>
<td>4,427,318</td>
</tr>
<tr>
<td>Creditors purchases</td>
<td></td>
<td></td>
<td>28,865,311</td>
<td>28,918,151</td>
<td>911,683</td>
<td>904,924</td>
<td>789,832</td>
<td>1,262,168</td>
<td>2,349,425</td>
</tr>
</tbody>
</table>

Source: EABL financial records 2008
Appendix IV: Questionnaire

The objective of the research is to find the effect of Total Quality Management on financial performance. The information deduced will be used strictly the research and not for any other reason. Your corporation is highly appreciated.

Part 1: Introductory information

Please tick (√) or state the option that best corresponds to your opinion in each of the following:

1. How many years have you worked in East African Breweries
   a. Less than 5 years [ ]
   b. 5-10 years [ ]
   c. 11-15 years [ ]
   d. 16-20 years [ ]
   e. More than 20 years [ ]

2. Do you hold a managerial position? Yes [ ] No [ ]

Part 2: Total Quality Management

1. On the following pages there are a series of statements regarding TQM implementation. Read each statement and then use the four point response scale to indicate [by circling e.g 4, 3, 2, 1] the extent to which you agree or disagree with each statement at the present time in the company try to avoid leaving any items blank.

   **Leadership**

   a) Senior managers have a set of organisational values and short-term direction on performance expectations.

   

   b) Senior managers have established an environment for empowerment, innovation and organisational learning.

   c) Senior managers regularly review key performance measurements to find the opportunities for improvement

   d) Senior managers translated performance review findings into priorities for improvement and innovation.

   e) Senior managers deployed performance review findings throughout the organisation.
f) Senior managers use performances review findings to improve the leadership system and its effectiveness.  

<table>
<thead>
<tr>
<th>Strongly agree</th>
<th>Agree</th>
<th>Disagree</th>
<th>Strongly disagree</th>
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</thead>
<tbody>
<tr>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
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</table>

g) All of us are actively involved to support the actions of the organisation.  

<table>
<thead>
<tr>
<th>Strongly agree</th>
<th>Agree</th>
<th>Disagree</th>
<th>Strongly disagree</th>
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<tbody>
<tr>
<td>4</td>
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</table>

h) Senior managers regularly review the performance of the organisation to find the opportunities for improvement.  

<table>
<thead>
<tr>
<th>Strongly agree</th>
<th>Agree</th>
<th>Disagree</th>
<th>Strongly disagree</th>
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</table>

**Strategic planning**

a) The firm has a comprehensive strategic planning process, including steps, participants and short and long-term planning time.  

<table>
<thead>
<tr>
<th>Strongly agree</th>
<th>Agree</th>
<th>Disagree</th>
<th>Strongly disagree</th>
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</table>

b) The organisation's strategic planning processes is well associated with competitive environmental change.  

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<thead>
<tr>
<th>Strongly agree</th>
<th>Agree</th>
<th>Disagree</th>
<th>Strongly disagree</th>
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</tbody>
</table>

c) Our strategic planning processes are effectively aligned with customer needs and market expectations.  

Our strategic planning processes are successfully related with the strengths and weaknesses of staff/ alliance partners.  

<table>
<thead>
<tr>
<th>Strongly agree</th>
<th>Agree</th>
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</table>

d) Our strategic objectives are balanced according to the needs of the customers, suppliers and other stakeholders.  

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<th>Strongly agree</th>
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</table>

e) The firm has set timetable for achieving our strategic objectives.  

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<tr>
<th>Strongly agree</th>
<th>Agree</th>
<th>Disagree</th>
<th>Strongly disagree</th>
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</table>

f) The firm has established human resource action plans derived from our strategic objectives and action plans.  

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<thead>
<tr>
<th>Strongly agree</th>
<th>Agree</th>
<th>Disagree</th>
<th>Strongly disagree</th>
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</table>

g) The firm has key performance measurements for tracking progress relative to our action.  

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<tr>
<th>Strongly agree</th>
<th>Agree</th>
<th>Disagree</th>
<th>Strongly disagree</th>
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<tbody>
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h) The firm has performance projects to compare with past performance and similar providers.  

<table>
<thead>
<tr>
<th>Strongly agree</th>
<th>Agree</th>
<th>Disagree</th>
<th>Strongly disagree</th>
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<td>1</td>
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</tbody>
</table>
**Focus on customers and market**

a) The firm has set the target, potential customers and market.  
   - Strongly agree: 4  
   - Agree: 3  
   - Disagree: 2  
   - Strongly disagree: 1

b) The firm listens and learns from customers to recognise their requirements.  
   - Strongly agree: 4  
   - Agree: 3  
   - Disagree: 2  
   - Strongly disagree: 1

c) The requirements of customers are effectively disseminated throughout the organisation.  
   - Strongly agree: 4  
   - Agree: 3  
   - Disagree: 2  
   - Strongly disagree: 1

d) The firm has effective management processes for resolving customer complaints.  
   - Strongly agree: 4  
   - Agree: 3  
   - Disagree: 2  
   - Strongly disagree: 1

e) The firm has aggregated and analysed customer complaints to find opportunities for improvement.  
   - Strongly agree: 4  
   - Agree: 3  
   - Disagree: 2  
   - Strongly disagree: 1

f) The firm systematically and regularly measures the extent of customer satisfaction/dissatisfaction.  
   - Strongly agree: 4  
   - Agree: 3  
   - Disagree: 2  
   - Strongly disagree: 1

g) The firm regularly follows up the customers for feedback.  
   - Strongly agree: 4  
   - Agree: 3  
   - Disagree: 2  
   - Strongly disagree: 1

h) The firm compares the customer satisfaction information with competitors/similar providers.  
   - Strongly agree: 4  
   - Agree: 3  
   - Disagree: 2  
   - Strongly disagree: 1

i) The firm regularly examines the measuring method of customer satisfaction to match the current needs of the customers.  
   - Strongly agree: 4  
   - Agree: 3  
   - Disagree: 2  
   - Strongly disagree: 1

