

**ASSESSMENT OF TOTAL QUALITY MANAGEMENT  
PRACTICES ON ORGANISATIONAL PERFORMANCE AT  
INTRAVENOUS INFUSIONS LIMITED KOFORIDUA**

**By**

**Adza-Awude Kenneth  
Bachelor of Education (B.Ed) science**

**PG  
4080510**

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## DECLARATION

I hereby declare that this submission is my own work towards the Executive Masters of Business Administration and that, to the best of my knowledge, it contains no material previously published by another person nor material which has been accepted for the award of any other degree of the university except where due acknowledgement has been made in the text.

Kenneth Adza-Awude (PG 4080510) .....

Student's Name & ID

Signature

Date

Certified by :

Dr. Smile Dzisi

.....

Supervisor's Name

Signature

Date

Certified by:

Prof. I.K. Dontwi

.....

Dean, IDL

Signature

Date

## **ABSTRACT**

Total Quality Management (TQM) is a management approach for an organization centred on quality, based on the participation of all its members and aiming at long term success through customer satisfaction and benefits to all members of the organization and to society. This research work therefore aimed at assessing the TQM practices and its effect on organizational performance at Intravenous Infusions Limited Koforidua (IIL). The company needs to find ways to surviving in the increasing competitive market and TQM as a strategic Management tool can be used for improving the competitiveness, effectiveness and flexibility of the whole organization. A population of 120 workers comprising both senior and junior staff was used for the study. Due to the relatively small number of workers at IIL the whole population was used for the study. Primary data for this research was collected using a well designed and structured questionnaire which was made up of both close ended and open ended questions. The key findings showed that IIL is practicing TQM but it is yet to implement it to the highest level of subscribing to a quality award system. The implementation of TQM is at the quality assurance level. It was found out that management inactions undermined leadership commitment to quality and rendered TQM practices ineffective. It was concluded that there was the need to procure modern equipment to boost production. Again the firm needs to diversify key portfolio in order to spread the overhead cost. Management must work to build trust amongst staff to improve on team work. It is also recommended that the company subscribe to a quality award system. For instance ISO certification can help IIL practice TQM to the highest level to ensure customer confidence in the company's products.

## **DEDICATION**

To my dearest and lovely wife Mrs. Grace Adza-Awude and my wonderful children Josephine, Emmanuel and Samuel for their love, support and understanding.

# KNUST



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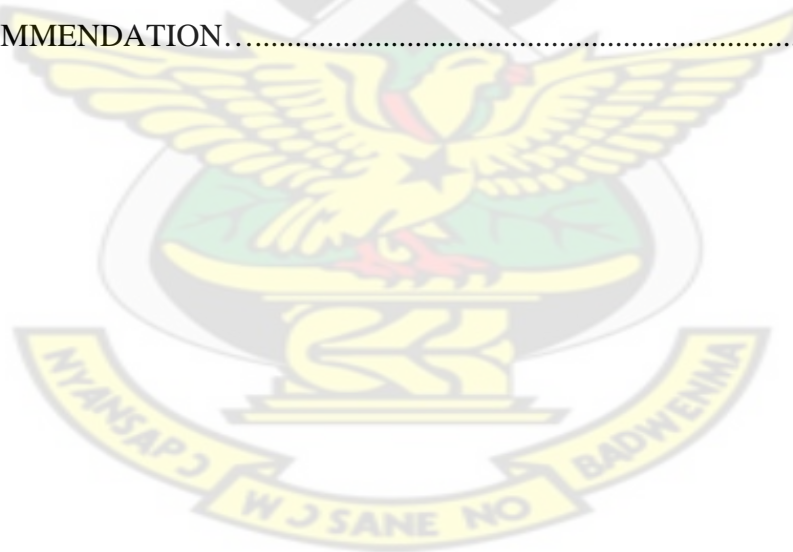
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## **CHAPTER ONE**

### **INTRODUCTION**

#### **1.1 BACKGROUND TO THE STUDY**

Any organization in any line of business requires a quality management program or some sort of quality program that is instituted from executive management down to the lowest level employee. While each particular function within an organization requires quality processes modelled after its own unique requirements, this individual quality processes should be designed and established based on the principles of the overall quality management program. One of such quality programmes is Total Quality Management (TQM). Total Quality Management (TQM) has been defined as an integrated organizational effort designed to improve quality at every level (Dale, 1999). TQM is also defined as a quest for excellence, fitness for use, value for money, customer satisfaction etc (Mohanty and Lakhe, 1994). The International Organization for Standards (ISO) defines TQM as, –a management approach for an organization, centred on quality, based on the participation of all its members and aiming at long term success through customer satisfaction and benefits to all members of the organization and to society (ISO8402:1994). TQM as noted by Oakland (1993) as a strategic management tool that can be used for improving the competitiveness, effectiveness and flexibility of the whole organization. The concept of quality has existed for many years, though its meaning has changed and evolved over time. In the early twentieth century, quality management meant inspecting products to ensure that they met specifications. In the 1940s, during World War II, quality became more statistical in nature. Statistical sampling techniques were

used to evaluate quality and quality control charts were used to monitor the production process. In the 1960s, with the help of so-called –quality gurus,|| the concept took on a broader meaning. Quality began to be viewed as something that encompassed the entire organization, not only the production process. Since all functions were responsible for product quality and all shared the costs of poor quality, quality was seen as a concept that affected the entire organization (Dhalla, 2010).

Since the mid 80's Total Quality Management (TQM) is considered as the universal remedy for a range of problems including organization performance. Today, successful companies understand that quality provides a competitive advantage. They put the customer first and defined quality as meeting or exceeding customer expectations. To fully understand the TQM movement, we need to look at the philosophies of notable individuals called ‘Quality Gurus’ who have shaped the evolution of TQM (Dhalla, 2010). Deming (1986) stressed on improving quality through the use of statistical quality control technique. Deming (1986) proposed 14 principles of quality management. Some of which are- Top Management commitment to quality, Continuous search for and correction of quality problems, Effective communication between supervisors and employees, Company wide training and education in quality. Juran (1993) defined Quality as Fitness for Use. Juran is also credited for developing the concept ‘Cost of Quality’. He has originated the idea of Quality Trilogy i.e. Quality planning, Quality control and Quality Improvement.

Feigenbaum (1998) proposed the concept of ‘Total Quality Control’ and advocated the idea of a work environment where quality developments are integrated throughout the entire organization, where management and employees have a total commitment to



improve quality and people learn from each other's successes. This philosophy was adapted by the Japanese and termed –company-wide quality control. Crosby (1989) developed the phrase –Do it right the first time and the notion of zero defects, arguing that no amount of defects should be considered acceptable. Ishikawa (1985) is best known for the development of quality tools called cause-and-effect diagrams, also called fishbone or Ishikawa diagrams.

Another concept of TQM is continuous improvement or KAIZEN. Traditionally change meant for major organizational restructuring. But Japanese introduced the idea of gradual improvement. The idea behind this was, ‘Small changes can be done quickly, easily and continuously without any significant investment’ (Ishikawa, 1985). Everyone in an organization plays an important role in quality management. In order for an organization to become a quality organization, all levels must actively participate. Top management must drive fear from the workplace and create an environment where cross-functional cooperation can flourish. The ultimate responsibility for quality in the organization lies in the hands of upper management. It is only with their enthusiastic and unwavering support that quality can thrive in an organization. This is true for the same reason that the Managing Director of the company is ultimately responsible for the total quality in a company. He selects the procedures and policies for the project in the company and therefore controls the quality. The quality assurance manager must create an environment that fosters trust and cooperation among the team members. He must also support the identification and reporting of problems by team members. The employees must be trained to identify problems, recommend solutions, and implement the solutions. They must also have the authority to limit further processing when a process is outside of specified limits. In



other words, they must be able to halt any activity that is outside of the quality limits set for the particular product and work towards a resolution of the problem at any point. (Mohanty and Lakhe, 1994). The pharmaceutical industry is heavily regulated and the reasons are obvious. Mistakes in product design or production can have severe, even fatal consequences for patients (Gough,1999). The contemporary business environment is very dynamic and therefore quality is a moving target and one in which an organization can never cease taking aim at. Such an organization will risk of becoming uncompetitive or irrelevant. If an organization such as Intravenous Infusions Limited, wishes to prosper, every employee must work for continuous quality improvement which is why every employee in the organization must buy into not only the necessity of implementing a quality program but the choice of quality program as well. This is because quality is the best assurance of customer allegiance, the strongest defence against competition and the only path to sustained growth and earnings over the mid and long-term. Therefore, if Intravenous Infusions Limited does not learn the language of quality systems management and improvement it will soon become obsolete. Thus, it is important for management to recognize the different methods that the quality of a firm's products or services can affect the organization and to take into account developing and maintaining quality assurance programs to maintain such integrity throughout the organization. Some of the major ways by which quality affects an organization are typically associated with a loss of business for example; poor designs or defective products or services can result in loss of business while failure to devote adequate attention to quality can damage an organization's image and lead to a decreased market share or it can lead to increased criticism. A potentially devastating consequence is the reaction of the consumer who receives a defective or otherwise unsatisfactory product or service. A recent study shows that, a satisfied customer will

tell a few people about the experience, dissatisfied customer will tell an average of nineteen (19) others. Unfortunately, the company is the last to know of dissatisfaction. A more common response by dissatisfied consumer is simply to switch to a competing product or service. (Ernst and Young, 1990)

## **1.2 STATEMENT OF THE PROBLEM**

Intravenous Infusions Limited (IIL) was established in 1974 and it was one of its kind in the whole sub-region, sales were good and profit margins were also encouraging, regulatory controls were also not too stringent and therefore it did not require too much effort on the part of the company for it to break even and realize some good returns on investment. However currently, customers of the health care products are becoming increasingly sophisticated. Competition on both export and local fronts are becoming fiercer than ever. The company seems to find itself at the receiving end of trade liberalization and globalization with its attendant challenges of exposing the company to compete with global players (Kwesie & Partners, 2009). The situation therefore warrants that IIL adopt a strategic management approach such as Total Quality Management to enable it competes effectively. Over the past years, the company has gained considerable experience in the production of IV fluids and other pharmaceutical products and can produce a wide range of drugs to the highest international quality standards. However its capability as a business concern has not shown up in profits and growth. IIL's Operations Report for the period 2003-2008 reveals some of these deteriorating state of the company such as operational losses, depreciation of shareholders investments, stunted growth, non- payment of dividends for over 5 years,

liquidity problems, steady loss of market share as a result of increased competition and uncompetitive pricing of products as a result of high unit cost of production (Kwesie & Partners, 2009). The company's problems have been compounded in recent times by increased competition from newly established companies and importers. Increased competition has resulted in very low margins to the point where in order to survive in the industry the company needs to produce at very low cost to enable it sell at competitive prices. The company now needs to find ways to surviving in the increasing competitive market and TQM as noted by Oakland (1993) as a strategic management tool that can be used for improving the competitiveness, effectiveness and flexibility of the whole organization now comes to mind.

- There is the need for Total Quality Management Practices at IIL in order to improve upon Organizational Performance.
- There is also the need to assess Quality Practices to improve upon performance to meet international standards and customer demand.
- Since the inception of the company 38 years ago there has been no assessment of Quality Practices and their effectiveness at IIL.

### **1.3 OBJECTIVES OF THE STUDY**

This study's objectives are:

1. To explore the degree of effectiveness of TQM practices in Intravenous Infusions Limited (IIL)
2. To analyse the extent to which TQM practices affect organizational performance at IIL.

3. To analyse the challenges involved in implementing TQM practices at IIL.

#### **1.4 RESEARCH QUESTIONS**

This study was conducted under the following research questions:

1. What are the TQM practices in Intravenous Infusions Limited?
2. How effective are the TQM practices in IIL?
3. What are the effects of TQM practices on Organizational performance at IIL?
4. Is Intravenous Infusions limited losing its market share because of ineffective TQM practices, product quality or product prices?
5. What are the challenges involved in implementing TQM practices at IIL?
6. What measures can be put in place to improve TQM practices in IIL?

#### **1.5 SIGNIFICANCE OF THE STUDY**

This study will enable the management of Intravenous Infusions Ltd. Koforidua and other similar pharmaceutical companies in Ghana to identify key TQM practices which could be employed to bring improvement in organizational performance. The study will also help management of the company to identify ineffective TQM practices that exist in the company and how to remedy these ineffective practices. The study will offer management the opportunity to know whether ineffective TQM practices affect quality performance at Intravenous Infusions Ltd. This will enable management to come out with strategies which will help improve quality performance and eventually lead to meeting standards at both the domestic and foreign fronts thereby leading to customer satisfaction. The study will throw more light on TQM practices as a determining factor for quality performance and organizational performance as a whole. The research will again

give impetus to the quest for growth and development by enabling management to chart a course for growth and development by eliminating the bottlenecks in their endeavours.

## **1.6 LIMITATIONS OF THE STUDY**

This research was limited to TQM practices at Intravenous Infusions Limited Koforidua. The management did not request for the study and as such they are not obliged to implement the recommendations of the study. Considering the volume of work one semester was too short for the thesis work. The questionnaire was based on the general opinion of staff of Intravenous Infusions limited which is not verifiable to some extent and hence could limit the findings of the research. Again results from one firm in this case results from Intravenous Infusions limited alone is not enough to draw a generalisation to establish a strong relationship between TQM and organisational performance.

