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College of Graduate Studies



Total Quality Management & Excellence Center

QMS implementation & in food industry area (catering)

(Sudan airways company)

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بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ
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خَلَقَ الْمَوَدَّعَةَ
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وَالْحَمْدُ لِلَّهِ الَّذِي
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الإهداء

الإستهلال

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فصلت: ۳۳

إلي من قال فيهما الحق عز وجل

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إلي من قال فيهم أحسن الخالقين

رَبَّنَا هَبْ لَنَا مِنْ أَزْوَاجِنَا وَذُرِّيَّاتِنَا قُرَّةَ أَعْيُنٍ

الشكر والتقدير

الحمد لله أحسن الخالقين ، الذي أتقن كل شيء خلقه وبدأ خلق الإنسان من طين ، له الثناء والثناء ، والمجد والبهاء ، والعزة والكبرياء ، نحمده جزيل حمده عدد خلقه ورضا نفسه وزنة عرشه ومداد كلماته ، أن سخر لنا أياد بيضاء كان لها عظيم الأثر في إخراج هذه الرسالة على

هذا النحو مضمونا ومكونا . ونصلي ونسلم على معلم البشرية وواضع أسس التقان ومعالم
لجودة ، سيدالمحسنين حبيبنا وقرّة اعيننا محمد بن عبدالله النبي الخاتم صلى الله عليه وسلم
الذي يقول : من يشكر الناس يشكر الله.. وانطلاقا من هذا المأثور الطيب من جوامع الكلم
النبي فإنه يطيب لي أن اتقدم بخالص الشكر

وجزيل العرفان لكل من أعانني على اكمال هذا البحث سواء بالتوجيه أو التشجيع أو الدعاء .
وأخص بالشكر مركز الجوده الشاماه والامتياز الذي اتاح لي فرصة الترقى فى البحث العلمى
وأخص بذلك أساتذتي الأجلاء ومشرقتى التي أشرفت على هذا البحث حتى يرى النور فلهم من
الله خير الجزاء .

كما اتقدم بالشكر والامتنان لوالدتي التي كان لها القدر المعلى لكي اتبوا من الدرجات العلمية ما
تقر به أعيننا فلها يرد الفضل بعد الله رب العالمين . وأود أن أسجل شكري الخاص لشريك حياتي
الذى صبر وصابر ورسم لي بالأمل والثقة معالم الطريق ووقف بجانبى حتى لّ تلين عزيمة وقد
كان . وشكري ممتد بامتداد الود لفلزت أكبادي وأنا أحاول جاهدا أن أحدد لهم معالم في طريق
العلم

أسوة حسنة تدفعهم للمضي قدما للامام . كما اتقدم بالشكر عرفانا وتجلةً لأساتذتي المحكمين
على ما ابدهوه من ملاحظات ونصائح كما لا يفوتني ان أشكر أساتذتي الذين ناقشوا هذا البحث
فجزاهم من الله خير الجزاء

Abstract:

The aim of this research – focusing on Sudan Airways (catering department) as a case study - is to shed light on the quality management system in Sudanese food industry by investigating Sudan Airways problem and its dimensions which reflected in poor management , scarcity of resources, low productivity to analyze the

causes of low level of Quality Management after studying its organizational structure , administrative activities and measuring passenger satisfaction and employees performance which will help to determine the causes of the deterioration of services, low productivity and company's losses to identify the impact of the application of quality management system on the development of passenger services in Sudan Airways as an

Attempt to answer the main question of the study: What is the impact of the application of quality management on the development of Sudanese Airlines Companies?

Field study was concluded by a questionnaire to interview catering employees using the analytical descriptive method and applying the program of Statistical Package for Social Sciences (SPSS) through a variety of statistical techniques such as mean, percentages, .., while the hypotheses verified by chi-square and linear regression.

The study revealed many results, most notably that If we increase passenger satisfaction by 0.527, we will increase the opportunity for selecting Sudanair by one unit .The study also found that If we raise workers efficiency by 0.494, we will promote passengers service by one unit . The neutral viewpoint of passengers about the in-flight services and meals quality and the suitability of meals to Sudanese taste was resulted in a weighted mean above the middle for the axis of selecting

The study also revealed that weak implementation of quality management system in Sudan Airways catering department significantly impairs its ability to retain old customers and attract new ones.

; . The study also revealed the impact of the negative company image in the mind of customers which makes them negatively hesitant to choose Sudanair , where their decision was adversely influenced by the opinions of others who are defaming Sudanair in all occasions due to a previous bad experience . The main recommendations are:

- The company should be aware that the quality of services and passenger satisfaction are as important as the flight safety, if not higher in impact.

The company should also define its mission, strategic objectives

sudan airways catering department have to apply the system to be an international airline company that by increase the customer and business and profits and decrease the waste and non conformity products and presses.

Sudan airways must work hardly to a wear and train the employees inside and outside sudan.

المستخلص:

يهدف هذا البحث بالتركيز على حالة الخطوط الجوية السودانية قسم تموين الطائرات و تسليط الضوء علي تطبيق نظام اداره الجوده فى مصانع الاغذية عبر دراسة مشكلة سودانير وأبعادها المتمثلة في ضعف إدارتها وندرة مواردها وتدني انتاجيتها وتحليل أسباب تدهور الجودة وفيما بعد دراسة وقياس رضا المسافرين وأداء العاملين والتي ستساعد في تحديد أسباب تدهور الخدمات

وتدني الإنتاجية وخسائر الشركة لمعرفة أثر تطبيق الجودة في تطوير خدمات المسافرين في شركة الخطوط الجوية السودانية.

وقد تمت الدراسة الميدانية باستخدام الاستبيان والاطلاع على آراء الموظفين والمدراء بقسم التموين واستخدام المنهج التحليلي الوصفي عن طريق تطبيق برنامج الحزم الإحصائية للعلوم الاجتماعية عبر مجموعة من الأساليب الإحصائية كالمتوسط الحسابي والنسب المئوية وتم التأكد من صدق الدراسة بحساب وتم التحقق من فرضيات الدراسة باستخدام مربع كاي وتحليل التباين الأحادي والأحادي الخطي. وقد توصلت الدراسة إلى عدة نتائج ، أهمها أن زيادة رضا المسافرين بمقدار 527 يزيد فرصة اختيار العملاء لسودانير بمقدار وحدة واحدة ، كذلك توصلت إلى أن زيادة كفاءة العاملين بمقدار 494.. يطور خدمات المسافرين بمقدار وحدة واحدة. كما أظهرت النتائج أن اختيار الركاب لسودانير يتأثر سلبا بعدم تقديم وجبات ذات جودة عالية ومطابقه للمواصفات العالمية . وقد أدى وقوف الخدمات الجوية والوجبات ومدى ملاءمتها للذوق السوداني إلى حصول محور اختيار سودانير بصورة مباشرة

دللت الدراسة كذلك على وجود ضعف في تطبيق سودانير لنظام الجودة الشيء الذي يضعف كثيرا من قدرتها على الاحتفاظ بزبائنهم القدامى فضلا عن اجتذابها لزبائن جدد الدراسة وجود صورة ذهنية سالبة عن الشركة لدى العملاء تجعلهم في موقف سلبي متردد من اختيار الشركة مما يجعل موقفهم يتأثر سلبا بآراء الآخرين الذين سبق لهم خوض تجربة سلبية مع سودانير وباتوا يشتهرون بها في كل المحافل.

أما أهم التوصيات فكانت:

-ينبغي أن تعي الشركة بأن جودة الخدمات وارضاء الركاب لا يقل أهميتها عن السلامة الجوية ويجب أن تحدد الشركة رسالتها وأهدافها الاستراتيجية
يجب على الشركة الاهتمام ببرامج التدريب والتأهيل والتحفيز للعاملين
كما يجب على حكومه السودان مد يد العون لسودانير الناقل الوطني

وايضا اداره سودانير يجب ان تعى الدور المهم لنظام الجوده كما يجب المساعدة فى حل مشاكل
الشركه الماليه والاداريه ويجب ايضا اخذ اراء وشكاوى العملاء بعين الاعتبار

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Chapter One

Basics of Research and Pervious Studies

Chapter One

1. Introduction:

1.1 History of Sudan Airways:

Sudan Airways (الخطوط الجوية السودانية) is the national airline of Sudan, headquartered in Khartoum. As of October 2012, the company is fully owned by the government of Sudan.

The carrier, one of the oldest African ones, was formed in February 1946 and started scheduled operations in July the following year. It is a member of the International Air Transport Association, of the Arab Air Carriers Organization since 1965, and of the African Airlines Association since 1968, becoming a founding member along with another ten companies. As of December 2011, Sudan Airways had 1,700 employees. The airline has been included in the list of airlines banned in the EU since March 2010.

The company had 2,362 employees at April 2000, with an aircraft park that included one Airbus A300-600, one Airbus A300-600, three Boeing 707-320Cs, one, one Boeing 737-200C and one. By this time, the airline provided scheduled services to Abu Dhabi, Addis Ababa, Al Ain, Amman, Bangui, Cairo, Damascus, Doha, Dongola, Dubai, El Fasher, El Obeid, Eldebbba, Geneina, Istanbul, Jeddah, Juba, Kano, London, Malakal, Port Sudan. In 2007, the Sudanese government privatised the airline, maintaining only a 30% stake of the national carrier. The Kuwaiti private group that owned 49% of the shares since then sold its stake back to the state in 2011.