**Informational analysis**

a) The firm has comprehensive system to gather and integrate information for decision making.  
   - Strongly agree: 4  
   - Agree: 3  
   - Disagree: 2  
   - Strongly disagree: 1

b) The firm effectively uses comparative data and information to analyse performance.  
   - Strongly agree: 4  
   - Agree: 3  
   - Disagree: 2  
   - Strongly disagree: 1

c) The firm uses the analysed results to act as the basis of improvement and benchmarking.  
   - Strongly agree: 4  
   - Agree: 3  
   - Disagree: 2  
   - Strongly disagree: 1

d) The firm has comprehensive system to align measures of daily operation and organisational performance.  
   - Strongly agree: 4  
   - Agree: 3  
   - Disagree: 2  
   - Strongly disagree: 1

e) The firm communicates the analysis results to work group/functional level operations.  
   - Strongly agree: 4  
   - Agree: 3  
   - Disagree: 2  
   - Strongly disagree: 1

72
f) The firm ensures performance measurement system match the current market needs.

<table>
<thead>
<tr>
<th>4 Strongly agree</th>
<th>3 Agree</th>
<th>2 Disagree</th>
<th>1 Strongly disagree</th>
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g) The firm ensures the needed data and information are available to staff, suppliers and customers as appropriate.

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<th>4 Strongly agree</th>
<th>3 Agree</th>
<th>2 Disagree</th>
<th>1 Strongly disagree</th>
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h) The firm ensures data and information integrity and accuracy.

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<th>4 Strongly agree</th>
<th>3 Agree</th>
<th>2 Disagree</th>
<th>1 Strongly disagree</th>
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</table>

i) The firm regularly checks hardware to make sure that they are reliable to meet the current beer production needs.

<table>
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<tr>
<th>4 Strongly agree</th>
<th>3 Agree</th>
<th>2 Disagree</th>
<th>1 Strongly disagree</th>
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<tbody>
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</table>

j) The firm regularly checks software to ensure they are reliable and match the beer production needs.

<table>
<thead>
<tr>
<th>4 Strongly agree</th>
<th>3 Agree</th>
<th>2 Disagree</th>
<th>1 Strongly disagree</th>
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</table>

**Staff focus**

a) The firm works together by co-operation and teamwork.

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<th>4 Strongly agree</th>
<th>3 Agree</th>
<th>2 Disagree</th>
<th>1 Strongly disagree</th>
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</table>

b) The firm organises job and work flexibility.

<table>
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<tr>
<th>4 Strongly agree</th>
<th>3 Agree</th>
<th>2 Disagree</th>
<th>1 Strongly disagree</th>
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</table>

c) The firm regularly communicates and shares knowledge.

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<th>4 Strongly agree</th>
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<th>2 Disagree</th>
<th>1 Strongly disagree</th>
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</table>

d) There is a comprehensive system to motivate staff, and help them attain career development.

<table>
<thead>
<tr>
<th>4 Strongly agree</th>
<th>3 Agree</th>
<th>2 Disagree</th>
<th>1 Strongly disagree</th>
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<tbody>
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</table>

e) The firm has a well-developed staff performance management system to reward high performance.

<table>
<thead>
<tr>
<th>4 Strongly agree</th>
<th>3 Agree</th>
<th>2 Disagree</th>
<th>1 Strongly disagree</th>
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<tbody>
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<td>4</td>
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</table>

f) The requirements of knowledge and skills of staff are well-evaluated by the human resource department.

<table>
<thead>
<tr>
<th>4 Strongly agree</th>
<th>3 Agree</th>
<th>2 Disagree</th>
<th>1 Strongly disagree</th>
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<tbody>
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</tbody>
</table>

g) The results of education and training are well-evaluated by the human resource department to achieve organisational objectives.

<table>
<thead>
<tr>
<th>4 Strongly agree</th>
<th>3 Agree</th>
<th>2 Disagree</th>
<th>1 Strongly disagree</th>
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</thead>
<tbody>
<tr>
<td>4</td>
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</table>

h) The processes of recruitment, hiring and retaining of new staff are well-evaluated by the human resource department.

<table>
<thead>
<tr>
<th>4 Strongly agree</th>
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<th>1 Strongly disagree</th>
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</tbody>
</table>
k) The firm ensures performance measurement system to match the current market needs.

i) The firm regularly measures the staff satisfaction.

**Process management**

a) The firm has an established process to design the manufacturing system and related processes.

b) The firm incorporates changing customer/market requirements and new technology into related processes.

c) The firm addresses the product quality factors in the design processes.

d) The firm addresses the efficiency factors of production processes at the design stage.

e) The firm has effective methods to assess the performance to improve product delivery process.

f) The firm regularly audits processes and performance to minimise the costs associated with inspections and tests.

g) The firm has a standardised and documented operating procedures to support daily operation.

Any other activity done by the company to ensure that quality is achieved ............
### Part 3: Financial performance

<p>| | | | |</p>
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<tr>
<td>Strongly agree</td>
<td>Agree</td>
<td>Disagree</td>
<td>Strongly disagree</td>
</tr>
</tbody>
</table>

a) The organisation has an improvement in financial performance between year 2001 and 2007

b) The organisation has had a reduction in total costs between year 2001 and 2007

c) The company has experienced an increase in profits between year 2001 and 2007

THANK YOU