## **1.7 ORGANIZATION OF THE STUDY**

The work was organized into five chapters. Chapter one covered the background to the study, the problem statement, the objectives of the study, research questions, significance of the study, limitations of the study and organization of the study. Chapter two covered the literature review. Chapter three covered methodology which comprises the study area, the population of the study, data collection procedure, research instrument, research design and data analysis. Chapter four considered analysis of data and discussion of results. Chapter five examined the summary of the findings, conclusions of the study and recommendations.



## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.0 INTRODUCTION**

This chapter reviews relevant literature with respect to the study. Topics covered in this chapter are: history of quality management, the meaning of Total Quality Management (TQM), principles of TQM, implementation of TQM, ISO 9000 standards, relationship between TQM practices and quality performance, organizational performance, the need for TQM in pharmaceutical manufacturing firms, challenges of implementing TQM.

#### **2.1 HISTORY OF QUALITY MANAGEMENT**

In order to keep a competitive advantage on the market, organizations have for many years focused on the quality of their products. Different initiatives to increase the quality of products and services have evolved during the years. The early focus, at the beginning of the twentieth century, was on inspection, which included checking that the manufactured products met the specifications. During the past few decades the focus in organizations has shifted from inspection to quality control of products. Through quality control, organizations are trying to identify directly in the process, flaws which can be corrected before producing too many products that do not meet the specifications. In the evolution of the concept of quality, the focus on quality has moved even further quality assurance. Quality assurance has become a recognized practice for planning and preventing problems at the source before starting to manufacture products. The latest focus in the evolution of quality is considered to be on Total Quality Management (TQM),

which invokes the application of quality management principles to all aspects of the organization, including customers and suppliers, and their integration with the key business processes (Dale, 1999). The need for quality as a functional component in the formulation of strategies for institutions to implement TQM is clearly outlined by Bilich and Neto (2000) who stated that quality as a macro function of institutions must be present in the day-to-day running of an institution, in aspects such as establishment of policies, the decision process, selection of personnel, allocation of resources, definition of priorities and service delivery to satisfy customer requirements. In addition they stated that the quality approach as a strategic element has brought to institutions a new manner of conceiving quality as it engages the top decision –makers of the institution in effort for better performance in service delivery. According to Dale (2003) and Evans and Dean (2003) quality, reliability, delivery and price build the reputation enjoyed by the institution. Quality is the most important of these competitive weapons and is an extremely difficult concept to define in few words in order to agree on a consensus definition.

## **2.2 ISO 9000 STANDARDS:**

The International Organization for standardization (ISO) is an international organization whose purpose is to establish agreement on international quality standards. It has been created to develop and promote quality. ISO 9000 consists of a set of standards and a certification process for companies. By receiving ISO 9000 certification, companies demonstrate that they have met the standards specified by the ISO. The standards are applicable for all types of companies and



have gained global acceptance. In many industries ISO certification has become a requirement for doing business. One strong indication of the continued relevance of quality management to companies competing in the global market is the recent revision of the ISO 9000 series of quality standards. The 2000 version of ISO 9000— ISO 9000:2000—represents a fundamental shift from quality assurance to quality management, a significant change in approach to quality from one that is totally compliance based to one that includes the evaluation of management techniques. This change has been described as moving the standard away from a technical-practical tool toward a management tool (Larsen and Haversjo, 2000).

ISO 9000:2000 is based on eight principles that are easily recognizable as the key elements of quality management. They are: customer focus, leadership, involvement of people, process approach, systems approach to management, continuous improvement, factual approach to decision making, and mutually beneficial supplier relationships. Aside from the mandate to adopt quality management practices as a result of ISO 9000:2000, it appears that many organizations have continued in their efforts to transform the way they do business, whether it's called TQM, reengineering, or cultural change (Foley, 2003). Quality does not only refer to goods and services but includes quality of time, place, equipment and tools , processes, people, the environment and safety, information and measurement( Dale, 2003: Schonberger,1990). Quality is an ongoing process that has to be so pervasive throughout the institution, that it becomes the philosophy and culture of the whole institution. The institution need to adopt a strategy to serve the customer with better quality products, at lower cost,

with quicker response and with greater flexibility (Schonberger, 1990). There appears to be no uniform understanding and definition of the meaning of the term quality and even well-known authors seem to have different perspectives on this issue. According to Reeves and Bednar (1994), a search for the definition of quality has yielded inconsistent results.

## **2.3 THE MEANING OF TOTAL QUALITY MANAGEMENT**

Different definitions of TQM have been presented over the years. Some of these definitions are presented below. Oakland (1993) states that "TQM is an approach for improving the competitiveness, effectiveness and flexibility of a whole organization". Dale (1999) defines TQM as a management approach of an organization, centred on quality, based on the participation of all its members and aiming at long-term success through customer satisfaction, and benefits to all members of the organization and to society. Dale (1999) states further that tools and methodologies are used in TQM in order to improve the organization continuously. Shiba et al. (1993) argue that Total Quality Management (TQM) is an evolving system of practices, tools, and training methods for managing companies to provide customer satisfaction in a rapidly changing world. A baseline technical definition of what TQM is all about has been given by the American Federal Office of Management Budget Circular, "TQM is a total organizational approach for meeting customer needs and expectations that involves all managers and employees in using quantitative methods to improve continuously the organization's processes, products and services." (Milakovich, 1990). In addition, the American Federal Office of Management defined TQM as, a total organizational approach for meeting

customer needs and expectations that involves all managers and employees in using quantitative methods to improve continuously the organization's processes, products, and services. TQM is not merely a technical system. In fact, TQM is associated with the organization itself, which is also a social system (Morgan & Murgatroyd, 1997). Some people argue that organizations are not only technical systems but also human systems (Pike and Barnes 1996). In addition Oakland (1993), states that TQM is an attempt to improve the whole organization's competitiveness, effectiveness, and structure. According to Dale (1999), TQM is the mutual co-operation of everyone in an organization and associated business processes to produce products and services, which meet and, hopefully, exceed the needs and expectations of customers. TQM is both a philosophy and a set of management guiding principles for managing an organization. From the above definitions, we can identify two important aspects that comprise TQM: management tools and techniques as well as management concepts and principles. The techniques refer to what has been referred to as the –hard|| aspects of TQM, while the principles refer to the –soft|| side.

Over the past two decades, total quality management (TQM) has become most widely used management acronym and is considered as the buzz word in the management practices. It has been well accepted by managers and quality practitioners as a change management quality approach (Arumugam et al., 2009). It plays a vital role in the development of management practices (Prajogo and Sohal, 2003; Hoang et al., 2006). Many researchers asserted TQM as an approach to improve effectiveness, flexibility, and competitiveness of a business to meet customers' requirements (Oakland, 1993). Some people also see it as the source of

sustainable competitive advantage for business organizations (Terziovski, 2006). It is also seen as a source of attaining excellence, creating a right first-time attitude, acquiring efficient business solutions, delighting customers and suppliers etc. (Mohanty and Behera, 1996) and above all TQM can also be seen as a source of enhancing organizational performance through continuous improvement in organization's activities (Claver-Cortes et al., 2008; Teh et al., 2009). In recent decades, the level of awareness towards TQM has increased drastically and has gone to its peak to become a well-established field of research (Arumugam et al., 2008; Yusof and Aspinwall, 1999). In response to these challenges and to facilitate the organizations in achieving higher quality levels, many companies are implementing TQM approach and quality initiatives for achieving sustainable competitive advantage and enhanced company performance. Past studies on the relationships between TQM practices and quality performance have showed significant and positive results (Arumugam et al., 2008; Prajogo and Sohal, 2003). Thus, assessing TQM and its effects on organizational performance is necessary as it provides a theoretical as well as a practical platform to the industry in its efforts to gain sustainable competitive advantage. This study will look at TQM practices in relation to company performance, particularly for the Ghanaian Pharmaceutical sector to examine whether the implementation of TQM practices results in an improvement of company's quality performance. Thus, the scope of this study is in finding out the association between the TQM practices and organizational performance at Intravenous Infusions Limited.

There are some Quality Award models such as Malcolm Baldrige National Quality Award (MBNQA, 2005); European Quality Award (EQA, 1994); The Deming Prize (1996); Kanji Business Excellence Model, which provide a useful benchmark framework for industries and help in implementing TQM as well as evaluating their business performance results.

## **2.4 PRACTICES OF TQM**

Factors as top management commitment and leadership, people management, policy and strategy, partnership and resources management and management of processes, are generally considered as the initial inputs to the implementation of TQM. According to the European Foundation for Quality Management (1999), these factors are called the enablers. In this model of excellence, essentially customer satisfaction, the enablers deliver the results, which in turn drive innovation and learning (Oakland, 2000). This suggests that the quality factors can be classified as –soft|| and –hard|| quality factors. Factors like leadership, employee involvement and quality policy development have long-term nature and some of them are difficult to measure. These factors have an impact on maximizing support and involvement in attaining the quality goals of an organization. Such factors are considered as internal marketing issues (Wilkinson, 1992). They include: senior executives commitment and involvement, policy development and effective deployment of goals, entire workforce commitment to quality goals of the organization, supervisors, unit heads and divisional managers assume active new roles, empowerment, effective communication, teamwork, system for recognition and appreciation of quality efforts, training and education. These –soft|| quality factors are long-term issues, something that cannot be switched on and off. These



quality factors must be addressed accordingly in the implementation plan. There is a good chance that the TQM process will end up in failure if there is insufficient attention to –soft quality factors (Wilkinson, 1992). The implementation of the –soft quality factors must be supported by tools and systems –hard quality factors to achieve the goals. These –hard quality factors include benchmarking, managing by processes, self-assessment, quality control tools, cost of quality process, documented quality management system, supplier management and customer management. These –soft and –hard quality factors reflect the total quality management model proposed by Oakland (2000). The –soft quality factors are expected to be rated highly in terms of criticality and emphasis in TQM implementation process. The –hard quality factors are considered as tactics rather than strategies (Black, 1993). While top management acts as a driving force for TQM, its commitment has to be translated into specific strategies. Strategies that allow an organization to achieve superior organizational performance include: designing quality into products and services, assuring in-process quality through the use of defect prevention methods and control tools as well as judicious use of quality information such as customer feedback, benchmarking and charts (Ahire et al., 1996). In order to implement these strategies successfully, organizations have to be customer focused, maintain competent, reliable and flexible suppliers, and ensure full employee participation through training and empowerment.

## **2.5 VALUES OF TQM**

An organization's core values are the basis of its culture; ( Hellsten & Klefsjo, 2000).The core values should not be considered to stand alone, but rather they

should be looked upon as being connected to each other. The values may vary a little between different organizations and over time, according to Hellsten & Klefsjo (2000). Moreover, different values are included in the concept of TQM by different authors, as well as in different quality awards. Since core values are an essential part of the work connected with quality awards, some of the most recognized core values of TQM are very briefly presented below:

## **2.6 FOCUS ON CUSTOMERS**

Focusing on customers is stressed by most authors of TQM literature to be an important part of TQM. Shiba et al. (1993) define a customer as the person or group who receives the work that one carries out, and asserts that a business function without a customer should not be performed. Evans & Lindsay (1996) stress the importance of customer focus, and imply that any business has four goals: to satisfy its customers, to achieve higher customer satisfaction than its competitors, to retain customers in the long run and to gain market shares.

## **2.7 BASE DECISIONS ON FACT**

An important element in quality philosophy is to make decisions which are based on fact and are well founded, and not to allow random factors to be of decisive importance, see Bergman & Klefsjo (1994). Shiba et al. (1993) argue that at no time should one see speculation or opinion as the basis of decision-making. This core value also focuses on the need for utilizing efficient statistical tools, such as the seven quality control tools and the seven management tools, (Dale,1999).



## **2.8 FOCUS ON PROCESSES**

Nearly every organized activity can be looked upon as a process, whose aim is to deliver products which satisfy its customers, (Bergman & Klefsjo, 1994). Davenport (1993) states that process orientation involves elements of structure, focus, measurement, ownership, and customers, and that adopting a process view implies a commitment to process improvement.

## **2.9 IMPROVE CONTINUOUSLY**

Deming (1986) states in one of his 14 points for management that, one should improve constantly and forever the system of production and service, to enhance quality and productivity and thus constantly decrease costs. Deming also emphasized the use of the improvement cycle, also called the Shewhart cycle and the Deming cycle, according to Evans & Lindsay (1996). The improvement cycle is composed of four stages: plan, do, study and act (PDSA). Similarly, according to Shiba et al. (1993), any activity can be improved if you systematically plan the improvement, understand the current practice, plan and implement the solutions, analyse the results and their causes and perform the cycle again.

## **2.10 EVERYBODY BE COMMITTED**

In order to ensure that the quality strategy is successful; everybody has to be committed to customer satisfaction and to continuous quality improvement, (Bergman & Klefsjo, 1994). Moreover, Shiba et al. (1993) argue that everyone in the company should be mobilized in order to improve the way in which they perform their jobs and satisfy customers.