Research methodology:

Basics: quality management system in hospitality industry in sudan
airways implemenation of standard (iso 9001 - 2008)

Topic ideas: from pervious studies and thier methodologies, and we can
face acomon pitfalls during implementation and request the certificate
and Getting started and putting it all together to make the
Questions/discussion.

Research hypotheses:

The hypothesis is a clear statement of what is intended to be investigated.
It should be specified before research is conducted and openly stated in
reporting the results.

if we apply QMS in sudan airways catering department , In order to get
all the standar need, the customer must be satisfied . and we can increase
the income and **Lowers the west and scrap** by make all employee aware
about the benifets of the quality system

This statement satisfies both criteria for experimental hypotheses. It is a

- Prediction:It predicts the anticipated outcome of the experiment
- Testable: Once you have collected and evaluated your data you knowwhether or not

ISO 9001 Quality Management Systems (QMS)

For the food industry

Food safety is a worldwide concern with the devastating impacts food-
borne illness can have on lives, businesses and economies. Each year,
countless numbers fall ill and food companies pay out huge compensation
sums as well as suffering immeasurable reputation damage.

If you are in the catering or food manufacturing industry then a quality management system that includes a formal, structured HACCP system is the most effective way of managing and controlling food preparation and handling.

A quality management system, meeting requirements of ISO 9001 Food, supports caterers and food manufacturers in their implementation of effective control processes and assures clients and customers of robust food safety management.

1.2 Problem Statement:

Quality Management Systems mainly focus on a combination of processes used by an organization in food processing and production to ensure that the degree of excellence specified is achieved. Many researchers have also established that there have been no systematic and effective implementation of management systems in the hospitality industry anywhere in the world and it is widely recognized that there are barriers to the implementation of HACCP and ASC. However, little information is readily available to hospitality operators in Sudan making them unaware of the requirements and benefits of Quality Management Systems. This study therefore aimed at finding out the extent of adoption and awareness of two quality management systems in the hospitality and catering industry in Sudan.

And in the other hand there are a poor system in Sudan Airways that result why Sudan Airways lost their customer and their share market and staff are not aware about the importance of ISO that due to mismanagement.

1.3 Research Questions:

- i. the extent of adoption of HACCP and quality management systems in the hospitality industry in Sudan?
- ii. is there any quality management system preferred in the hospitality industry in Sudan?
- iii. are there three levels of knowledge and information available on quality management systems to the hospitality industry operators in Sudan?
- iv. what are the impacts of quality management systems on the operations of the hospitality industry in Sudan?
- v. are there barriers that hinder the adoption of quality management systems in the hospitality industry in Sudan?

1.4 Objectives:

- adopt and maintain the quality system in Sudan Airways
- increase the awareness of staff
- Customer satisfaction
- make Sudan Airways a regional and international company

1.5 Previous studies:

1- Implementation of a quality management system in food

Production (**Swedish University of Agricultural Sciences**)

They talk about: BRC Global Standard for Food Safety

The British Retail Consortium is an association of retail companies in Great Britain that have developed a standard for food producers, producing food for the British Retail Consortium private label products (Bergström & Hellqvist, 2004). The standard is named BRC Global Standard for Food Safety and the first edition was issued in 1998, the most recent edition, the

sixth, was published in 2011. The purpose of the BRC standard is to assist retail companies to fulfill demands from the constitution and to guarantee and provide the consumers with safe food. The set-up of the standard is a check list designed for food producing companies and should be used to develop and evaluate its operation.

And other certification methods

There are a lot of standards regulating similar processes in the food industry; BRC Global Standard for Food Safety, ISO 22000, IFS and FSSC 22000 are some of them. The standards have principally the same vision and purposes but different ways to accomplish them.

in sudan airways there is another quality certificate called (IOSA)

2- Extent of Adoption of Quality Management Systems in the Hospitality and Catering Industry: A Study of Selected Establishments in Nairobi.

in nairobi they use the system for catering and that is : Establishing an Assured Safe Catering System Most catering operations follow a similar pattern of selection of foods and ingredients, delivery, storage,

Preparation, cooking and service. There may be other steps of chilled or hot holding, reheating, intermediate transport etc but essentially, most catering operations are very similar. Where possible and where it is helpful,

records should be kept as these help managers check that food safety measures are adequate and working. Records also provide useful information if there is a query from an health officer or customer. The type of equipment

Available to monitor some critical control points may automatically give records, for example thermo graphic charts on refrigerators. Where

manual checks are taken at a critical control point and the manager decides that it is

Necessary to keep records, consideration needs to be given to the type of recording sheets needed. These should be kept as simple as possible, and training must be given to staff to ensure that records are completed correctly.

Department of Health, (1993).

And Their Methodology is:

The study was carried out in Nairobi Kenya, The research design was a survey design, The target population comprised of managers from selected star rated hotels, hospitals and other catering establishments. The hotels and

other establishments were selected through stratified random sampling. This was followed by purposive sampling for the managers which enabled the selection of respondents who were in a position to give the required responses. Primary data was collected through the use of questionnaires consisting of both open-ended and closed-ended questions while secondary data was sourced from relevant published and unpublished literature. Interviews were conducted in most cases to gather additional information. Data was analysed using the statistical package for social-scientists (SPSS) and Microsoft excel.

in sudan airways we just talk about sudanair catering and we have not another system.

Chapter Two

**Quality Management Systems, a
Literature Review**

Chapter Two

Quality management systems, a literature review

2.1. Quality Management Systems:

Quality management systems (QMS) means the combination of processes used to ensure that the degree of excellence specified is achieved. A Quality Management System can be expressed as the organizational structure, procedures, processes, and resources needed to implement quality management. The adoption of quality management systems should be a strategic decision of an organization. The design and implementation of an organization's QMS is influenced by varying needs, particular objectives, the products provided, the processes employed and the size and structure of the organization.

A certification is required by most important European retailers of suppliers included in their supply chain . If a supplier is not certified it is a competitive disadvantage. If a business is certified it proves commitment to producing safe food. In case of an incident related to food safety, legal defense in. The

Certification also enables the supplier to create and control a management system capable of helping the business to better meet the food quality and safety requirements as well as the legal compliance, especially regarding the legislations applied in the countries where the finished product is consumed. A certified supplier can continuously develop its safety performance by improving key features in the process. It also helps reducing product waste,

Product recall and product reprocessing.

2.2 Importance of quality management Systems

It has been advocated that food production and preparation should be managed using a risk-based approach, and a range of reviews have

attempted to quantify the relative importance of different factors in terms of their association with foodborne disease outbreaks. Worldwide epidemiological research identified major risk factors contributing to food-borne disease outbreaks. Typically these factors include inadequate heat treatment, inappropriate storage of foods, infected food handlers and cross contamination. Data on these contributory factors are of great importance for assessing risks as they offer a starting point for training interventions used for the identification of critical control points within HACCP.

2.2.1 Preparation:

When preparing for certification there is a number of things to keep in mind. Companies that plan well and have enough time for implementing the Certification will get an advantage and will be better prepared. To be committed, have a positive approach and to set clear target dates for the implementation and assessment is important to get a good start working as a certified company.

A few important steps when introducing a standard are to establish a quality management system, to identify the legal requirements, to identify and document the food safety hazards specific for the production as well as the relevant control measures, such as HACCP. It is also important to identify the relevant Good Manufacturing Practices (GMP) and Good

Hygiene Practices (GHP) that should include a pest control program, an equipment and building maintenance program, housekeeping and cleaning program as well as all the specific standard requirements. The structural improvements also need to be implemented. More information regarding HACCP, GMP and GHP will be presented further on in this chapter.

2.2.3 Traceability:

To ensure quality system and to enable corrective actions when risks occur in the production, it is mandatory for food distributing companies to implement a traceability system for their products , Traceability is defined in

2.3. the quality system in food industry is Hazard Analysis and Critical Control Points (HACCP)

HACCP is a process which critically examines each stage of the process that may appear vulnerable in terms of producing a hazard into food, and then particular attention is given at that point. The HACCP system was introduced

As a method of improving food safety management in the hospitality industry. HACCP is a risk-based system that is the international standard for food manufacturing businesses, but it is complex, paper-based and requires

Technical expertise and a large amount of resources to implement. As a result, it has not met with a great level of success in the hospitality industry and the majority of chefs believe that it is too complicated.

HACCP process critically examines the food production flow until the food is consumed. Once potential hazards in the food's journey are identified, attention is given to eliminate or minimize the hazard, HACCP must not be seen as a complicated program intended only for large operators. To some

Extent, every food has its critical point which makes food production so vulnerable. Those involved in food production must be aware of these stages where hazards occur and make every effort to eradicate or minimize

Them by paying extra attention to hygiene at the crucial stages in the production cycle.

2.3.1. Using Haccp

HACP forms a common approach in the identification of hazards, critical control points and limits hence, successful application requires full commitment and involvement of the management and workforce. It requires

multidisciplinary approach with experts in different fields and application should be reviewed and necessary changes made when any modification is made in the product, process or any step. To introduce HACCP there is need to identify a flow diagram showing the path of the food throughout its

manufacture, product details so that any special characteristics that could cause a problem are noted and where in each stage there is a likelihood of a hazard occurring, the risk should then be assessed as high, medium or low and before monitoring and control processes can be implemented.