## **2.11 TOP MANAGEMENT COMMITMENT**

Dale (1999) stated that it is the responsibility of the senior management team to create the organizational environment, atmosphere, values and behaviour in which TQM can achieve its potential. In addition, Oakland (1993) stresses the importance of top management commitment for success in promoting business efficiency and effectiveness, moreover Oakland (1993) states that TQM must be truly organization-wide, and it must start at the top with the Chief Executive.

## **2.12 METHODOLOGIES OF TQM**

Hellsten & Klefsjo (2000) argue that methodologies are ways to work within the organization to reach the values", A methodology, according to Hellsten & Klefsjo (2000), "consists of a number of activities performed in a certain way". Assessment and self-assessment have during the last few decades been established as important methodologies for improvements. One difference between assessment and self-assessment is that the latter does not involve any external organisation of the work, while the first does. According to EFQM (1996) self-assessment is "a comprehensive, systematic and regular review of an organization's activities and results referenced against a model of business excellence". Further, according to EFQM (1996), "the self assessment process allows the organisation to discern clearly its strengths and areas in which improvements can be made and culminates in planned improvement actions which are then monitored for progress". In more detail, Van der Wiele et al. (1996) point out that organisations are using self-assessment to identify strengths and weaknesses, and to facilitate internal and external learning in terms of the transfer of best practice and ideas. Brown & van der Wiele (1996) show, on the basis of a national postal survey of self-assessment

practices in Australia, that the reasons for using self-assessment are mainly to find opportunities for improvement and to direct the improvement process, while the goals for the introduction of self assessment are to improve business performance, to drive continuous improvement and to increase quality-awareness in all aspects of the business. The Methodologies consist of Quality Circles, Bench- marking, Quality Functional Deployment, Employee Development, Process Management, Self Assessment, Policy Deployment, Supplier Partnership and Design of Experiment.

### **2.13 TOOLS OF TQM**

Hellsten & Klefsjo (2000) define tools as "rather concrete and well-defined tools, which sometimes have a statistical basis, to support decision-making or facilitate analysis of data". They further state that TQM is seen as a continuously evolved management system consisting of values, methodologies and tools, the aim of which is to increase external and internal customer satisfaction with a reduced amount of resources. (Hellsten & Klefsjo, 2000).According to them some of the tools for TQM are Relation Diagram, Ishikawa Diagram, Factorial Design, Process Maps, Control Charts, Tree Diagram, Criteria of MBNQA , and ISO 9000.

### **2.14 IMPLEMENTATION OF TQM**

*Different firms implement* the quality concept in different ways but in general it could be classified in the following five categories to reflect the evolution of the concept of quality: No customer concern / No inspection: (Zero Level) These companies do not focus on customers and incorporate management systems to measure or control the quality characteristics of their product and services.

According to Moosa (1999), in countries like Pakistan, in many firms, usually there is no accountability for poor performance and in some firms it's up to the level of torturing the customers.

**Quality Control: (Level 1)** These organizations consider laboratory and testing of products as a main activity of quality management and invest in and develop their products/services management systems, these firms usually have quality control labs and departments testing and measurements make them react to non conformities. Shewhart (2000) and Dodge (1999) have identified that most companies use statistical process controls for such measurements. While according to Moosa (2000) most manufacturing firms in Pakistan use quality controls for implementing TQM in their organizations.

**Quality Assurance: (Level 2)** these companies understand that a product is a result of many processes and unless these are controlled effectively quality can not be delivered therefore they try to control all these processes that effect product/service quality. According to Kaynak(2004) and Brun (2010) most companies assure quality by using quality programs like ISO 9000, ISO 9000-2000, and other quality tools like Deming prize, affinity diagrams, Pareto charts. While according to Bhatti (2003) in Pakistan the popularity of ISO 9000 is making companies upgrade their processes from quality control to quality assurance however the degree of implementation varies considerably among different industries and firms.

Continuous Quality Improvements: (Level 3) The companies which come under this category do not just confer to the quality assurance but they realize that process improvements are directly proportional to competence, commitment and team work of employees, such organizations mobilize company wide campaigns for continuously developing skills of quality management at all levels and give assignments on weekly and monthly basis in cross functional teams. Researchers like Tari (2008) and Zehir (2010) identified that companies in the manufacturing industry in Australia use different approaches for continuous quality improvements like just in time (JIT), zero defect mentality and quality circles. While according to Khan (2000) there are very few firms operating in Pakistan which fall under the category of continuous quality improvements.

Quality Award Models: (Level 4) these companies are global champions and dominate markets with their products/services. They set bench marks to others and for these companies quality means complete satisfaction of their customers and publics.

### **2.15 RELATIONSHIP BETWEEN TQM PRACTICES AND QUALITY PERFORMANCE:**

A considerable body of empirical evidence suggests that TQM implementation improves quality performance of the company. It has been measured in various ways and found that the quality management model and specific practices, which best predict performance varies across the world (Adam et al., 1997; Prajogo and Sohal, 2004; Arumugam et al., 2008).



The research framework for quality management proposed by Flynn et al. (1994) suggested that the inputs of this framework are the quality management (QM) practices while quality performance represents outcomes. Further, product design process, process flow management, and top-management support have significant correlation with quality performance (Flynn et al., 1995). Parzinger and Nath (2000) examined the link between TQM and software quality and found that TQM implementation improves the software quality and performance, and thus, increases customer satisfaction. Hasan and Kerr (2003) studied the relationship between TQM practices and organization performance in service organizations and discovered that TQM practices like top-management commitment; employee involvement; training; supplier quality; quality costs; service design; quality techniques, benchmarking; and customer satisfaction leads to higher productivity and quality performance. Prajogo and Brown (2004) conducted an empirical study within Australian organizations to investigate the relationship between TQM practices and quality performance, and the results indicated a strong and positive linkage. A study on ISO9000 certified organizations of Taiwan performed by Jeng (1998) examined linkage between six Quality Management practices and quality performance. He found customer focus as the most powerful discriminated practice of quality performance while remaining five practices showed low discriminating powers. Brah and Tee (2002) examined the relationship between TQM constructs and organization performance by measuring quality performance of Singapore companies. They found that implementation of TQM leads to quality performance and have positive correlation. A study utilizing Structural Equation Modelling (SEM) approach by Sanchez-Rodriguez et al., (2006) provided the

insights into the current information technology (IT) and TQM theory and practice on operational and quality performance. They found TQM initiatives generate significant positive gains in operational and quality performance. In line to this, Prajogo and Sohal (2004) also employed SEM approach to examine the multidimensionality of TQM in association with organization performance. Using empirical data collected from 194 Australian firms the finding support the proposition in pairing the mechanistic elements of TQM with quality performance and the organic elements with innovation performance. A recent empirical study conducted by Arumugam et al. (2008) explored the relationship between TQM practices and quality performance on ISO 9001:2000 certified manufacturing organizations in Malaysia. Analyzing empirical data drawn from 122 Malaysian organizations through correlation and multiple regression analyses, the finding revealed that TQM practices were found to be partially correlated with quality performance. They further found that customer focus and continuous improvement were perceived as dominant TQM practices in quality performance.

## **2.16 TQM AND ORGANIZATIONAL PERFORMANCE**

This thesis evaluates whether working with TQM in general can affects the performance of companies. Hence, earlier published results describing the connection between TQM and performance are of great importance for the study. There are many different approaches to estimating the possible benefits of TQM. Historically, one of the most common ways to quantify the benefits of TQM has been to estimate the cost of poor quality, Juran (1989). In recent years, research has shown that TQM has a significant positive impact on market value as well as



accounting returns (Andersson & Fornell,1994). Another way to calculate the benefits of TQM is to balance expenditures against expected revenue gains and reduced costs (Rust & Zahorik, 1995). Samson & Terziovski (1999) show that the relationship between TQM practice and organizational performance is significant in a cross-sectional sense, in that TQM practice intensity explains a significant proportion of variance in performance. They also show further that the categories of leadership, management of people and customer focus are the strongest significant predictors of operational performance. Moreover, the major findings of Allen & Kilmann (2001) show that higher levels of company performance are significantly correlated with greater use of TQM practices. McAdam & Bannister (2001) discuss the need for performance measurement with the TQM framework, and the fact that both hard and soft measures, and both management and employee perceptive measures should be used to measure the outcome of TQM. Product Quality Effectiveness; The quality of a product or service is dependent on the customer expectation in contrast with other suppliers, so when judging product quality it depends who is the customer. According to Demirbag and Tatoglu (2006), and Parast (2010) when companies' judge product quality effectiveness internally they measure it in terms of defects rate, rework cost, scrape cost. While Prajogo (2008) have measured product quality effectiveness in terms of the level of reliability it offers and the fitness of use and conformance with expectations.

The General Accounting Office study (GAO,1991), Which has one of the first studies trying to establish a link between TQM practices and the performance of companies, evaluated Malcolm Baldrige recipients and companies that had

received a site-visit (i.e. companies that in a sense were close to winning an award). The main conclusion from the GAO study was that the companies investigated improved their operating results. Moreover, better employee relations were achieved, improved operating procedures were attained, greater customer satisfaction was accomplished, and an increased market share and profitability were gained. Many other articles also discuss the results from the GAO study; Shetty (1993), Bergquist & Ramsing (1999) use similar methods to those described in the GAO study (GAO, 1991).

Further, the findings of Oakland (1999) indicate that quality award recipients and applicants are unequivocal in their comments about the benefits of TQM and self-assessment for business results, including profitability, an increased market share and more satisfied customers. Quality award recipients like Texas Instruments Defense Group also claim that quality work can yield tremendous rewards (Junkins, 1994). Moreover Letza et al. (1997) have presented a thorough discussion of different studies concerning the effect of TQM on different performance measurements.

## **2.17 CUSTOMER SATISFACTION**

The focus on customer has become a part of quality movement. According to Haar et al (2008) successful implementation of TQM include customer retention and increase in market share. While according to Liusar et al (2009) customer focus leads to customer loyalty which can be achieved by providing customers with reliable, durable product/service. So customer focus in firms incorporates customer satisfaction, confidence, loyalty and reduction in complaints.

## **2.18 FINANCIAL PERFORMANCE**

According to Demirbag (2005) and Fotopoulus et al (2009) firms that focus on improving the quality of their product and processes leads to improve revenues and reduction of costs. So the financial performance of a firm as a result of quality initiatives can be measured by the increase in the level of sales, revenue produced, and level of cost performance, the return on investment and assets and by the increase in market share. Hendricks & Singhal (1997) compare recipients of quality awards with different control companies. The indicators chosen in their research to study performance are changes in the operating income, the sales, and the return on assets, the return on sales, the total assets and the number of employees. The main conclusion from their research is that companies that have received a quality award outperform the control companies concerning operating income-based measures. Wrolstad & Kreuger (2001) showed that the companies that had received a quality award presented better results than a control group concerning measures of the operating profit margin, return on sales and return on equity, while the difference was not so large between the two groups concerning the operating margin, but still in favour of the quality award recipients. Lemak & Reed (1997) claim also that TQM leads to an improved profit margin, after studying sixty companies that have demonstrated a commitment to TQM for a period of at least five years. Handsfield et al. (1998) claim that the results of their study provided support for the existence of a relationship between a company's quality-driven strategies and improved financial performance, Easton & Jarrell (1998) also show, clear evidence that the long term performance of companies that have implemented TQM is improved. One approach to measuring the benefits of TQM initiatives is to follow the share price on the stock market of a company that

have successfully implemented TQM. Helton (1995) claimed that companies that had received the Baldrige National Quality award outperformed companies on the Dow Jones Industrials index or the Standard & Poor index. George (2002) argues too that one should invest in companies that have successfully implemented TQM as these companies show better results on the stock market. Hendricks & Singhal (2001) state that award recipients in U.S.A significantly outperform firms in the various control groups. Depending on the control group used, the mean out performance ranges from 36% to 46%. However, as discussed in Przasnyski & Tai (1999), the returns are often calculated without adjusting for market and industry factors and are not annualised either, which is not correct from a financial point of view. When adjusting to these factors, Przasnyski & Tai (1999) show, instead that the stocks of Malcolm Baldrige National Quality Award recipients underperform stocks with a similar risk and in a similar branch of industry by a 31 % margin.

## **2.19 THE NEED FOR TQM IN PHARMACEUTICAL MANUFACTURING FIRMS**

Apart from safety, the pharmaceutical industry is heavily regulated and the reasons are obvious: mistakes in product design or production can have severe, even fatal, consequences for patients (Gough, 1999). Examples of recall of the drugs from the international market are: a) **VIOXX**- Vioxx is in a class of drugs called non-steroidal anti-inflammatory drugs (NSAIDs). Vioxx was used to reduce pain, inflammation and stiffness caused by osteoarthritis, rheumatoid arthritis and certain forms of juvenile rheumatoid arthritis; to manage acute pain in adults; to treat migraines; etc. It got approval from US FDA in 1999. Merck, the manufacturer of Vioxx, voluntarily withdrew it from the market due to safety

reasons- increased risk of Heart attacks. Within this period nearly 28,000 or more cases of heart attack or sudden cardiac deaths were caused by Vioxx.