The adoption and implementation of HACCP involves 7 Principles

2.3.2 Good manufacturing practices (GMP) and good hygiene practice (GHP)

A management system of processes and products is necessary for every food producer (Mårdén, Good manufacturing practices (GMP) can be described as good housekeeping in the food production. GMP ensures production of safe food products with consistent quality. Other benefits of the system are

Reduced waste and enhanced profits. GMP involves routines for management of production premises, raw material, hygiene and equipment and should be well documented and included in the company culture Well-functioning GMP's are necessary when working according

to systems such as HACCP or standards like ISO 22000. HACCP is a system that goes deeper and further than GMP into the analysis of potential hazards and how to handle them.

While GMP primarily refers to the technical aspects of the production process, the focus of GHP (good hygiene practice) is on the hygiene aspects in food production

The terms GMP and GHP are often used simultaneously because in food processing it is hard to consider hygiene without considering the technical context. Both GMP and GHP are prerequisite programs needed to be implemented prior to introducing a HACCP plan. Using only GHP is not enough for production of high-risk food such as food of animal origin but in Production of low-risk foods, such as cereals and grains, GHP alone is enough In conclusion, GMP and GHP provide general and basic principles for producing food in ahygienic way.

2.3.3 ISO 22000:2005

ISO, the International Organization for Standardization, is an organization editing several standards regarding processes and systems for many different businesses ,163 national standards bodies were members of the ISO organization in late 2010 and ISO's portfolio then held over 18500 standards regarding economic, environmental and social sustainable development. ISO 22000:2005 is a quality management system addressing food safety issues in food production and can be applied to all types of organization in the food

Chain, ISO 22000:2005, Food safety management systems:

”...aims to ensure that there are no weak links in the food supply chain.”

2.4 Audits:

An audit is an in-depth inspection of the food producer and their facilities where they are inspected against the requirements of the quality management system regulations or a standard , The purpose of an audit is to verify that the food producer have developed, documented and implemented a food safety management system. The audit can be planned or unplanned, but it is always performed in accordance with a written procedure and well documented. There are three kinds of quality management system audits; first, second

And third party audits, a first party audit is carried out by the company itself, as an internal audit where the staff verifies their own system. During a second party audit, a government agency is responsible. The third party audit is performed by an independent organization that is not involved in the company in any way. The person performing the audit is called auditor and the main responsibility for the auditor is to verify the effectiveness of the quality system program in use. It is important that the auditor have access to appropriate records such as the HACCP system with documentation of critical control points, critical limits and corrective actions. It is also important that the frequency of the audit is related to the size and

Nature as well as the risk, which the products may possess to public health.

2.5 Difficulties

A lot of the information regarding standards and certificates come from the certification organizations themselves or from accreditation firms. Therefore the information is often onesided positive, but there are some negative aspects regarding certificates too. One of them is the phenomenon of 'soft grading', which means that when a company is

required to implement a standard due to a requirement from a customer they might choose the most convenient way to earn the certificate This undermines the credibility of the standard and paves the way for less serious certification organs.

2.6 Possibilities:

Quality management system increases the security and safety for employees and management of the company applying it. The reason for this is that responsibilities and authorities are more visible and that documentation of

Procedures have been developed. This leads to employees and management getting an increased consciousness of the demands on the products, production and activity of the company. Another advantage of certifying your food production is that business-to-business relations are improved. An implementation of a standard is a way to keep existing customers

in cases where a certificate is a request from the customer. It is also a way for the company to establish new contacts on other markets. The credibility of the company is improved by a certificate as well as the communication with their stakeholders.

Chapter Three

Methods and Material

Chapter Three

Methods and material:

How the empirical material was collected is described in this chapter. The thesis was performed as a qualitative case study based on interviews with people from the companies included in the study.

3.1 Research method:

The purpose of the project was to evaluate the implementation of the QMs standard into a number of food producing plants in Sudan Airways. A qualitative method was used in the study due to its qualitative focus on processes and events (from handling to the aircraft) in the implementation process.

3.1.1 Qualitative method:

A qualitative method is characterized by a close proximity to the object of interest to be able to understand the situation or phenomena of interest. It is of major importance to be able to get involved in the situation where it occurs. Interviews have been made and in order to convey a prime insight into the situation in this thesis, quotes from the respondents are important. There is always a risk that the researcher will misunderstand the situation but including some quotes provides the respondents' own perception directly to the reader.

3.2 Case study:

Case studies are commonly used when the purpose of a project is to get a deeper understanding of a phenomenon and to study it in its real context. In a case study a phenomenon is analyzed in its natural environment, the boundaries between the phenomenon and its context are not given in advance.

Case studies are considered to be especially applicable when it comes to evaluations like this study. To be able to understand the whole content of

a system it is of major importance to look at it from different angles and to understand the origin of it, It is also important to understand different aspects of the system as well as how it developed into completion.

3.3 Collection of empirical data:

Qualitative case studies are often based on information retrieved from observations, interviews and analyses of documents from the business as well as literature .

3.3.1 Observations:

Observing real situations might be a complicated procedure due to the situation influencing the observer when performing observations there is a major risk of introducing biased results just by being present, which is something that needs to be taken into account? When performing a qualitative interview it is best to do so in an everyday situation and with an informal dialogue and performance the aim is to let the respondents influence the progress of the situation during the interview or observation as much as possible.

3.3.2 Interviews:

Interviews are an efficient method when collecting empirical data in a qualitative study and interviews is the best way of finding out what the respondent thinks or knows about the studied phenomena. Structure is Important to a certain extent when performing an interview, but it is also very important to get comprehensive answers, therefore a semi structured interview was conducted in this study. A script with questions or statements was used to be free to improvise during the interview and to adapt the questions to the respondent.

3.3.3 Analysis of documents:

Documents are information collected through other methods than interviews or observations. This could be information documented in

books, articles or minutes from board meetings. To evaluate existing documents is a convenient way of collecting data. There is a risk that public records hold defects which the researcher is not aware of. It is therefore important to maintain a critical attitude when evaluating documents; the material might be angled or incomplete to search for information from many different sources is of major importance.

3.3.4 Questionnaire:

There are some questions about the company and the processes that answer by yes or no, questionnaire must related to iso 9001 and Mention iso clause.

3.4 Complaints:

Any written, electronic, or oral communication that alleges deficiencies or expression of dissatisfaction related to processes, products, or services. This includes alleged deficiencies or expression of dissatisfaction related to the auditing organizations and manufacturers Complaints are also objections, errors, or nonconformities involving work quality, or failures to provide service or other requests of the customer including timeliness.

3.4 Material:

The information in this study has been collected from different food producers in Sudanair catering; People at different positions in all companies have been interviewed. Groundwork was made by analyzing documents and procedures of food handling according to iso 9001 those data have

Also been used to complement the information retrieved from the interviews. All respondents were informed of the purpose of the study and they were given the possibility to read through the material before it was published.

3.4.1 Sudanair catering production:

Food and beverage for all passenger through sudanair flights at all time like break fast , lunch ,dinner , supper ,sandawiches ,coctail . Continental and all special meels for special pople includ hot or cold meels and all beverage ithet soft drinks.

Chapter Four

**Implementation of Qms and Analysis
of Result**

Chapter Four

Implementation of QMS

4.1 Quality Management Implementation steps:

Step 1: Commitment from Top Management

The top management of an organisation should be determined and committed to implement a **quality management system**. No quality initiative within an organisation can succeed without commitment from top management. Top management can demonstrate to their clients that the organisation is committed to quality through the certification and registration of the **ISO 9000** standard. Top management should thus come to the realization that overall business efficiency would be improved by means of a **quality management system**.

Step 2: Establishing an Implementation Team

People are responsible for the implementation of **ISO 9000**. An implementation team, headed by a Service Provider and a Management Representative (MR), is to be established. The Service Provider and MR is the coordinator and is responsible for planning and overseeing the implementation of the quality management system. He is thus the link between top management and the **ISO 9000** registrar. All departments within the organisation should be represented on the implementation team.

Step 3: Conducting ISO 9000 Awareness Programs

Conducting **ISO 9000** awareness programs will inform all employees about the aim of a **quality management system**. These include the advantages offered to customers and employees, their respective responsibilities and roles within the system, and how the **quality management system** operates. The benefits that an organisation hopes to

realize through a **quality management system** implementation should be emphasized through **ISO 9000** awareness programs.

Step 4: Providing Training

All personnel and all areas in an organisation are affected by a **quality management system**. Training regarding the **quality management system** should thus be provided for all employees. The **quality management system** implementation plan should make provision for this training. All basic concepts of **quality management systems** and its impact on the organisation should be covered.

Step 5: Conducting an Initial Status Survey

A **quality management system** conforming to the **ISO 9000** standard should be created. However, this does not preclude incorporating, adapting, or adding onto quality programs that already exists. Thus, this step basically involves comparing an organization's existing **quality management system** (if there is one) with the requirements of ISO 9001:2008.

Step 6: Creating a Documented Implementation Plan

Once an organization's **quality management system** has been compared with the ISO 9001:2008 standard, a documented implementation plan is used to address any non-conformances. The documented implementation plan identifies and describes processes in order to make the organization's current **quality management system** in full compliance with the ISO 9000 standard.