**b) Thalidomide (Kevadon)** was launched in 1957 as a treatment for morning sickness during pregnancy. Heavily marketed, its sales soon spread abroad. It took four years before the connection was made between the drug and its side-effects. By which time at least 10,000 children had been born with shortened limbs and other complications. The scandal transformed drug regulation. Drug Research regulations made more stringent. To ensure quality and safe products, pharmaceutical companies build their quality approach around Good Manufacturing Practices (GMP), Good Laboratory Practices (GLP), Good Clinical Practices (GCP) and their In- house Standard Operating Procedures (SOPs). Thus quality is important for pharmaceutical companies due to: Stringent Regulatory requirements; Competitive market; Global competition; Technological advances and Emergence of generic product.

## **2.20 CHALLENGES OF IMPLEMENTING TQM**

Of primary interest among researchers has been addressing the question –What makes TQM work?|| Since most would agree that the philosophy and principles of TQM are sound, instances of failed TQM initiatives have led researchers to direct their attention to problems associated with its implementation. Consequently, several major research themes concerned with the successful implementation of TQM have emerged. There have been many studies that have focused on the obstacles to TQM (Ngai & Cheng, 1997). Several researchers have focused more directly on the obstacles that hinder the ability of organizations to make a successful transformation to TQM or quality management. Glover (1993) argues



that TQM failures follow one of three patterns: conceptual weakness, design flaws, or ineffective implementation. Recognizing that TQM requires a true organizational transformation, Glover explains conceptual weakness as failures occurring because organizations make only –superficial attempts at change. Design flaws occur when TQM systems are not designed to fit the cultural circumstances of the organization. The most common reason for failure include ineffective implementation which results when TQM becomes so much extra work instead of a new way of doing things Glover (1993). Glover also argues that without a change in management evaluation and reward policy, TQM cannot be taken seriously. He advocates –managers will need to know that their evaluations, and subsequent pay increases and bonuses, are dependent on having high levels of quality, satisfied staff and consumers, and successful TQM implementation in their respective areas of responsibility. In a study of companies that won the Australia Quality Award, Abraham, et al (1999) found the key factor in achieving a successful change to a quality culture was management support. They state –managers must be clearly perceived to support the change through communication, resource allocation, and recognition/reward.

## **2.21 CRITICISM OF TQM**

In this section, some criticisms of TQM are discussed in order to give a more complete picture of the concept. There are many different ways to estimate the possible benefits of TQM, and different studies have shown different results. One reason for the different results is that opinion differ about what TQM really is and the different definitions of TQM Boaden(1997). The different opinions concerning what TQM is lead to different opinions about what TQM should result in.



Eskildson (1994) also states on the basis of Survey results, that many organisations do not succeed in their TQM efforts. The two main reasons are argued here to be vague definitions of TQM and inappropriate implementation.

Harari (1997) claims that TQM programmes are ineffective and gave ten reasons why TQM does not work. He states that, after putting together all the independent research conducted by consulting firms, the conclusion is that only about one-fifth, or at best one-third, of the TQM programmes in the United States and Europe have achieved significant or even tangible improvements in quality, productivity, competitiveness or financial results. Pyzdek (1999) summarizes the criticisms of TQM that have been revealed over the years and adds a few criticisms of his own. In summary, Pyzdek (1999) believes that TQM professionals constantly need to seek to improve the knowledge of quality and the methods for attaining it. Moreover, van der Wiele et al. (2000) evaluate whether TQM is a fad, fashion or fit. A fit of TQM into normal management practice mean that the original fad will have affected the normal way of working within the whole organisation and not just a small part, such as would be the case in the adoption of a mere fashion. The fieldwork from van der Wiele et al. (2000) shows that a change to a fit of TQM to normal management will only occur when there is a strong internal motivation and emotional involvement to implement TQM. Hackman & Wagerman (1995) give two reasons why organizational change programmes including TQM can go wrong. First, the changes may be so ambitious and involve such fundamental alterations of the social system that, for all their potential merit, the organisation cannot accommodate to them. Second, the changes may be more like window-dressing than real changes, as in a programme that exhorts people to alter their behaviour but requires managers to do little other than issue the exhortation.

Knights & McCabe (1997) state that management often do not understand the flaws/problematic and underlying philosophy of TQM. Consequently they continue to adopt inconsistent approaches, such as attempting to control cost and employees while espousing the importance of the customer and the needs of trust-based culture.

# KNUST



## **CHAPTER THREE**

### **METHODOLOGY**

#### **3.0 INTRODUCTION**

This chapter describes the methodology used in the research and clarifies how the research problem has been solved. It includes research design and strategy, population of the study, research instruments, data collection procedure, data analysis and study area.

#### **3.1 RESEARCH DESIGN AND STRATEGY**

Methodology can be referred to as the theoretical analysis of the method appropriate to the field of study or the body of the methods and principles to the branch of knowledge (Kotler Armstrong, 2006). Research methodology is a way to systematically solve the research problem. It may be understood as a science of studying how research is done scientifically. It is necessary for the researcher to know not only the research methods/techniques but also the methodology. Researchers not only need to know how to develop certain indices or tests, how to calculate the mean, the mode, the median or the standard deviation or chi-square, how to apply particular research techniques, but they also need to know which of these methods or techniques, are relevant and which are not, and what would they mean and indicate and why. Researchers also need to understand the assumptions underlying various techniques and they need to know the criteria by which they can decide that certain techniques and procedures will be applicable to certain problems and others will not. All this means that it is necessary for the researcher to design his methodology for his problem

as the same may differ from problem to problem. For this research, quantitative approach was employed.

### **3.2 POPULATION OF THE STUDY**

The study population is the aggregation of element from which the sample is actually selected. It is the aggregation or the totality of all members or units from which information could be obtained (Rubin and Babbie, 2001). In all six (6) members of management team, sixteen (16) senior staff and one hundred and two (102) junior workers constituted the population of the study; this made the total population of the study a hundred and twenty four (124). Due to the fact that the population of the study was relatively small, the study used census or total enumeration to collect data from the whole population. Complete enumeration consists of using each and every unit of the population in the study. The study did not use any sampling technique.

### **3.3 RESEARCH INSTRUMENT**

Primary data for this research was collected using a well designed and structured questionnaire for data collection. A questionnaire is a pro-forma containing a sequence of questions to elicit information from the interviewee. According to Kotler and Keller (2006) the questionnaire can be defined as a set of questions presented to respondents. It is commonly used to gather data and also very flexible because it could be administered in person, by phone or online. The questionnaire of the study was made up of both close ended and open ended questions. Close ended questions constituted the basis of the structured questions. The open ended questions were

generally inserted to provide a more complete picture of the respondents. The study involved one hundred and twenty four respondents which comprises the total population of workers at Intravenous Infusions Ltd. One hundred and twenty questionnaires were retrieved and analyzed. The results were analyzed from the perception of the respondents. The questionnaire solicited key information from the following variables:

Section A: Personal details

Section B: TQM practices in Intravenous Infusions Ltd (IIL).

Section C: Effectiveness of TQM practices at IIL

Section D: Effect of TQM on organizational performance

Section E: Management view on organizational performance.

### **3.4 DATA COLLECTION PROCEDURE**

The researcher assigned one month for the entire data collection exercise. Before the questionnaires were administered, they were pre-tested on some workers to check whether it would help achieve the objectives of the study. It also showed whether the right responses would be provided by the respondents. It did help to clarify ambiguities and uncertainties regarding questions which were asked. After the pre-test the questionnaires were then administered.

### **3.5 DATA ANALYSIS**

Analysis is a research technique for making replicable and valid references from data to their context. The researcher searches for structure and pattern regularities in the

text and makes inferences on the basis of the regularities (Krippendor,1990). Quantitative data analysis was used to process the data. For the quantitative analysis Statistical Package for Social Sciences (SPSS version 17) was used to process the data. For the lower version of analysis for the perception of respondents percentages were used to analyse the data. This means that the analysis was done on the content of the data which were collected.

### **3.6 THE STUDY AREA**

Intravenous Infusions Limited (IIL) was established in 1974 and continues to be a wholly-owned Ghanaian Company. It was registered in December 1969 with authorization to do the following: To manufacture infusions, drugs, medicines and other by-products and to sell same. Its main objects are the production and marketing of Pharmaceutical Products, principally, Intravenous Infusions and Small Volume Injections. It was the first Company of its kind to be set-up in West Africa and produces for the domestic market as well as exports to: Cote d'Ivoire, Burkina Faso, Togo, Benin and Nigeria. It is located in Koforidua in the Eastern Region of Ghana, 86 kilometers from Accra, the capital. It is the major private industry and employer in Koforidua. The Company was initially producing 900,000 units of intravenous fluids. Today(2012), in striving to meet the requirements of valued customers, state of-the-art computer-controlled plant and equipment have been acquired, increasing installed capacity to 5.4 million units of intravenous fluids per year, thus poising the company for a new beginning. The main activity of IIL is the manufacture of intravenous infusions. The ability to manufacture forty-five (45) types, the major ones of which



are Sodium Chloride 0.9%, Dextrose 5%, Dextrose 5% in Sodium Chloride 0.9% solution and Hartmann's Ringer Lactate, sets the company above any manufacturer in the sub-region. In the pursuit of expanding its main business, IIL has developed more specialized fluids like Gastro Intestinal Replacement Fluids, Badoe's Maintenance Solution and 5:4:1 Single Replacement Fluid for Cholera. IIL's Research and Development Unit is capable of formulating any preparation for Intravenous use to meet the requirements of Medical Practitioners. IIL also assembles Blood Giving and Infusion Giving sets. In 1986 IIL added to its range, Small Volume Injections. It is currently manufacturing, Pethidine Hydrochloride, Quinine Dihydrochloride and Magnesium Sulphate injections and has the capacity to manufacture a wide range of injectables. Over the past years, the company has gained considerable experience in the production of IV fluids and other pharmaceutical products and can produce a wide range of drugs to the highest International quality standards. However its capability as a business concern has not shown up in profits and growth. Operations report for the period 2003-2008 reveals the grim history of: operational losses; depreciation of shareholders investments; stunted Growth; non- payment of dividends for over 5 years; liquidity problems; steady loss of market share as a result of increased competition; uncompetitive pricing of products as a result of high unit cost of production. The company's problems have been compounded in recent times by increased competition from newly established companies and importers. Increased competition has resulted in very low margins to the point where in order to survive in the industry the company needs to produce at very low cost to enable it sell at competitive prices.

### **3.6.1 VISION STATEMENT OF IIL**

The vision of Intravenous Infusions Ltd. Koforidua is to be the leading manufacturer and supplier of pharmaceutical and medical products in Africa in the 21<sup>st</sup> century.

### **3.6.2 MISSION OF IIL**

This is to produce with the highest standards, good quality products, meeting the health needs of their valued African clients.

### **3.6.3 OBJECTIVES OF IIL**

This is to work with local and international regulatory authorities:

To ensure compliance with the highest standards in the industry.

To strictly adhere to the detailed principles of G.M.P. to guarantee quality.

To produce large volumes of pharmaceutical and medical products meeting national demands.

To establish intravenous infusions limited's presence in each African country.

To produce at low costs to make our products affordable.

To structure the organization to maximize decision making at the operating level.

To share our profits with the communities in which they operate.

#### **3.6.4 QUALITY POLICY DECLARATION OF IIL**

With a view to enhancing efficiency and reducing wastage to its barest minimum, it is hereby declared that no function or activity shall be performed without due recourse to an established procedure which is clearly written down and approved by management. This is the only guaranteed way for an efficient and optimum use of resources thereby reducing expensive cost of –non quality||

#### **3.6.5 MANAGEMENT TOTAL INVOLVEMENT STATEMENT**

We totally commit ourselves to the compliance of the principles of total quality management with the ultimate objective of improving management efficiency.



## CHAPTER FOUR

### DATA ANALYSIS AND DISCUSSIONS OF RESULTS

#### 4.0 INTRODUCTION

This chapter presents the analysis of the data collected from the field and the discussion of the results and content analytic approach. Primary data was gathered on TQM practices and its effects on organizational performance at Intravenous Infusions Limited (IIL). The analysis covered personal details, TQM practices in IIL, effectiveness of the TQM practices at IIL, effect of TQM on organisational performance, and Management view on organizational performance.

#### 4.1 SECTION A: PERSONAL DETAILS

**Table 1: Gender of respondents**

|        | Frequency | Percent | Valid Percent | Cumulative Percent |
|--------|-----------|---------|---------------|--------------------|
| Male   | 69        | 57.5    | 57.5          | 57.5               |
| Female | 51        | 42.5    | 42.5          | 100.0              |
| Total  | 120       | 100.0   | 100.0         |                    |

Source: Field data 2012

Table 1 shows that 69 (57.5 %) of the respondents were males and the remaining 51(42.5%) were females. This indicates that there are more males than females working in Intravenous Infusions Limited (IIL).

### Age of respondents

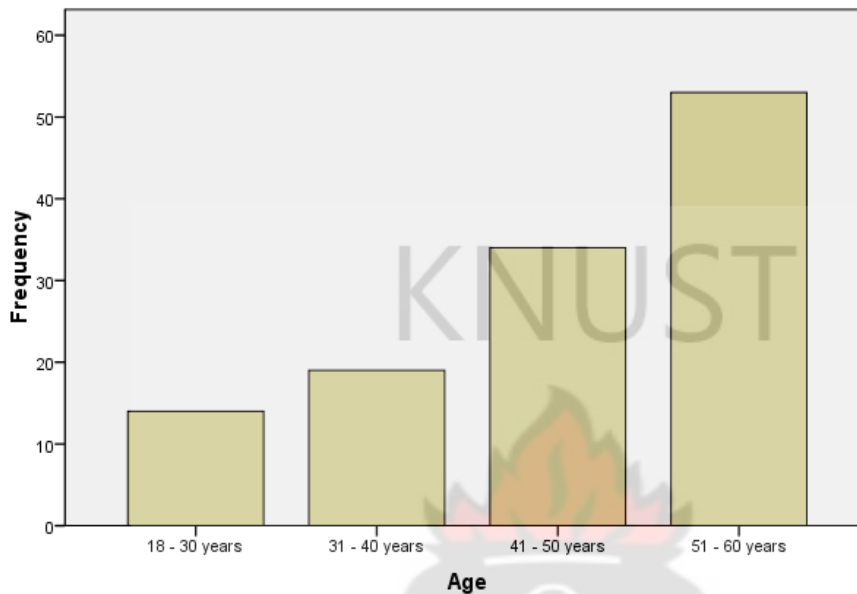


Fig. 1 Source: Field data 2012

Fig 1 shows the age distribution of respondents, the indications are that 14 (11.7%) respondents fell in the age bracket 18- 30. 19 (15.8%) of the respondents fell in the bracket 31-40. That of the age bracket 41-50 was 34 representing 28.3% and that of 51-60 was 53 representing 44.2%. This indicate that nearly 44% of the respondents are near the retiring age of 60 which can have effect on productivity especially when dealing with labour intensive work like manufacturing. Again if care is not taken it could lead to expensive learning curve when most of these staff nearing their retiring go suddenly.

**Table 2: Educational background of respondents**

|         |                             | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|-----------------------------|-----------|---------|---------------|--------------------|
| Valid   | Elementary/ J.S.S / M.S.L.C | 62        | 51.7    | 52.5          | 52.5               |
|         | Secondary / Technical       | 20        | 16.7    | 16.9          | 69.5               |
|         | Training College            | 4         | 3.3     | 3.4           | 72.9               |
|         | Polytechnic/University      | 29        | 24.2    | 24.6          | 97.5               |
|         | Others                      | 3         | 2.5     | 2.5           | 100.0              |
|         | Total                       | 118       | 98.3    | 100.0         |                    |
| Missing | System                      | 2         | 1.7     |               |                    |
| Total   |                             | 120       | 100.0   |               |                    |

Source: Field data 2012

Table 2 shows the educational background of respondents. 62 (52.5%) were holding M.S.L.C or its equivalent. 20 (16.9%) were secondary/Technical school leavers. 4 (3.4%) were graduates from the Training college. 29 (24.6 %) were graduates from the polytechnics or the Universities and 4 (2.5%) had other forms of certification. This indicates that the company is doing well to employ skill labour to work with, however there are still too many staff that are middle school leaving certificate holders, which if care is not taken there could be problems of documentation and communication.



**Table 3: Departments of respondents**

|       |                   | <b>Frequency</b> | <b>Percent</b> | <b>Valid Percent</b> | <b>Cumulative Percent</b> |
|-------|-------------------|------------------|----------------|----------------------|---------------------------|
| Valid | Quality Assurance | 82               | 68.3           | 68.3                 | 68.3                      |
|       | Marketing         | 8                | 6.7            | 6.7                  | 75.0                      |
|       | Engineering       | 21               | 17.5           | 17.5                 | 92.5                      |
|       | Finance           | 9                | 7.5            | 7.5                  | 100.0                     |
|       | Total             | 120              | 100.0          | 100.0                |                           |

Source: Field data 2012

Table 3 show that the majority of the respondents 82(68.3%) were from the Quality Assurance Department 8 (6.7%) of the respondents were from the Marketing Department. 21(17.5%) were from the Engineering Department. and 9(7.5%) were from the Finance Department.

**Table 4: length of service of respondents with Intravenous Infusions Ltd**

|                    | <b>Frequency</b> | <b>Percent</b> | <b>Valid Percent</b> | <b>Cumulative Percent</b> |
|--------------------|------------------|----------------|----------------------|---------------------------|
| Valid 1 - 5 years  | 13               | 10.8           | 10.8                 | 10.8                      |
| 6 - 11 years       | 22               | 18.3           | 18.3                 | 29.2                      |
| 12 -17 years       | 16               | 13.3           | 13.3                 | 42.5                      |
| 18 - 23 years      | 6                | 5.0            | 5.0                  | 47.5                      |
| 24 years and above | 63               | 52.5           | 52.5                 | 100.0                     |
| Total              | 120              | 100.0          | 100.0                |                           |

Source: Field data 2012

Table 4 shows the length of service of respondents. 13 (10.8%) had worked for between 1-5 years. 22(18.3%) had worked for 6-11 years. 16 (13.3%) had worked for 12- 17 years. 6 (5%) had worked for 18-23 years. The majority of the respondents 63(52.5%) had worked for over 24 years. This indicates that labour turnover seem to be low which implies management could be doing something right with the human resource phase of the TQM.

#### 4.3 SECTION B: TQM PRACTICES IN IIL

**Table 5: Respondents view of Leadership Commitment to the work**

|       |                   | <b>Frequency</b> | <b>Percent</b> | <b>Valid Percent</b> | <b>Cumulative Percent</b> |
|-------|-------------------|------------------|----------------|----------------------|---------------------------|
| Valid | Strongly Agree    | 57               | 47.5           | 47.5                 | 47.5                      |
|       | Agree             | 56               | 46.7           | 46.7                 | 94.2                      |
|       | Neutral           | 2                | 1.7            | 1.7                  | 95.8                      |
|       | Disagree          | 3                | 2.5            | 2.5                  | 98.3                      |
|       | Strongly disagree | 2                | 1.7            | 1.7                  | 100.0                     |
|       | Total             | 120              | 100.0          | 100.0                |                           |

Source: Field data 2012

Table 5 indicate that 113 (94.2%) of the respondents were of the view that leadership was committed to the work. However 2(1.7%) were neutral in their response. 5(4.2%) disagreed. This indicates that management has demonstrated commitment to the work which is exemplary to the rest of the staff.

**Table 6: Employee involvement in quality decisions**

|       |                   | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-------------------|-----------|---------|---------------|--------------------|
| Valid | Strongly Agree    | 10        | 8.3     | 8.3           | 8.3                |
|       | Agree             | 54        | 45.0    | 45.0          | 53.3               |
|       | Neutral           | 20        | 16.7    | 16.7          | 70.0               |
|       | Disagree          | 6         | 5.0     | 5.0           | 75.0               |
|       | Strongly disagree | 30        | 25.0    | 25.0          | 100.0              |
|       | Total             | 120       | 100.0   | 100.0         |                    |

Source: Field data 2012

Table 6 shows respondents view of their involvement in quality decisions. 10 (8.3%) strongly agreed that they were involved in quality decisions. 54(45%) also agreed that they were involved in quality decisions. 20 (16.7%) also were neutral to the question. 6 (5%) disagreed. 30 (25%) strongly disagreed to the assertion that they were involved in quality decisions. This shows that close to half of the staff are not involved in quality decisions process, when this occurs it makes it difficult for them to own the decisions and work with them. This can also affect the implementation phase of these decisions.

**Table 7 : Effective Communication**

|       |                   | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-------------------|-----------|---------|---------------|--------------------|
| Valid | Strongly Agree    | 15        | 12.5    | 12.5          | 12.5               |
|       | Agree             | 74        | 61.7    | 61.7          | 74.2               |
|       | Neutral           | 8         | 6.7     | 6.7           | 80.8               |
|       | Disagree          | 15        | 12.5    | 12.5          | 93.3               |
|       | Strongly disagree | 8         | 6.7     | 6.7           | 100.0              |
|       | Total             | 120       | 100.0   | 100.0         |                    |

Source: Field data 2012

Table 7 shows respondents' view on effective communication in the organization. 15 (12.5%) strongly agreed that there was effective communication in the organization. 74 (61.7%) agreed that communication was effective. 8 (6.7%) were neutral to the question. 15 (12.5%) disagreed that communication was effective. 8 (6.7%) strongly disagreed that communication was effective. Table 7 again shows that majority of the respondents (74.2%) agree that communication in the factory was effective.

**Table 8 :Team Work**

|       |                   | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-------------------|-----------|---------|---------------|--------------------|
| Valid | Strongly Agree    | 30        | 25.0    | 25.0          | 25.0               |
|       | Agree             | 83        | 69.2    | 69.2          | 94.2               |
|       | Neutral           | 2         | 1.7     | 1.7           | 95.8               |
|       | Strongly disagree | 5         | 4.2     | 4.2           | 100.0              |
|       | Total             | 120       | 100.0   | 100.0         |                    |

Source : Field data 2012

Table 8 shows respondents' view on team work in the organization. 30 (25%) strongly agreed that there was team work. 83 (69.2%) agreed that there was team work. 2 (1.7%) were neutral. 5 (4.2%) strongly disagreed. This table indicate that majority of the respondents (94.2%) agreed that there was team work in the company

**Table 9 : System for recognition and appreciation of quality efforts**

|       |                   | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-------------------|-----------|---------|---------------|--------------------|
| Valid | Strongly Agree    | 17        | 14.2    | 14.2          | 14.2               |
|       | Agree             | 43        | 35.8    | 35.8          | 50.0               |
|       | Neutral           | 23        | 19.2    | 19.2          | 69.2               |
|       | Disagree          | 26        | 21.7    | 21.7          | 90.8               |
|       | Strongly disagree | 11        | 9.2     | 9.2           | 100.0              |
| Total |                   | 120       | 100.0   | 100.0         |                    |

Source : Field data 2012

Table 9 shows respondents' view on a system for recognition and appreciation of quality efforts. 17 (14.2 %) strongly agreed that there was a system like that. 43 (35.8 %) agreed to the assertion. However 23 (19.2%) were neutral. On the other hand 26 (21.7%) disagreed and 11 (9.2%) strongly disagreed. This table shows that about half of the respondents hold the view that if they contribute to any quality efforts their efforts will not be appreciated. This is a bad development because it will stifle initiative and demoralize staff from coming up with quality initiative which would have gone a long way to enhance TQM practices.

Table 10 below shows respondents' views on training and development. 27 (22.7%) strongly agreed that staff were benefitting from training and development programmes. 75 (63%) also agreed to that. 4 were neutral. On the other hand 8 (6.7%) disagreed to the assertion and 5 (4.2 %) strongly disagreed to that. This table shows that most of the respondents (85.7%) are being trained and developed to handle some of the challenges on the job.

**Table 10 :Respondents view on training & development**

|         |                   | <b>Frequency</b> | <b>Percent</b> | <b>Valid Percent</b> | <b>Cumulative Percent</b> |
|---------|-------------------|------------------|----------------|----------------------|---------------------------|
| Valid   | Strongly Agree    | 27               | 22.5           | 22.7                 | 22.7                      |
|         | Agree             | 75               | 62.5           | 63.0                 | 85.7                      |
|         | Neutral           | 4                | 3.3            | 3.4                  | 89.1                      |
|         | Disagree          | 8                | 6.7            | 6.7                  | 95.8                      |
|         | Strongly disagree | 5                | 4.2            | 4.2                  | 100.0                     |
|         | Total             | 119              | 99.2           | 100.0                |                           |
| Missing | System            | 1                | 8              |                      |                           |
| Total   |                   | 120              | 100.0          |                      |                           |

Source: Field data 2012

**Table 11 : Respondents view on self assessment**

|                      | <b>Frequency</b> | <b>Percent</b> | <b>Valid Percent</b> | <b>Cumulative Percent</b> |
|----------------------|------------------|----------------|----------------------|---------------------------|
| Valid Strongly Agree | 18               | 15.0           | 15.0                 | 15.0                      |
| Agree                | 91               | 75.8           | 75.8                 | 90.8                      |
| Neutral              | 6                | 5.0            | 5.0                  | 95.8                      |
| Disagree             | 3                | 2.5            | 2.5                  | 98.3                      |
| Strongly disagree    | 2                | 1.7            | 1.7                  | 100.0                     |
| Total                | 120              | 100.0          | 100.0                |                           |

Source: Field data 2012

Table 11 above shows respondents' view on self assessment in the organization. 18 (15.0%) strongly agreed that there was self assessment. 91 (75.8%) agreed that there was



self assessment. 6 were neutral to the assertion. On the other hand 3 (2.5%) disagreed to the assertion while 2 (1.7%) strongly disagreed. This table shows that most of the respondents (90.8%) agreed that the company assesses itself to see whether they are within the quality standards. This is a very good TQM practice.