Step 7: Developing a Quality Management System Documentation

Documentation is an area where non-conformance regarding **quality management systems** are very common. In order to avoid these non-

conformities, documentation of a **quality management system** should include the following:

- Documented statements of a quality policy and quality objectives;
- A quality manual;
- Documented procedures and records required by the standard of ISO 9001:2008; and
- Documents needed to ensure effective planning, operation and control of its processes.

Step 8: Control of Documents

In order to control **quality management system** documentation, a documented system should be created. The creation, approval, distribution, revision, storage, and disposal of various types of documentation are thus managed. Document control systems should be as easy and simple to operate as possible. However, it should still be sufficient enough to meet the requirements of ISO 9001:2008.

Step 9: Implementation

In large organizations, it is best to implement the **quality management system** being documented as the documentation is developed. This is in stark contrast to smaller organizations, where the **quality management system** is implemented throughout the organisation all at once. During phased implementation, however, an evaluation can take place regarding the effectiveness of the system in different areas.

Step 10: Internal Quality Audit

The effectiveness of the installed system should be checked regularly by means of an internal quality audit. Below are some reasons for conducting an internal quality audit into a **quality management system**:

1- To ensure that the **quality management system** conforms to the **quality management system** requirements established by your organization, as well as to the requirements of the ISO 9001:2008 standard; and

2-To ensure that the **quality management system** is implemented and maintained in an effective manner

Step 11: Reviewing by Management

A management review should be conducted three to six months after **quality management system** implementation took place. The reasons for conducting management reviews are to ensure continuous effectiveness, adequacy, and suitability of the **quality management system**.

Step 12: Pre-assessment Audit

Before applying for certification, a pre-assessment audit usually takes place. Certification bodies provide a qualified but independent auditor to conduct this service. Some degree of confidence is gained before application for certification if the pre-assessment audit goes well

Step 13: Certification and Registration

A formal application for certification is made at a certification body as soon as the **quality management system** has been operating for a few months and has stabilized. An audit of the documents (known as an adequacy audit) is first carried out, and if it conforms to the requirements of the quality standard, it is followed by an on-site audit. A certificate is only awarded to the organisation if the certification body is satisfied with the workings of the system. However, the certificate is valid for a period of three years only, after which the certification body will carry out periodic surveillance audits.

Step 14: Continual Improvement

Although an organisation gained certification it is important to note that it has to try and improve the suitability and effectiveness of QMS on a continuous basis.

4.2 Establishing the Process Documentation

Process Documentation produces a set of documents which describe how a process is performed. According to ISO 9001:2008, there are four classifications of documents in the QMS, they are;

1- Manual is the main document at the highest level, which defines the quality policy and organization objectives. This document describes how a company controls its activities to ensure quality products and services produced.

2- Procedure is a document that describes a process flow and its supporting elements. The purpose is to explain clearly how an activity is carried out.

3- Supporting documents are another type which contains specific additional information of a procedure. Various forms of this document include work instruction, table, reference, drawing, or forms/worksheet.

4- Records are documents generated from conducting a process. Example; Blank form of Purchase Order, after being filled-in, signed, and executed, will become a record of Purchase Order.

4.3 Preparing a Process Documentation:

A famous saying related to documentation says, "Write what you (should) do, do what you write". Yet, how do we write all that we should do? How detailed is detail? How do we ensure we have addressed all the important aspects?

Remember one of the principles of Quality, "Do it right from the beginning" , we shall begin by composing a good Manual document. We may use the ISO 9001 standard or other models as a basis to develop the outline, Manual should be able to describe the processes that exist in the organization and the relationships between processes with a brief but thorough manner.

There are many sources that can be referred when determining the outline of the Manual. However, a Manual should at least contain:

- i- Who we are (vision, mission, and organization structure)
- ii- What we do (our processes and activity)
- iii- How we deliver quality product/services by meeting the requirement
- iv- What we want to accomplish (quality policy, objectives, strategic goals)
- v- How we make continuous improvement and accomplish the goals

Once we define that, we will be able to determine the business processes at the enterprise level, along with the relationships between processes, related personnel, as well as the critical factors. Business processes are usually written in the form of diagrams.

4.3.1 what is a quality management system?

Policies, Processes Procedures Required for planning and executing business processes to meet customer requirements Accredited to International Standards by a Registrar

4.3.2 Financial Benefits of qms

- i- improved profitability,
- ii - improved revenues,
- iii- improved budgetary performance,
- Iv-reduced costs,

- v- Improved cash flow,
- Vi-improved return on investment,

4.4 Controlling quality costs

Monitoring quality costs is essential when implementing a quality management system as this gives relevant information about the balance between efforts and investments in quality to reduce non quality and what remaining non quality still costs. However it is difficult to identify all the relevant elements that should be included: some non-quality costs are hidden and some benefits of quality may be unmeasurable (e.g. improvement in the organisation and the responsibilities). In spite of these difficulties, quality indicators are necessary because they provide a concrete tool to measure how the QMS is improving th organisations' efficiency and effectiveness.

4.5 Thes Benefits of Q M S

In "Good reasons for implementing a QMS" (CERCO SWGA, 1999), a number of direct benefits

of a QMS are stated:

- improved customer satisfaction;
- improved quality of products and services;
- workers satisfaction and more commitment to the organisation;
- better management and a more effective organisation;
- improve relations with suppliers;
- improved promotion of corporate image.

4.6 The Risk of Emplementation Qms

i-short-term increase in production costs during training and implementation of the QMS;

ii-dissatisfaction of staff because of new methodology e.g. resistance to change and

Perceived risk of 'exposure';

iii-another set of rules and papers without actual results e.g. documents that reflect

What management think is happening, not what is happening;

iv-no improvement of the quality level in the final product additional bureaucratic

Effort with no gain.

The risks of implementing and maintaining a QMS are now well known.

Although they cannot

Necessarily be eliminated they can be managed, and their impact reduced.

Analysis and Result:

4-7 Customer's satisfaction

Customer's satisfaction requires contacts between the organisation and its customers. These include personal, product, support system and general contacts. Each contact creates experiences that modify the customer's expectations. Customer's satisfaction is based on experiences and, therefore, we shall talk about satisfaction of persons. Customer's satisfaction is a function of perceived performance and expectations.

Types of customer: 1- internal customer

2- External customer

4-7.1 How to define customer's satisfaction?

Satisfaction is a person's feeling of pleasure or disappointment

Resulting from comparing the perceived performance of a product in Relation to their expectations. If performance matches the expectations, the customer is satisfied. If performance exceeds Expectations, the customer is highly satisfied or delighted. If Performance falls short of expectations, the customer is dissatisfied.

4.7.2 What is the customer's satisfaction measurement?

Consider it as a process:

Customer's satisfaction measurement should not be an isolated add-on activity but a fixed part of management. Customer's satisfaction measurement itself is a process, which continually evolves and feeds new customer input into the organization. Customer's satisfaction contributes to the life cycle of the product. The next release of the ISO 9001 standard focuses on customer's satisfaction in a very dynamic way, based on the process concept.

4.7.3 kind of tools do we have for measuring customer's satisfaction?

Customer's satisfaction surveys can be performed by using quite simple questionnaires, In addition to surveys, other tools of measuring customer's satisfaction are:

- Exception, complaint and suggestion handling systems;
- ghost shopping;
- lost customers' analysis.

How to manage customer's satisfaction? (Internal customer)

ex.:

Set up a back-office for the service desk:

The service desk staff give answers, accept remarks, handles complaints. However they need access to other staff in the organisation when their own knowledge is insufficient. This back office can cover a large part or even the whole of the organisation.

Install a software tool to support the work of the service desk:

Just having a constantly manned telephone, fax or e-mail is not enough for managing the satisfaction of the customer. A range of proprietary software tools are available to keep track of what has been done with remarks, if questions have been answered and what the answers were, to whom the question is forwarded, etc....

4.8 Analyzed of Questionnaire:

in this research this Questionnaire reviewed by 10 employees in Sudanair catering departments and their answers analyzed by using Statistical methods and quality assurance tools that to see the perfect result of applying the Q.M.S .

This questionnaire is designed to help

Whether your Quality Management System (QMS) is Ready for implement.