#### 4.4 SECTION C: EFFECTIVENESS OF TQM PRACTICES

**Table 12: Is customer satisfaction everybody's business in the organization?**

|           | Frequency | Percent | Valid Percent | Cumulative Percent |
|-----------|-----------|---------|---------------|--------------------|
| Valid Yes | 105       | 87.5    | 87.5          | 87.5               |
| No        | 15        | 12.5    | 12.5          | 100.0              |
| Total     | 120       | 100.0   | 100.0         |                    |

Source: Field data 2012

Table 12 shows the respondents' view on the pursuance of customer satisfaction in the organization. 105 (87.5%) of the respondents were of the opinion that customer satisfaction was everybody's business. This indicates that this percentage of respondents could be working to achieve customer satisfaction. However, 15 (12.5%) thought otherwise. Since customer satisfaction is key in the survival of any enterprise and also central to TQM practices, if this few respondents who don't agree to that assertion are right, then this could affect the effectiveness of the practices of TQM.

**Table 13: Department which is responsible for product quality in the organization**

|         |                            | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|----------------------------|-----------|---------|---------------|--------------------|
| Valid   | No body                    | 5         | 4.2     | 4.2           | 4.2                |
|         | Quality Control Department | 22        | 18.3    | 18.6          | 22.9               |
|         | Quality Assurance          | 88        | 73.3    | 74.6          | 97.5               |
|         | TQM Department             | 3         | 2.5     | 2.5           | 100.0              |
|         | Total                      | 118       | 98.3    | 100.0         |                    |
| Missing | System                     | 2         | 1.7     |               |                    |
| Total   |                            | 120       | 100.0   |               |                    |

Source: Field data 2012

Table 13 shows respondents view on which department was responsible for product quality in the organization. 5 (4.2%) were of the view that no one was responsible. 22 (18.6%) thought that quality control department was responsible. 88 (74.6%) were of the view that quality assurance was responsible. 3 (2.5%) were of the view that TQM department was responsible. This table shows that majority (74.6%) of the respondents new which department was responsible for product quality

**Table 14: Respondents view on subscription to any quality award system.**

|         |        | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|--------|-----------|---------|---------------|--------------------|
| Valid   | Yes No | 4         | 3.3     | 3.6           | 3.6                |
|         | Total  | 107       | 89.2    | 96.4          | 100.0              |
|         | System | 111       | 92.5    | 100.0         |                    |
| Missing |        | 9         | 7.5     |               |                    |
| Total   |        | 120       | 100.0   |               |                    |

Source: Field data 2012

Table 14 shows the view of respondents on subscription of any quality award system. (3.6% of respondents) was of the view that there was a quality award system. However 107 (96.4% of respondents) were of the view that there was no such a system. This indicates that overwhelming majority of the respondents share the view that the company is not yet at the highest level of the implementation process of TQM.

**Table 15: Response on training received on the job.**

|         |       | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|-------|-----------|---------|---------------|--------------------|
| Valid   | Yes   | 99        | 82.5    | 86.1          | 86.1               |
|         | No    | 16        | 13.3    | 13.9          | 100.0              |
|         | Total | 115       | 95.8    | 100.0         |                    |
| Missing |       | 5         | 4.2     |               |                    |
| Total   |       | 120       | 100.0   |               |                    |

Source: Field data 2012

Table 15 shows the respondents view on training received on the job. 99 (86.1% of respondents) were of the view that they had received training on the job. 16 (13.9% of respondents) were of the view that they had received no training on the job. This indicates that the firm is doing well to train the valued staffs, which is a good practice of TQM.

**Table 16: Respondents' view on whether training received has impacted positively on the work.**

|         |       | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|-------|-----------|---------|---------------|--------------------|
| Valid   | Yes   | 102       | 85.0    | 91.9          | 91.9               |
|         | No    | 9         | 7.5     | 8.1           | 100.0              |
|         | Total | 111       | 92.5    | 100.0         |                    |
| Missing |       | 9         | 7.5     |               |                    |
| Total   |       | 120       | 100.0   |               |                    |

Source: Field data 2012

Table 16 shows the respondents' view on whether training received has impacted positively on the work. 102 (91.9% of valid respondents) were of the view that the training has impacted positively on the work. 9 (8.1% of valid respondents) were of the view that the training received had no impact on the work. The table shows that the training received by the respondents had helped them to impact positively on the work. This suggests that the training given was helpful. This is a good practice of TQM.

**Table 17: All the resources the respondents need to carry out any improvement on the job are readily available.**

|         |                   | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|-------------------|-----------|---------|---------------|--------------------|
| Valid   | Strongly Agree    | 3         | 2.5     | 2.6           | 2.6                |
|         | Agree             | 39        | 32.5    | 33.6          | 36.2               |
|         | Neutral           | 18        | 15.0    | 15.5          | 51.7               |
|         | Disagree          | 40        | 33.3    | 34.5          | 86.2               |
|         | Strongly Disagree | 16        | 13.3    | 13.8          | 100.0              |
|         | Total             | 116       | 96.7    | 100.0         |                    |
| Missing |                   | 4         | 3.3     |               |                    |
| Total   |                   | 120       | 100.0   |               |                    |

Source: Field data 2012

Table 17 shows respondent view on all the resources the respondents need to carry out any improvement on the job are readily available. 3 (2.6% of valid respondents) strongly agreed that all the resources needed to carry out any improvement were readily available. 39 (33.6% of valid respondents) agreed that all the resources were readily available. 18 (15.5% of valid respondents) were neutral to the question. However 40 (34.5% of valid respondents) disagreed. 16 (13.8% of valid respondents) also strongly disagreed. This table shows that only 36.2% of the respondents agreed that all the resources required to carry out any improvement on the job are readily available. Majority of the respondents thought otherwise indicating that the firm could be having challenges with regards to financing the necessary changes required to effect correctional changes in the day to day administration. This is not a good TQM practice. This undermines leadership commitment and pledge to the tenets of TQM.

#### 4.5 SECTION D: EFFECT OF TQM ON ORGANIZATIONAL PERFORMANCE

**Table 18 : Respondents view on reworks done in the departments.**

|         |       | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|-------|-----------|---------|---------------|--------------------|
| Valid   | Yes   | 43        | 35.8    | 38.1          | 38.1               |
|         | No    | 70        | 58.3    | 61.9          | 100.0              |
|         | Total | 113       | 94.2    | 100.0         |                    |
| Missing |       | 7         | 5.8     |               |                    |
| Total   |       | 120       | 100.0   |               |                    |

Source: Field data 2012

Table 18 shows respondents' view on whether they undertake reworks in their department. 43 (38.1% of valid respondents) said yes. 70 (61.9% of valid respondents) said no.

no. This indicates that 38.1 % of the respondents are working in departments which are not effective or efficient since these departments are not doing things right the very first time. When this continues it could lead to loss of time and money and it will eventually affect productivity. This could contribute to ineffective TMQ practices.

#### 4.5 SECTION D: EFFECT OF TQM ON ORGANIZATIONAL PERFORMANCE

**Table 18: Respondents view on reworks done in the departments.**

|         |       | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|-------|-----------|---------|---------------|--------------------|
| Valid   | Yes   | 43        | 35.8    | 38.1          | 38.1               |
|         | No    | 70        | 58.3    | 61.9          | 100.0              |
|         | Total | 113       | 94.2    | 100.0         |                    |
| Missing |       | 7         | 5.8     |               |                    |
| Total   |       | 120       | 100.0   |               |                    |

Source: Field data 2012

Table 18 shows respondents' view on whether they undertake reworks in their department. 43 (38.1% of valid respondents) said yes. 70 (61.9% of valid respondents) said no. This indicates that 38.1 % of the respondents are working in departments which are not effective or efficient since these departments are not doing things right the very first time. When this continues it could lead to loss of time and money and it will eventually affect productivity. This could contribute to ineffective TMQ practices.



**Table 19: Respondents view on the relationship between them and the organization can be described as satisfactory.**

|         |                   | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|-------------------|-----------|---------|---------------|--------------------|
| Valid   | Strongly Agree    | 9         | 7.5     | 7.9           | 7.9                |
|         | Agree             | 78        | 65.0    | 68.4          | 76.3               |
|         | Neutral           | 12        | 10.0    | 10.5          | 86.8               |
|         | Disagree          | 9         | 7.5     | 7.9           | 94.7               |
|         | Strongly Disagree | 6         | 5.0     | 5.3           | 100.0              |
|         | Total             | 114       | 95.0    | 100.0         |                    |
| Missing | System            | 6         | 5.0     |               |                    |
| Total   |                   | 120       | 100.0   |               |                    |

Source: Field data 2012

Table 19 shows respondents' view on the relationship that exists between them and the employer. 9 (7.9% of respondents) strongly agreed that the relationship was satisfactory. 78 (68.4% of respondents) agreed that the relationship was satisfactory. 12 (10.5% of respondents) were neutral to the question. 9 (7.9 % of respondents) disagreed that the relationship between them and the employer was satisfactory. 6 (5.3% of respondents) strongly disagreed that the relationship between them and the employer was satisfactory.

This indicates that majority of the staff (76.3%) are satisfied with their employer (IIL). This could imply that the company is doing something right with the human phase of the TQM practices. However since it is not overwhelming majority of the respondents that held this view management could do more to make it more effective so that most of the respondents if not all should be satisfied.

**Table 20: Respondents view on whether IIL is losing some customers.**

|         |                   | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|-------------------|-----------|---------|---------------|--------------------|
| Valid   | Strongly Agree    | 14        | 11.7    | 12.1          | 12.1               |
|         | Agree             | 43        | 35.8    | 37.1          | 49.1               |
|         | Neutral           | 38        | 31.7    | 32.8          | 81.9               |
|         | Disagree          | 19        | 15.8    | 16.4          | 98.3               |
|         | Strongly Disagree | 2         | 1.7     | 1.7           | 100.0              |
|         | Total             | 116       | 96.7    | 100.0         |                    |
| Missing | System            | 4         | 3.3     |               |                    |
| Total   |                   | 120       | 100.0   |               |                    |

Source: Field data 2012

Table 20 shows responses to the question whether IIL was losing some customers. 14(12.1% of respondents) strongly agreed that IIL was losing some customers. 43(37.1% of respondents) agreed that IIL was losing some customers. 38 (32.8% of respondents) were neutral to the question. 19(16.4% of respondents) however disagreed that IIL was losing some customers. 2(1.7% of valid respondents) strongly disagreed that IIL was losing some customers. This table shows that nearly half of the respondents were of the view that IIL was losing some customers. This is a very serious assertion which warrants management's intervention as soon as possible since no enterprise could do without customers. This could mean that something could be basically wrong with either the product, the price or customer relations. It could also mean that some customer concerns have not been properly addressed. This could mean that some TQM practices are not effective.

**Table 21: Respondents view on reasons why IIL is losing some customers.**

|         |                                  | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|----------------------------------|-----------|---------|---------------|--------------------|
| Valid   | Inadequate Customer Satisfaction | 5         | 4.2     | 8.9           | 8.9                |
|         | Preferred Foreign Products       | 5         | 4.2     | 8.9           | 17.9               |
|         | Higher Prices                    | 19        | 15.8    | 33.9          | 51.8               |
|         | Other                            | 27        | 22.5    | 48.2          | 100.0              |
|         | Total                            | 56        | 46.7    | 100.0         |                    |
| Missing | System                           | 64        | 53.3    |               |                    |
| Total   |                                  | 120       | 100.0   |               |                    |

Source: Field data 2012

Table 21 shows respondents' view on the reason why the company was losing some customers. 5 (8.9% of respondents) indicated that it was due to inadequate customer satisfaction. 5 (8.9% of respondents) again indicated that it was due to the fact that some customers preferred foreign products. 19 (33.9% of respondents) indicated that it was due to higher prices regime of the company's products. 27 (48.2% of respondents) were also of the view that it could be due to other factors. This indicates that high prices, preference for foreign products and inadequate customer satisfaction ranks high amongst the reasons. These could be proof that TQM practices are not adequately addressing major concerns which affect organizational performance.

**Table 22: Respondents view on which of these Quality functions will help improve upon organizational performance.**

|         |                   | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|-------------------|-----------|---------|---------------|--------------------|
| Valid   | Quality Control   | 4         | 3.3     | 3.7           | 3.7                |
|         | Quality Assurance | 37        | 30.8    | 33.9          | 37.6               |
|         | TQM               | 45        | 37.5    | 41.3          | 78.9               |
|         | All of the above  | 23        | 19.2    | 21.1          | 100.0              |
|         | Total             | 109       | 90.8    | 100.0         |                    |
| Missing | System            | 11        | 9.2     |               |                    |
| Total   |                   | 120       | 100.0   |               |                    |

Source: Field data 2012

Table 22 shows respondents view on which quality function will help improve upon organizational performance. 4(3.7% of the respondents) were of the view that quality control will help improve upon organizational performance. 37(33.9% of the respondents) were also of the view that Quality Assurance will help improve organizational performance. 45 (41.3% of the respondents) were of the view that TQM will help improve upon organizational performance. 23 (21.1 % of valid respondents) were also of the view that all the functions that is Quality Control, Quality Assurance, and TQM will all help improve upon organizational performance. This indicate divergent views and opinions on TQM concepts, it also indicates that the company has not reached the ultimate in the implementation of TQM. This implies that majority of the respondents belief that TQM will improve upon organizational performance.

**Table 23: Respondents view on number of reworks done in a year.**

|         |             | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|-------------|-----------|---------|---------------|--------------------|
| Valid   | 3 - 5 times | 12        | 10.0    | 26.1          | 26.1               |
|         | 1-2 times   | 34        | 28.3    | 73.9          | 100.0              |
|         | Total       | 46        | 38.3    | 100.0         |                    |
| Missing | System      | 74        | 61.7    |               |                    |
| Total   |             | 120       | 100.0   |               |                    |

Source: Field data 2012

Table 23 shows respondents' view on the number of times reworks are carried out. 12 (26.1% of valid respondents said between 3-5 time in a year. 34 (73.9 % of valid respondents said between 1-2 times in a year. This shows that though reworks are carried out they are not frequent and for that matter could not affect the organization too much.

**Table 24: Respondents view on the loss rate per annum.**

|         |          | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|----------|-----------|---------|---------------|--------------------|
| Valid   | about 1% | 55        | 45.8    | 82.1          | 82.1               |
|         | about 3% | 2         | 1.7     | 3.0           | 85.1               |
|         | about 4% | 3         | 2.5     | 4.5           | 89.6               |
|         | About 5% | 7         | 5.8     | 10.4          | 100.0              |
|         | Total    | 67        | 55.8    | 100.0         |                    |
| Missing | System   | 53        | 44.2    |               |                    |
| Total   |          | 120       | 100.0   |               |                    |

Source: Field data 2012

Table 24 shows respondents' view on the loss rate per annum in their respective departments. 82.1% of the respondents said the loss rate was about 1%. 3% of the

respondents said it was about 3%. 4.5 % of the respondents said it was about 4%. And 10.4% of the respondents said it was about 5%. This indicates that most of the respondents were experiencing a very low percentage loss which is good manufacturing practice. This will help organizational performance in terms of profitability.

#### 4.6 SECTIONE: SENIOR STAFF VIEW ON ORGANIZATIONAL PERFROMANCE

**Table 25: respondents' view on customer complaints.**

|       |       | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-------|-----------|---------|---------------|--------------------|
| Valid | Yes   | 18        | 81.8    | 81.8          | 81.8               |
|       | No    | 4         | 18.2    | 18.2          | 100.0              |
|       | Total | 22        | 100.0   | 100.0         |                    |

Source: field data 2012

Table 25 shows respondents' view on whether the company receives customer complaints. 18 (81.8% of respondents) said yes they received customer complaints. 4 (18.2% of respondents) said they did not receive customer complaints. This indicates that majority of the respondents were of the view that customers have issues with the company. These issues if not addressed could affect customer satisfaction and invariably weaken any bonds of customer loyalty, ultimately these issues could affect organizational performance

**Table 26: Respondents' view on number of customer complaints received for the past two years.**

|       |       | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-------|-----------|---------|---------------|--------------------|
| Valid | 1 – 4 | 18        | 81.8    | 81.8          | 81.8               |
|       | 5 – 8 | 4         | 18.2    | 18.2          | 100.0              |
|       | Total | 22        | 100.0   | 100.0         |                    |

Source: field data 2012



Table 26 shows respondents' view on number of customer complaints received for the past two years. 18 (81.8% of the respondents) said they received between 1-4 complaints in two years. 18.2 % of the respondents said they received between 5-8 complaints in two years. The frequency of 1-4 complaints looks very small but if not properly addressed it could go a long way to affect organizational performance. These days of global competition customer concerns should be treated with all the attention that it deserves. The customer complaints of 5-8 times in two years is worth mentioning. Though only 18.2% Of the respondents said so the frequency is still on the high side which goes a long way to buttress the point that management has a lot to do to satisfy customers completely. If these concerns are not adequately addressed it could adversely affect the performance of the organization.

**Table 27 : Respondents' view on whether some customers have stopped buying from the organization**

|         |        | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|--------|-----------|---------|---------------|--------------------|
| Valid   | Yes No | 17        | 77.3    | 85.0          | 85.0               |
|         | Total  | 3         | 13.6    | 15.0          | 100.0              |
|         | System | 20        | 90.9    | 100.0         |                    |
| Missing |        | 2         | 9.1     |               |                    |
| Total   |        | 22        | 100.0   |               |                    |

Source: field data 2012

Table 27 shows respondents' view on whether some customers have stopped buying from the organization. 17 (85% of valid respondents) said yes. 3(15% of valid respondents) said no. This indicates the effects of dissatisfaction among customers on the performance of the organization. It buttresses the fact that some customer concerns remain unresolved and unattended to. Again it suggests that customer satisfaction may not be a key issue in the TQM practices of IIL, which implies the ineffectiveness of the TQM practices employed.

**Table 28: Respondents' views on the reasons why some customers have stopped buying from the organization.**

|         |                            | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|----------------------------|-----------|---------|---------------|--------------------|
| Valid   | High Prices                | 14        | 63.6    | 82.4          | 82.4               |
|         | Poor customer relationship | 3         | 13.6    | 17.6          | 100.0              |
|         | Total                      | 17        | 77.3    | 100.0         |                    |
| Missing | System                     | 5         | 22.7    |               |                    |
| Total   |                            | 22        | 100.0   |               |                    |

Source: field data 2012

Table 28 shows respondents reasons why some customers have stopped buying from the organization. 14(82.4% of the respondents) said it was due to high prices of the organization's products. 3 (17.6% of the respondents) said it was due to poor customer relationships. This table indicates that majority of the respondents (82.4%) were of the view that customers have stopped buying because IIL's prices are high. This means that for IIL to prevent this negative development attempts should made to critically examine the price build up and remove any bottlenecks that contribute to higher prices of products. This calls for effective TQM practices where customer concerns like higher prices will become everybody's business and work together to bring these prices down.

**Table 29: Respondents view on whether the organization has lost some major tenders.**

|           | Frequency | Percent | Valid Percent | Cumulative Percent |
|-----------|-----------|---------|---------------|--------------------|
| Valid Yes | 22        | 100.0   | 100.0         | 100.0              |

Source: field data 2012

Table 29 shows respondents' view on whether the organization has lost some major tenders. 22 (100% of the respondents) said yes. This indicates that absolutely all the respondents share the view that the company has lost some major tenders. These major tenders are floated by major customers where the volumes of sales are high. Such tenders sometimes take a whole year to supply so when they are lost it significantly affects the market share for that particular year. So when the company loses such tenders continuously it could significantly affect its overall market share.

**Table 30: Respondents' reasons why the organization lost some major tenders.**

|                             | Frequency | Percent | Valid Percent | Cumulative Percent |
|-----------------------------|-----------|---------|---------------|--------------------|
| Valid Price competitiveness | 10        | 45.5    | 45.5          | 45.5               |
| High Prices                 | 12        | 54.5    | 54.5          | 100.0              |
| Total                       | 22        | 100.0   | 100.0         |                    |

Source: field data 2012

Table 30 shows respondents' view on reasons why the organization lost some major tenders. 10(45.5% of the respondents) said that the product prices were not competitive and 12 (54.5% of the respondents) said the prices of the organization's products were too high. This indicates that the company is losing tenders for the singular reason of price and that the company is losing tenders because either the prices are uncompetitive or just too high. This implies that the company should work around the clock in order to present acceptable prices to all its valued clients if it wants to win these tenders all the time.

**Table 31: Respondents' view on the increase in volume of sales for the last two years compared to those previous years.**

|       |                | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|----------------|-----------|---------|---------------|--------------------|
| Valid | Strongly Agree | 4         | 18.2    | 18.2          | 18.2               |
|       | Agree          | 16        | 72.7    | 72.7          | 90.9               |
|       | Disagree       | 2         | 9.1     | 9.1           | 100.0              |
|       | Total          | 22        | 100.0   | 100.0         |                    |

Source: field data 2012

Table 31 shows respondents view on volume of sales for the last two years compared to the previous years. 4 (18.2 % of valid respondents) strongly agreed that the volumes of sales have increased in the last two years compared to those of the previous years. 16 (72.7) % of valid respondents) agreed that the volumes of sales have increased compared to those of the previous years. 2 disagreed that the volumes of sales have increased in the last two years compared to those of the previous years. This table indicates that the company is not performing badly at all though it has lost some major tenders the overall general performance in terms of sales has improved compared those two previous years. This attest to the fact the company has the potential to do extremely well when all the bottlenecks are adequately addressed.

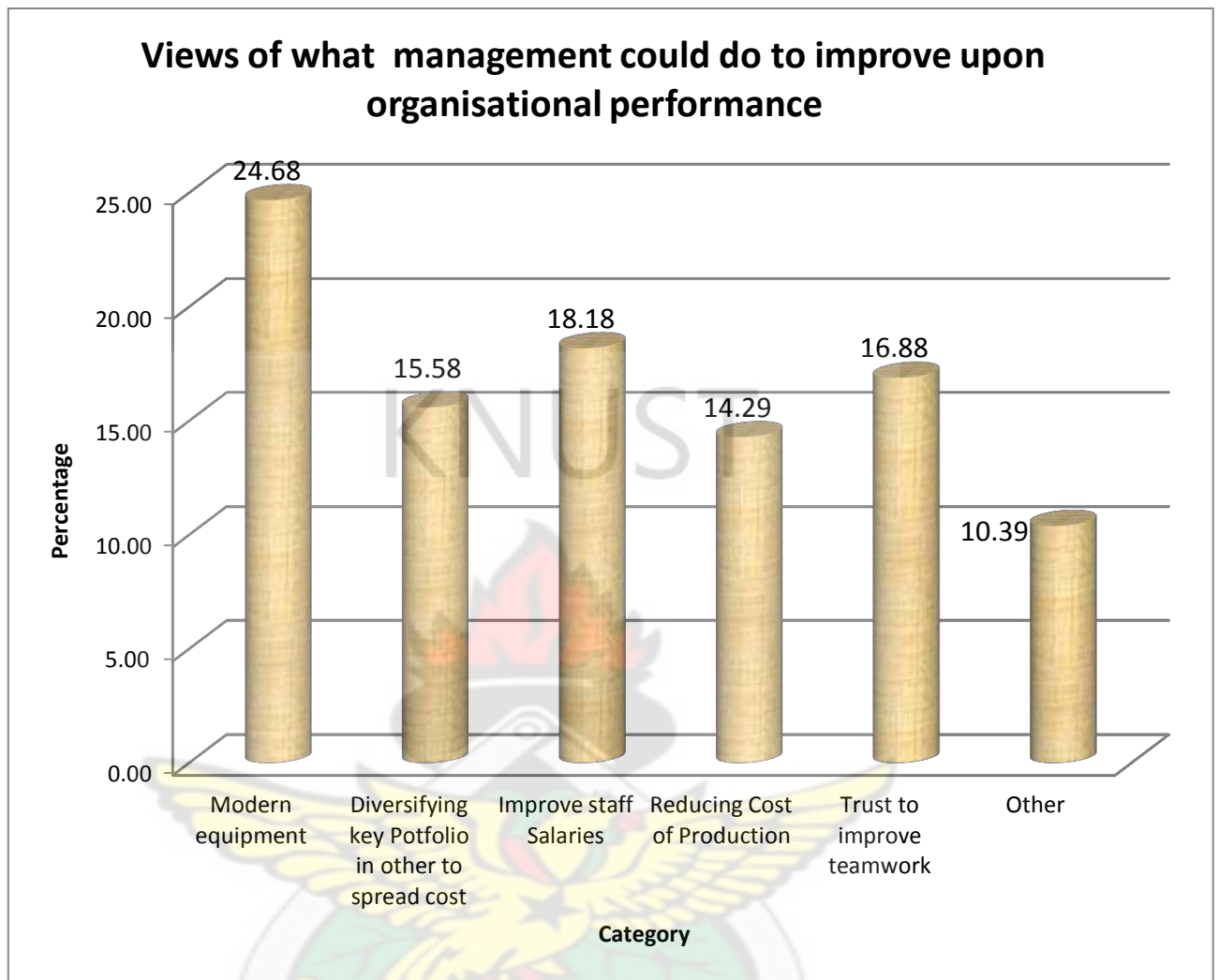


Fig.2. Views of what management could do to improve upon organizational performance.  
Source: field data 2012

Fig. 2 shows respondents' views on what management could do to improve upon organizational performance. 19 (24.68 %) of the responses was in favour of management providing modern equipment to improve organizational performance. 12 (15.58%) of the responses was in favour of management diversifying key portfolio in other to spread cost. 14 (18.18%) of the responses was in favour of management improving the salaries of employees. 11 (14.29%) of the responses was in favour of management reducing the cost



of production. 13 (16.88%) of the responses was in favour of management improving trust amongst staff to foster teamwork this they said will help improve organizational performance. This table indicates that respondents view lack of modern equipment as the major source of the challenges that the company is facing and that it should be addressed as soon as possible if management want to improve upon organizational performance. The next responses which respondents wish management to look at are salaries of employees. The respondents were of the view that if the salaries of employees are improved upon it could ginger them to put in their best which could lead to improvement in organizational performance. The next issue that respondents want it addressed by management is lack of trust amongst team members. Respondents are of the opinion that if management could work to improve upon the level of trust amongst team members it could improve effectiveness and efficiency these teams which could improve upon organizational performance. Respondents were also of the view that if management could work to diversify the portfolio of the company it could help the firm to spread its cost over a lot of products thereby reducing price of unit item. This indicates the firm is charging its overhead cost on only few products leading to high prices which featured prominently in the reasons why the firm was losing customers and tenders. Again respondents indicated that management should work to reduce the cost associated with production. To them production cost is high so it should be reduced. If this is done it will invariably reduce the unit price of the products which will make the firm competitive. The last issue which the respondents stated was others which I believe the list could be tall and equally of the same weight. Management could do introspective analysis to find more on these others to address them adequately.



## **CHAPTER FIVE**

### **SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS**

#### **5.0 INTRODUCTION**

This chapter summarizes and concludes the entire study. It presents recommendations and the direction for future research. The purpose of the research was to assess TQM practices and its effect on organizational performance at Intravenous Infusions Limited, in the Eastern Region of Ghana. It is noteworthy that some of the recommendations made can help implement the TQM practices which could be employed to bring improvement in organizational performance at IIL and other pharmaceutical companies in Ghana. Primary data was collected by the use of questionnaire from a population of 124 respondents; however 120 of the questionnaire were retrieved from the respondents and analyzed. The objectives of the study were to explore the degree of effectiveness of TQM practices in Intravenous Infusions Limited (IIL), to analyse the extent to which TQM practices affect organizational performance at IIL and to identify the challenges involved in implementing TQM practices at IIL koforidua.

#### **5.1 SUMMARY OF FINDINGS**

The findings of the study are summarised as follows:

##### **5.1.1 PERSONAL DETAILS.**

The analysis showed that there were more males than females working in IIL, about 44.2% of the respondents are nearing the retiring age of 60 this could have some effect

on productivity especially if dealing with labour intensive work like manufacturing. It could also lead to an expensive learning curve when most of the staff go on retirement around the same period. 51.7% of the respondents had attained either Elementary, JSS, or M.S.L.C. and 24.6% were graduates from the polytechnics or the universities, this indicates that the company is doing well to employ skill labour to work with however there are still too many staff that are middle school leaving certificate holders which if care is not taken could lead to some challenges with documentation and communication. 52.5% of the respondents had worked with the company for more than 24 years. This indicates a low labour turnover which implies management could be doing something right with the human resource aspects of the TQM practices.

#### **5.1.2 TQM PRACTICES AT IIL.**

The findings show clearly that TQM practices in IIL includes; leadership commitment to work, employee involvement in quality decisions, effective communication, team work, system for recognition and appreciation of quality efforts, training and development and self assessment. Majority of the respondents agreed that all the above mentioned TQM practices were being practiced. Generally it is perceived that majority of the workers agreed that IIL has some TQM practices in place.

#### **5.1.3 EFFECTIVENESS OF TQM PRACTICES AT IIL.**

The study explored the degree of effectiveness of TQM practices at IIL. Majority of the respondents agreed that customer satisfaction was every body's business in the organization. Most of the respondents disagreed that IIL had subscribed to any quality

award system. This implies TQM is not being implemented to the highest level. Majority of the respondents said they have received some training. Nearly all of them agreed that the training and development received had positively imparted on the job. This is a good practice of TQM. About half of the respondents indicated that they don't receive all the necessary resources required to carry out any improvement on the job. This goes a long way to undermine the commitment of leadership to quality. On the whole the researcher found out that though there were some TQM practices in IIL these practices were not effectively practiced.

#### **5.1.4 EFFECT OF TQM PRACTICES ON ORGANIZATIONAL PERFORMANCE**

Further the majority of the respondents said they were satisfied with their employer in terms of the relationship which exists between them. This again emphasises the fact that management was treating the employees well however since it is not overwhelming majority of the respondents which shared that view management could do more to make it effective so that most of the respondents would be satisfied. Nearly half of the respondents agreed that the company was losing some of its customers and most of these respondents were of the view that the reason was due to high prices of the company products. It could also mean that some customer concerns have not been properly addressed. This could mean that some TQM practices are not effective. When this was probed further some respondents were of the view that the reasons could be due to high prices, preference for foreign products and inadequate customer satisfaction. These could be proof that the existing TQM practices are not adequately addressing the major concerns which affect organizational performance.

### **5.1.5 ANALYSIS OF SENIOR STAFF VIEW ON ORGANIZATIONAL PERFORMANCE AT IIL.**

On the senior staff views on organizational performance as well as some challenges that the organization was experiencing, it is clear from the findings that most of the respondents were of the view that they receive customer complaints however these complaints were not frequent. Most of them indicated that some customers have stopped buying from IIL. These respondents concluded that the reasons were due to higher prices and poor customer relationships. The respondents continued to state that they have lost major tenders due to uncompetitive prices, however sales have been good compared to the last two years. They concluded that if management could carry out the following changes the firm could improve upon its performance:

- The need for modern equipment.
- Diversification of key portfolio in other to spread cost.
- The need to improve salaries of employees.
- Reduction of cost of production.
- Trust amongst staff to improve team work

### **5.2 CONCLUSIONS**

The study sought to assess the TQM practices and its effect on organizational performance at Intravenous Infusions Limited Koforidua. The study concluded that some TQM practices exist at IIL. Another conclusion which was drawn from the findings was that the TQM at IIL was not being implemented to the highest level.

Again management inactions undermine leadership commitment to quality and render TQM practices ineffective. For example the necessary resources required to carry out quality improvement were not readily available.

Also majority of the staff were satisfied with working with IIL, however the company was losing tenders and some customers due to poor customer relationships and uncompetitive pricing. It was also revealed that some challenges were encountered in the implementation of TQM notable amongst them were ; lack of modern equipment, lack of diversification of key portfolio in order to spread the overhead cost, high cost of production, lack of trust amongst staff to improve team work. In all the study established the fact that if TQM practices are employed effectively in IIL, it could improve upon organizational performance.

### **5.3 RECOMMENDATIONS**

In the light of the findings and conclusions, the following recommendations are hereby proposed: Efforts must be made to implement those TQM practices which are not being effectively practiced at IIL so as to help improve on organizational performance. There is the need to employ quality functional deployment. This will enable quality systems to be built on customer needs and wants and also exceed customer expectations. When this is done it will help in addressing the issues of poor customer relations as well as prevent losses of customers as a result of not meeting customers' expectations in terms of price. It is recommended that the company subscribe to a quality award system. For instance it should subscribe to ISO

certification which can help them to put in place all the measures as well as practice TQM to the highest level. This will go a long way to boost customer confidence all over the world in the products of the company.

Another recommendation is that quality improvement efforts in IIL should be appreciated. There should be systems for recognition and appreciation of quality efforts in order to motivate the staff to work effectively.

There is the need for the company to purchase modern equipments which would make the manufacturing process more efficient and also help reduce the cost of production.

Another recommendation is that since production cost is high which contributes to high pricing of IIL's products there is the need for the company to diversify its key portfolio in order to spread the overhead cost to reduce the unit cost of products.

Last but not the least there is the need for IIL to build trust amongst the staff so as to improve team work. Team work will enhance productivity and also improve upon employee involvement which is a key TQM practice employed to improve upon organizational performance.



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## APPENDIX 1

### QUESTIONNAIRE FOR THE STAFF OF INTRAVENOUS INFUSIONS LIMITED.

#### To the Respondent

This questionnaire is designed to help the researcher to conduct a survey as part of research in assessing the impact of Total Quality Management practices on organizational performance at Intravenous Infusions limited. Your assistance is kindly being sought to participate in this exercise by completing this questionnaire as frankly as possible.

Please be assured that information provided in this questionnaire is purely for academic purpose and therefore would be treated with utmost **CONFIDENTIALITY**.

Thank you.

#### INSTRUCTIONS FOR COMPLETION OF THE FORM

**Please read each question and tick the statement or choose the number that clearly reflects your view, you can also express your views where necessary.**

#### SECTION A: PERSONAL DETAILS

1. Sex/ Gender: ☐ M ☐ F
2. Age : 18 - 30years ☐ 31 - 40 years ☐ 41 - 50 years ☐ 51 - 60 ☐  
years
3. Educational Background: Non Formal ☐ Elementary/J.S.S/MSLC ☐  
Vocational ☐  
Secondary/Technical ☐ Training College ☐ Polytechnic/University ☐  
Professional

Other Tertiary (pleas specify).....

4. Department.....
5. Category/ level.....
6. How long have you worked with Intravenous Infusions Limited?  
1- 5years ☐ 6 - 11years ☐ 12 - 17years ☐ 18 - 23 years ☐  
24years and above ☐



## SECTION B- TQM PRACTICES IN IIL:

1. In your own words what does Total Quality management means to you?

.....  
.....

2. List some TQM practices in your department.....

.....

3. Kindly tick the area which reflects your view from strongly agree to strongly disagree. **THESE TQM PRACTICES ARE ALREADY EMPLOYED IN IIL, DO YOU AGREE OR NOT?**

|  | Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree |
|--|----------------|-------|---------|----------|-------------------|
| I Leadership Commitment  |                |       |         |          |                   |
| II. Policy Development   |                |       |         |          |                   |
| III Empowerment/Employee involvement in quality decisions      |                |       |         |          |                   |
| IV Effective communication                                     |                |       |         |          |                   |
| V. Team work   |                |       |         |          |                   |
| VI. System for recognition and appreciation of quality efforts |                |       |         |          |                   |
| VII Training & Education/development                           |                |       |         |          |                   |
|  |                |       |         |          |                   |
| VIII. Managing by process                                      |                |       |         |          |                   |
| IX. Self-assessment  |                |       |         |          |                   |
| X. Quality Control tools                                       |                |       |         |          |                   |
|  |                |       |         |          |                   |
| XI. Cost of quality process                                    |                |       |         |          |                   |
| XIII. .Documented quality management system                    |                |       |         |          |                   |
|  |                |       |         |          |                   |
| XIV. Supplier management                                       |                |       |         |          |                   |
| XV Customer management   |                |       |         |          |                   |



### SECTION C: EFFECTIVENESS OF TQM PRACTICES

1. Is customer satisfaction everybody's business in your organization?

Yes ☐ No ☐

2. Which Dept. is responsible for product quality in the organisation?

1. Nobody ☐ 2. Quality Control Dept. ☐ 3. Quality Assurance ☐ 4. TQM Dept. ☐

3. Which of the following TQM practices are effectively being used in the organization?

I. Quality Circles ☐ II. Bench marking ☐ III. Quality functional deployment ☐

IV. Employee development process management ☐ V. Self-assessment ☐

VI. Policy Deployment ☐ VII. Supplier partnership ☐ VIII. Design of experiments ☐

4. Has the organisation subscribed to any quality award system? Yes ☐ No ☐

5. If yes specify.....

6. If no why?.....

7. Have you had any training on the job you are doing? Yes ☐ No ☐

8. Has the training impacted on the work positively? Yes ☐ No ☐

9. If no why?.....

10. All the resources you need to carry out any improvement on the job are readily available.

Strongly Agree    Agree    Neutral    Disagree    Strongly Disagree

1                      2                      3                      4                      5

## **SECTION D : EFFECT OF TOM ON ORGANIZATIONAL PERFORMANCE**

1. Do you undertake reworks? Yes ☐ No ☐
2. How many reworks do you do in a year?.....
3. What are your loss rate per annum?.....
4. There is a relationship between the concept of quality management and the success of the company.
- | Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree |
|----------------|-------|---------|----------|-------------------|
| 1              | 2     | 3       | 4        | 5                 |
5. Your relation with your employer can be described as satisfactory.
- | Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree |
|----------------|-------|---------|----------|-------------------|
| 1              | 2     | 3       | 4        | 5                 |
6. Do you agree that IIL is losing some customers
- | Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree |
|----------------|-------|---------|----------|-------------------|
| 1              | 2     | 3       | 4        | 5                 |
7. What do you think is the reason.....  
.....
- 7b. Do you think ineffective TQM is one of the reasons?. Yes ☐ No ☐
8. How many years have you practiced quality assurance in this organization
- |              |                          |
|--------------|--------------------------|
| 0 – 5        | <input type="checkbox"/> |
| 6 – 10       | <input type="checkbox"/> |
| 11 – 15      | <input type="checkbox"/> |
| 16 and above | <input type="checkbox"/> |

9. Has the practice improved upon organizational performance in terms of customer satisfaction?

Yes

☐

No

☐

10. Has it improved your organizational performance in terms of more sales?

Yes

☐

No

☐

11. Which of these Quality functions will help improve upon organizational performance?

Quality Control

☐

Quality Assurance

☐

TQM

☐

All of the above

☐

**(FOR SENIOR STAFF ONLY)**

**SECTION: SENIOR STAFF VIEW ON ORGANIZATIONAL PERFORMANCE**

1. Do you receive customer complaints?. Yes ☐ No ☐

2. If yes how many did you receive in last two years.....

3. Have some customers stop buying from your organization? Yes ☐ No ☐

4. If yes, why?.....

5. Have you lost some major tenders? Yes ☐ No ☐

6. If yes, why? .....

7. The volumes of sales have increased in the last two years compared to the previous years, do you agree?

Strongly Agree

Agree

Neutral

Disagree

Strongly Disagree

1

2

3

4

5

8. In your view what do you think management could do to improve upon organizational performance?

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