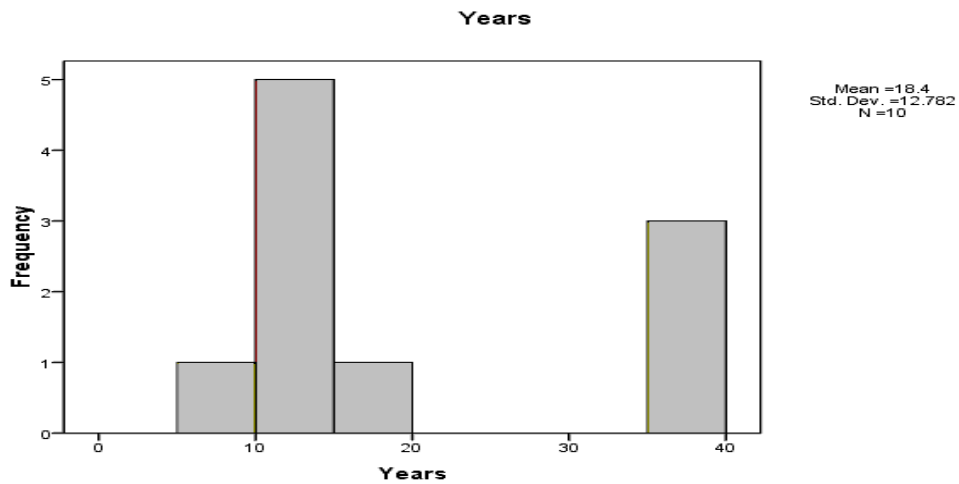
4.8. 1 Result:

Years of experience

Years			
	ObservedN	ExpectedN	Residual
7	1	1.4	-.4-
10	4	1.4	2.6
12	1	1.4	-.4-
15	1	1.4	-.4-
35	1	1.4	-.4-
37	1	1.4	-.4-
38	1	1.4	-.4-
Total	10		

Source:

Statistician researcher



From Defference Experince Of People The Agree To Emplement System

Source:

Statistician researcher

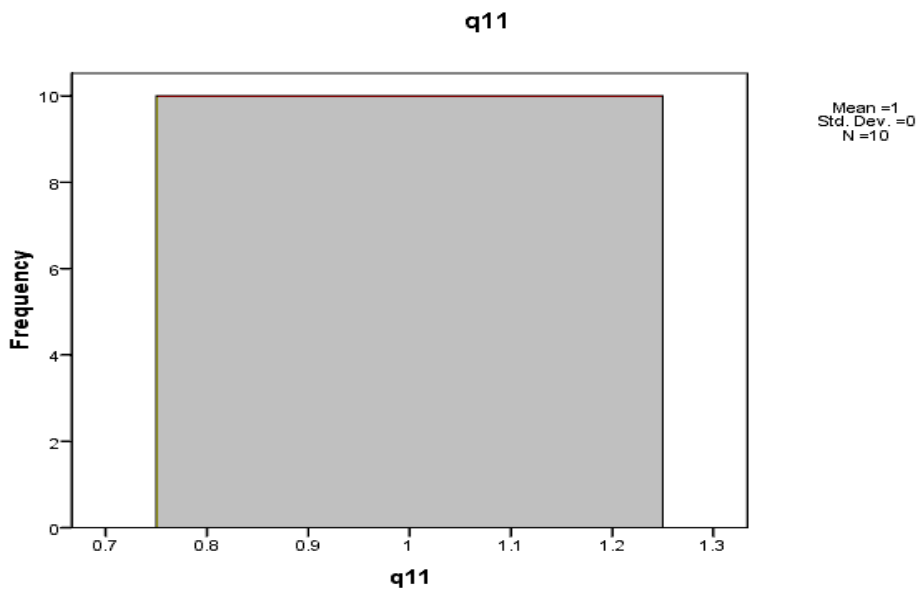
Q1: Genral Requirements (Iso 9001)

q11			
	ObservedN	ExpectedN	Residual
yes	10	10.0	.0
Total	10 ^a		

Source:

Statistician researcher

Q1: Genral Requirements (Iso 9001)



comment: all employee say yes to management cometment

This histogram explain the system processes linked together witch customer requirements

Source:

Statistician researcher

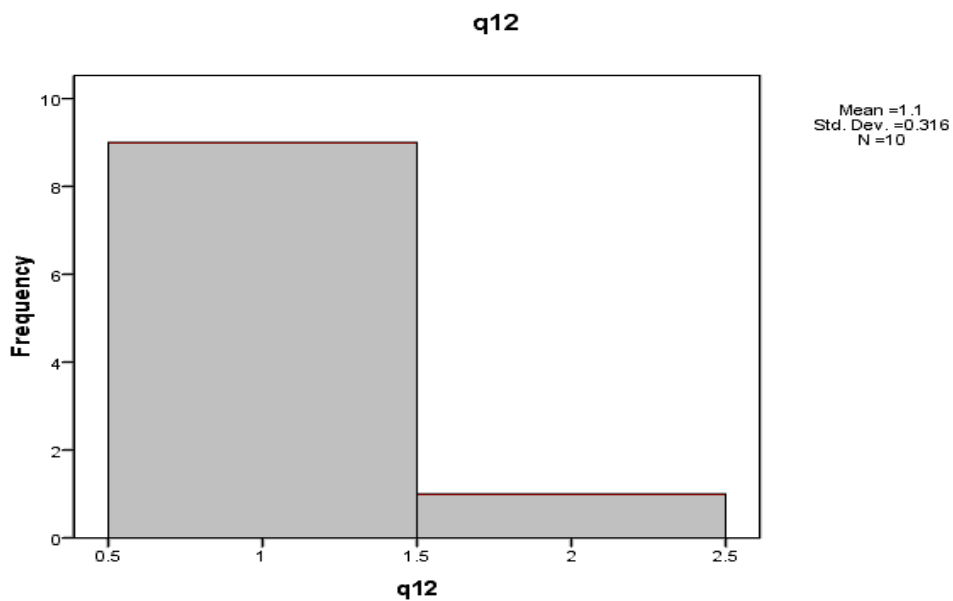
Q2 General Requirement

Q12			
	ObservedN	ExpectedN	Residual
yes	9	5.0	4.0
no	1	5.0	-4.0-
Total	10		

Source:

Statistician researcher

Q2 General Requirement



60% from employee say yes to measurement

This histogram explain the system include measurement

Source:

Statistician researcher

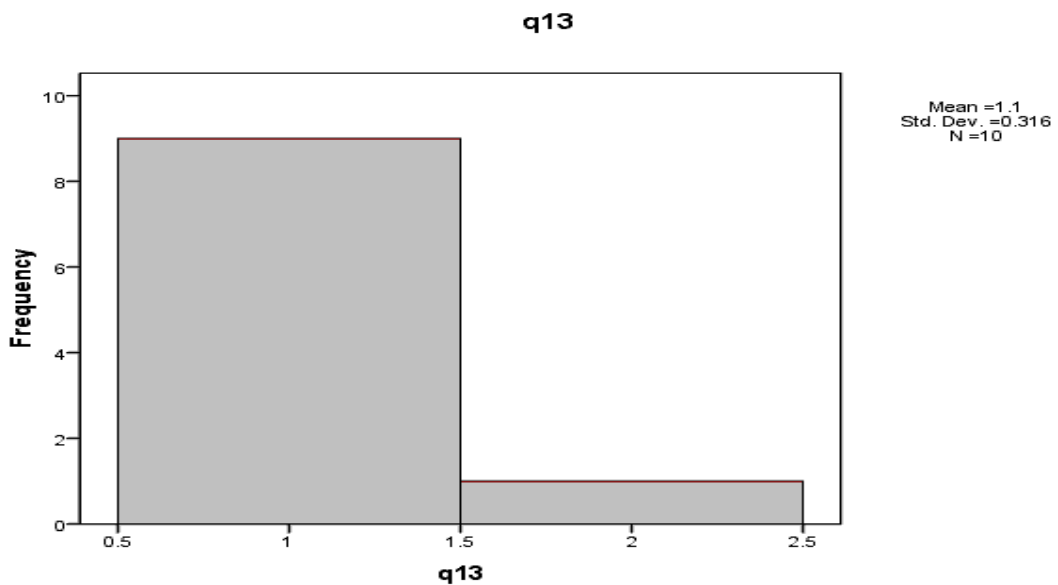
Q3: General Requirement

q13			
	ObservedN	ExpectedN	Residual
yes	9	5.0	4.0
no	1	5.0	-4.0-
Total	10		

Source:

Statistician researcher

Q3: General Requirement



This histogram to show the record of measurement
60% of emplyee request control of record

Source:

Statistician researcher

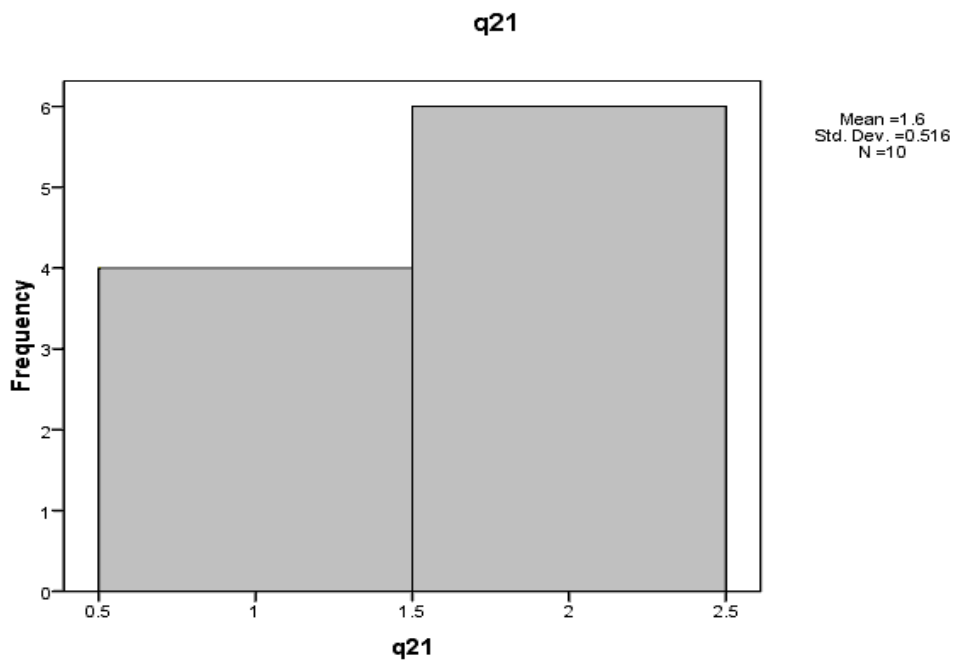
Q4 documentation requirement

q21			
	ObservedN	ExpectedN	Residual
yes	4	5.0	-1.0-
no	6	5.0	1.0
Total	10		

Source:

Statistician researcher

Q4 documentation requirement



This histogram show the quality manual include scope of quality system

50% of warker have no idea about quality manual

Source:

Statistician researcher

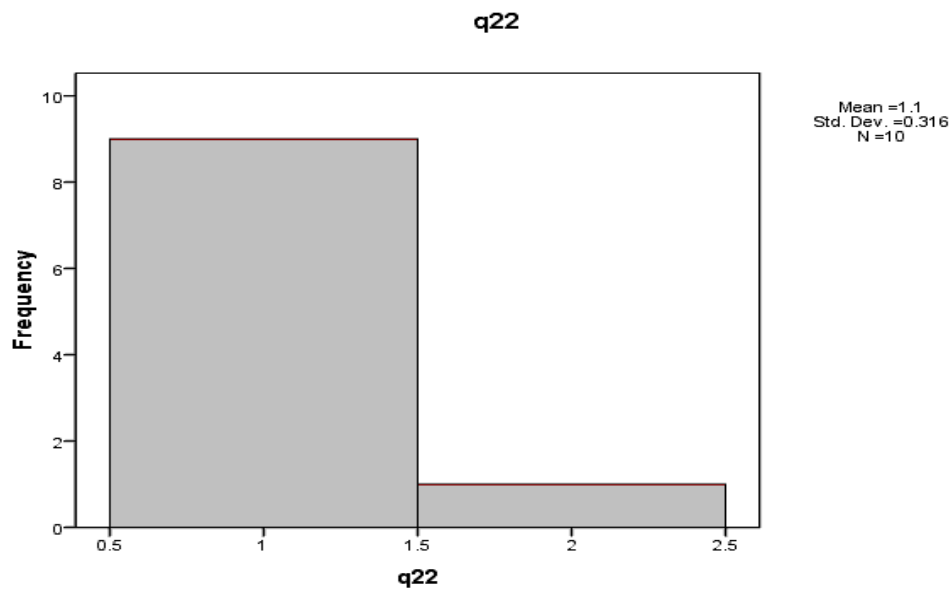
Q5 documentation requirement

q22			
	ObservedN	ExpectedN	Residual
yes	9	5.0	4.0
no	1	5.0	-4.0-
Total	10		

Source:

Statistician researcher

Q5 documentation requirement



This histogram to show the procedure for control of document
80% of warker have procedure of document

Source:

Statistician researcher

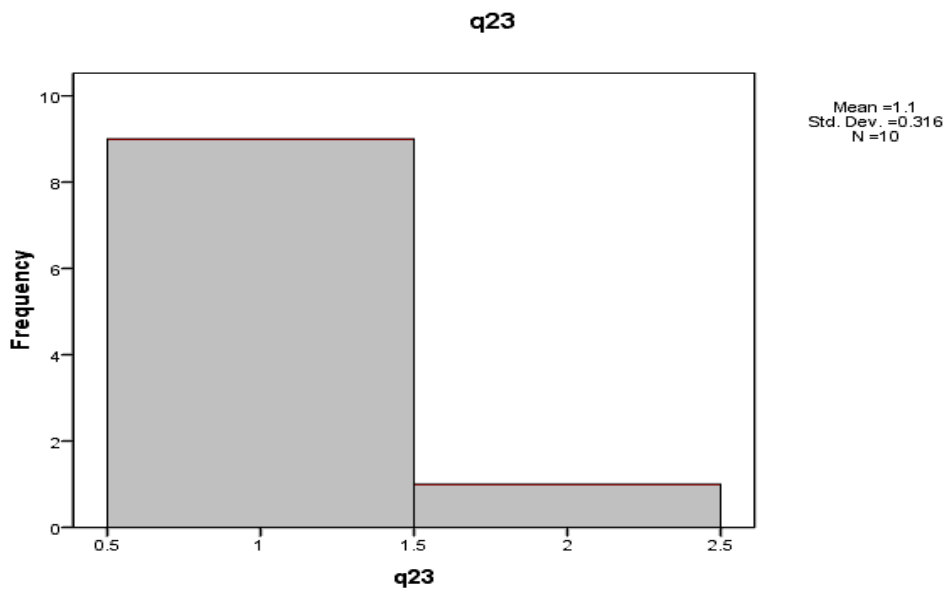
Q6: documentation requirement

q23			
	ObservedN	ExpectedN	Residual
yes	9	5.0	4.0
no	1	5.0	-4.0-
Total	10		

Source:

Statistician researcher

Q6: documentation requirement



This histogram to show the procedure for control of record
90% from have a procedure for record

Source:

Statistician researcher

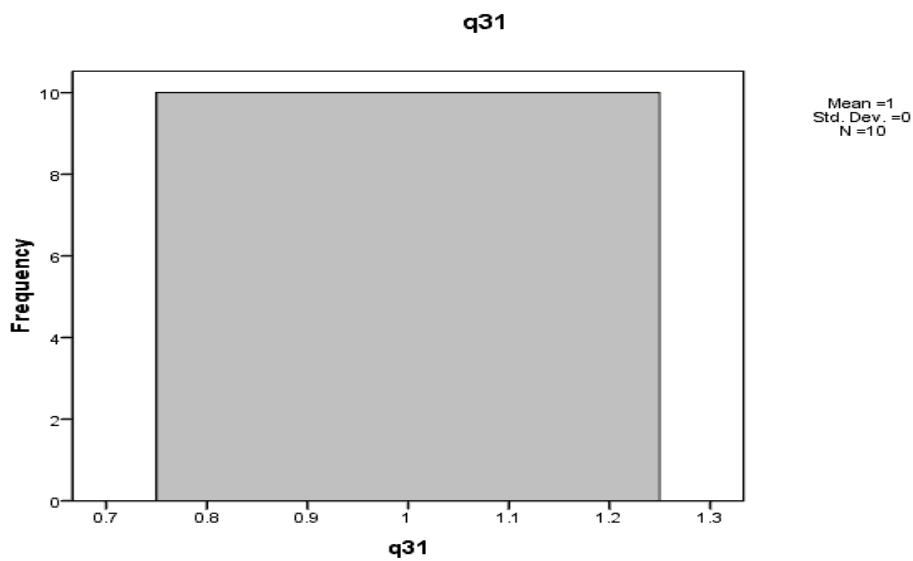
Q7: management responsibility

q31			
	ObservedN	ExpectedN	Residual
yes	10	10.0	.0
Total	10 ^a		

Source:

Statistician researcher

Q7: management responsibility



This histogram explain the quality policy of sudan airways witch defined by top management 100%employee aware about policy

Source:

Statistician researcher

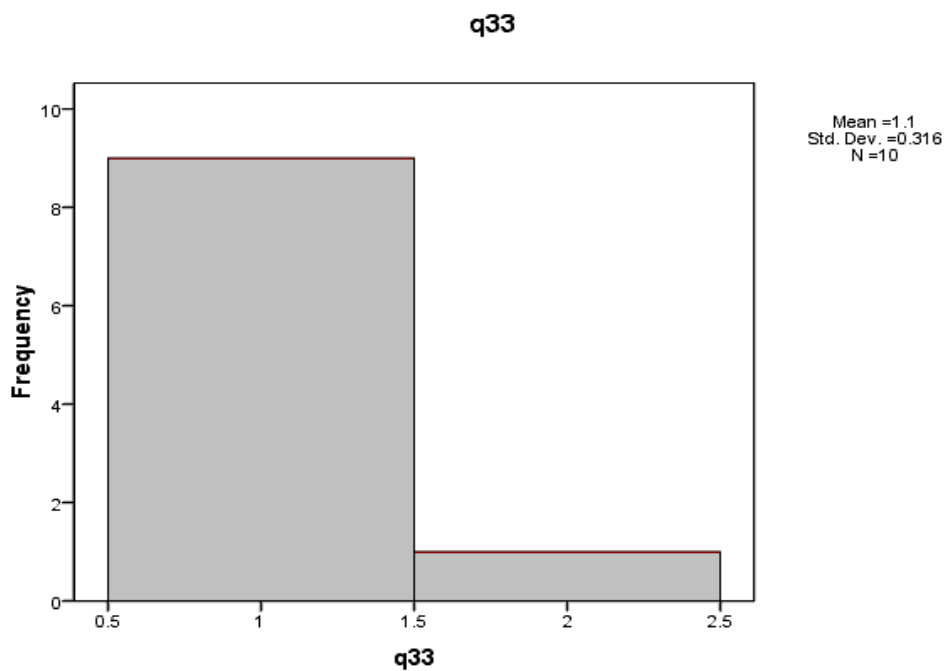
Q9 management responsibility

Q33			
	ObservedN	ExpectedN	Residual
yes	9	5.0	4.0
no	1	5.0	-4.0-
Total	10		

Source:

Statistician researcher

Q9 management responsibility



This histogram show the definition of objective by top management
90% from employ awer about objective

Source:

Statistician researcher

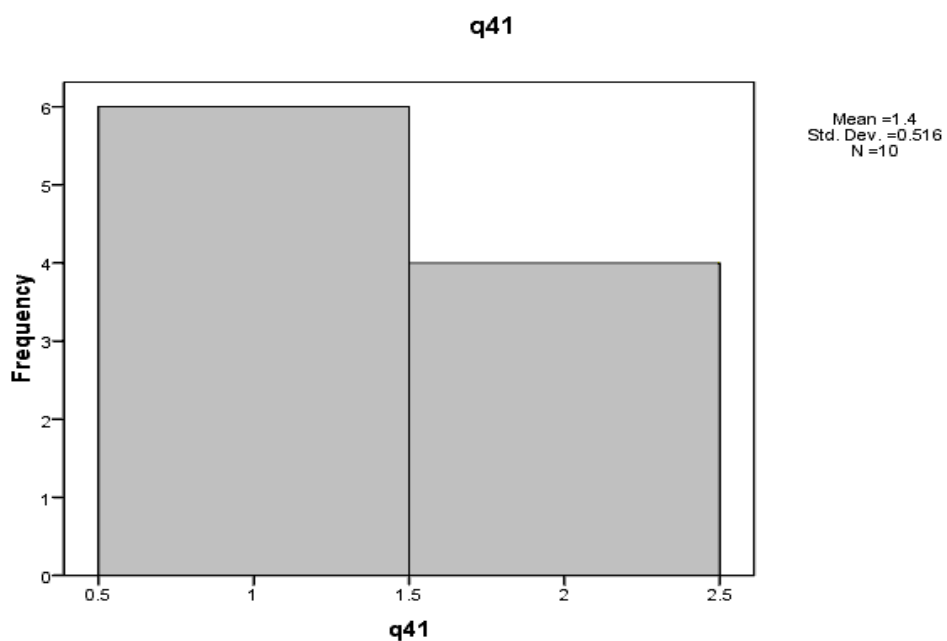
Q11 management responsibility

q41			
	ObservedN	ExpectedN	Residual
yes	6	5.0	1.0
no	4	5.0	-1.0-
Total	10		

Source:

Statistician researcher

Q11 management responsibility



70% explain the suitability of effectiveness

Source:

Statistician researcher

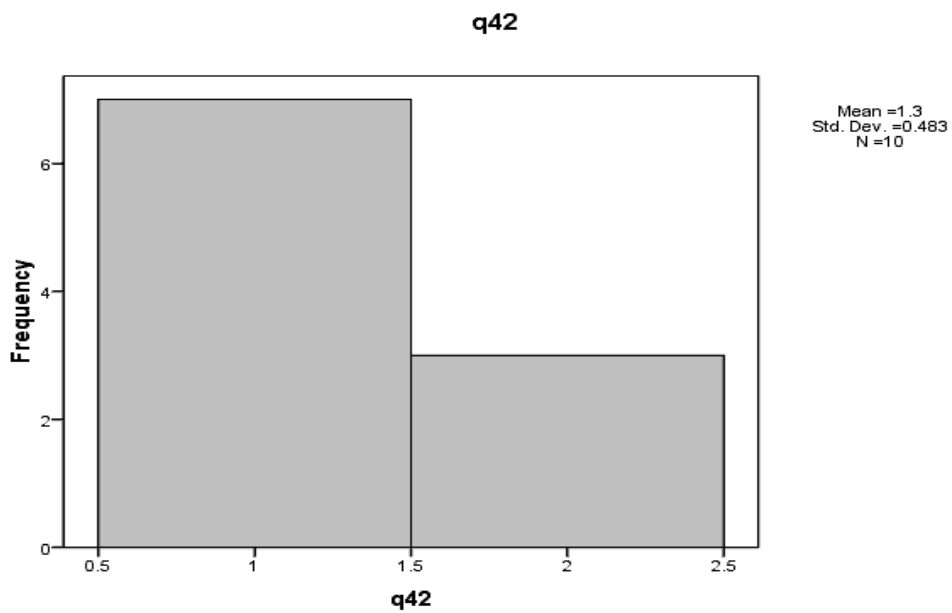
Q 12 management responsibility

Q42			
	ObservedN	ExpectedN	Residual
yes	7	5.0	2.0
no	3	5.0	-2.0-
Total	10		

Source:

Statistician researcher

Q 12 management responsibility



80% of warker show decision action relating to improvement

Source:

Statistician researcher

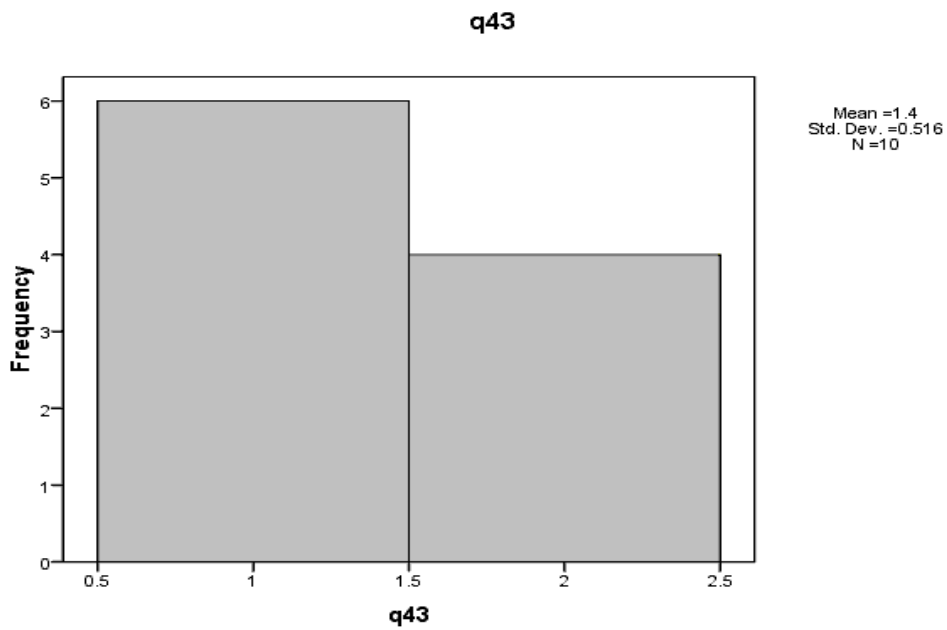
Q 13 management responsibility

q43			
	ObservedN	ExpectedN	Residual
yes	6	5.0	1.0
no	4	5.0	-1.0-
Total	10		

Source:

Statistician researcher

Q 13 management responsibility



This histogram show full cycle of management review

Source:

Statistician researcher

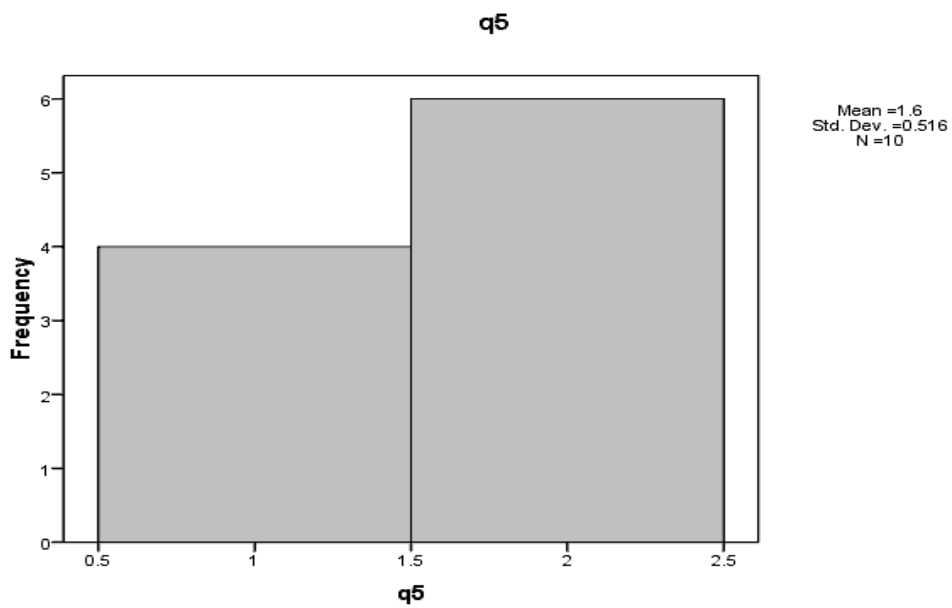
Q 14 resources

Q5			
	ObservedN	ExpectedN	Residual
yes	4	5.0	-1.0
no	6	5.0	1.0
Total	10		

Source:

Statistician researcher

Q 14 resources



This histogram show there is only 40% personal performing and the appropriate training and education and experience

Source:

Statistician researcher

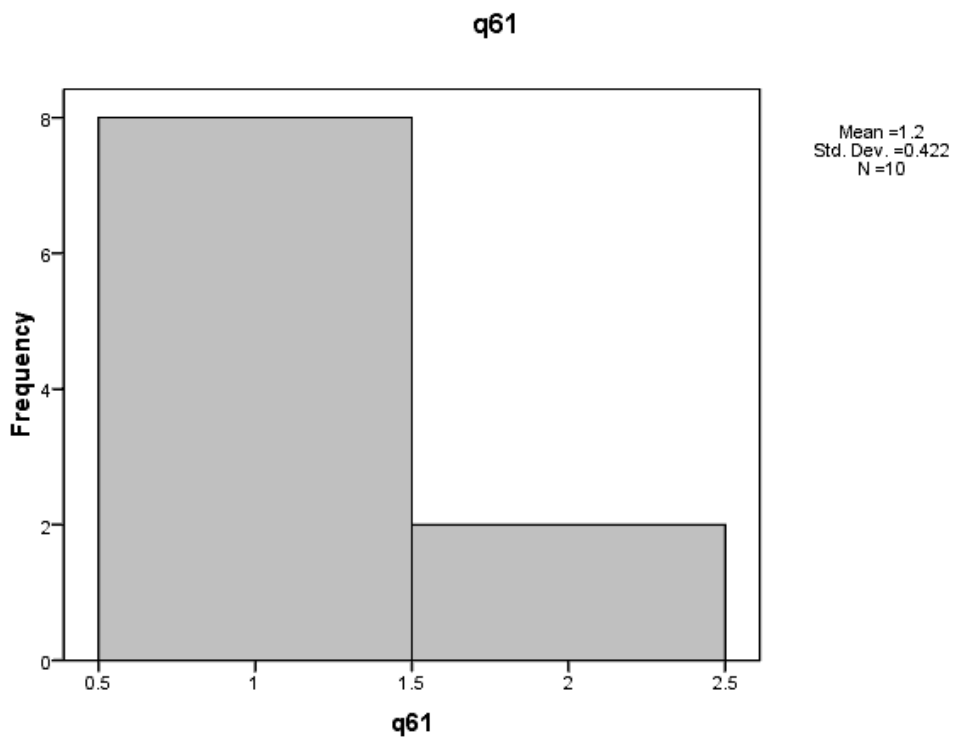
Q15 product realization

Q61			
	ObservedN	ExpectedN	Residual
yes	8	5.0	3.0
no	2	5.0	-3.0-
Total	10		

Source:

Statistician researcher

Q15 product realization



This histogram show the product requirement include customer requirement

Source:

Statistician researcher

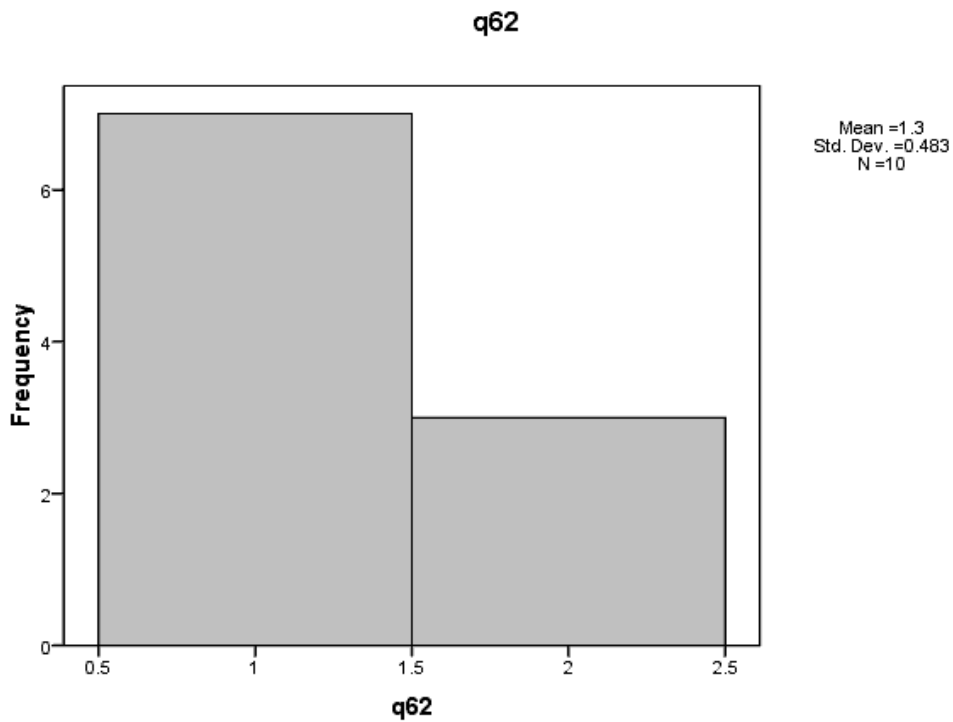
Q16 product realization

q62			
	ObservedN	ExpectedN	Residual
yes	7	5.0	2.0
no	3	5.0	-2.0-
Total	10		

Source:

Statistician researcher

Q16 product realization



This histogram show the differences between tender and order

Source:

Statistician researcher

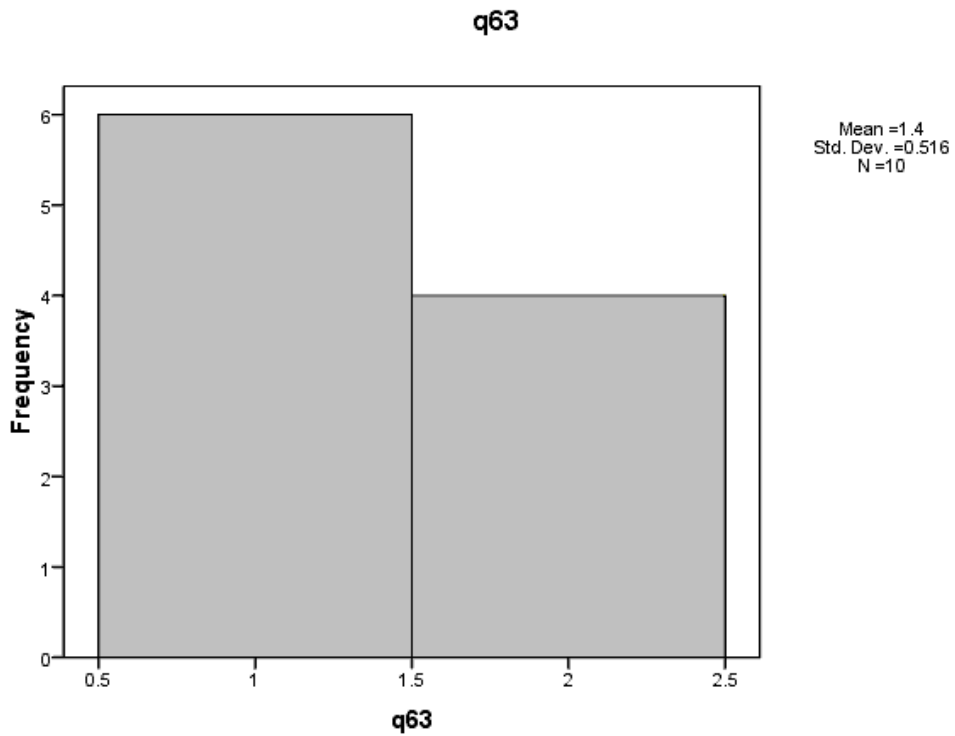
Q17 product realization

Q63			
	ObservedN	ExpectedN	Residual
yes	6	5.0	1.0
no	4	5.0	-1.0-
Total	10		

Source:

Statistician researcher

Q17 product realization



This histogram explain verification and validation activities

Source:

Statistician researcher

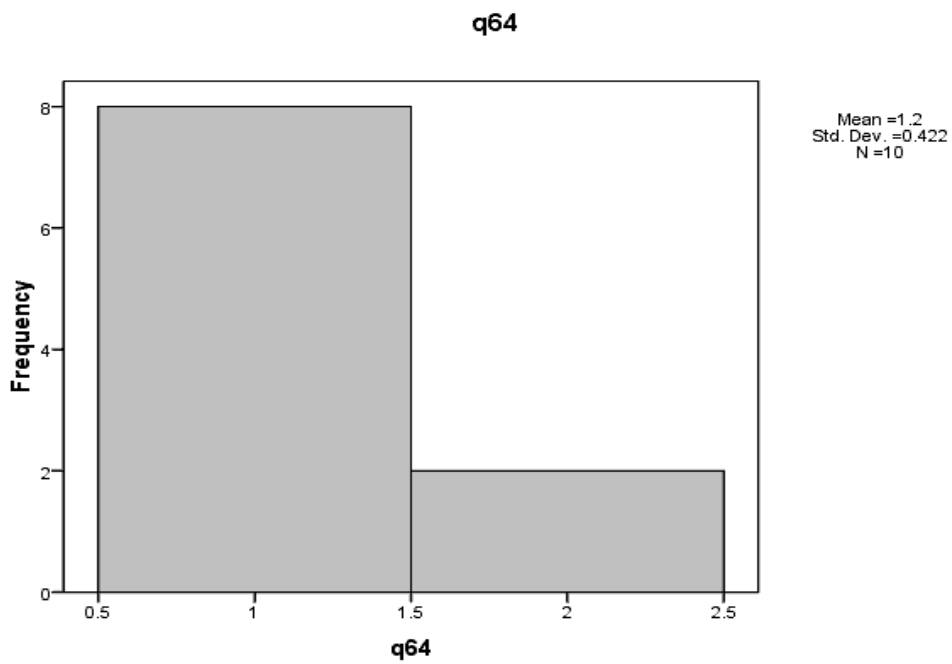
Q 18 product realization

Q64			
	ObservedN	ExpectedN	Residual
yes	8	5.0	3.0
no	2	5.0	-3.0-
Total	10		

Source:

Statistician researcher

Q 18 product realization



This histogram show supplier evaluationi is 85% in wark

Source:

Statistician researcher

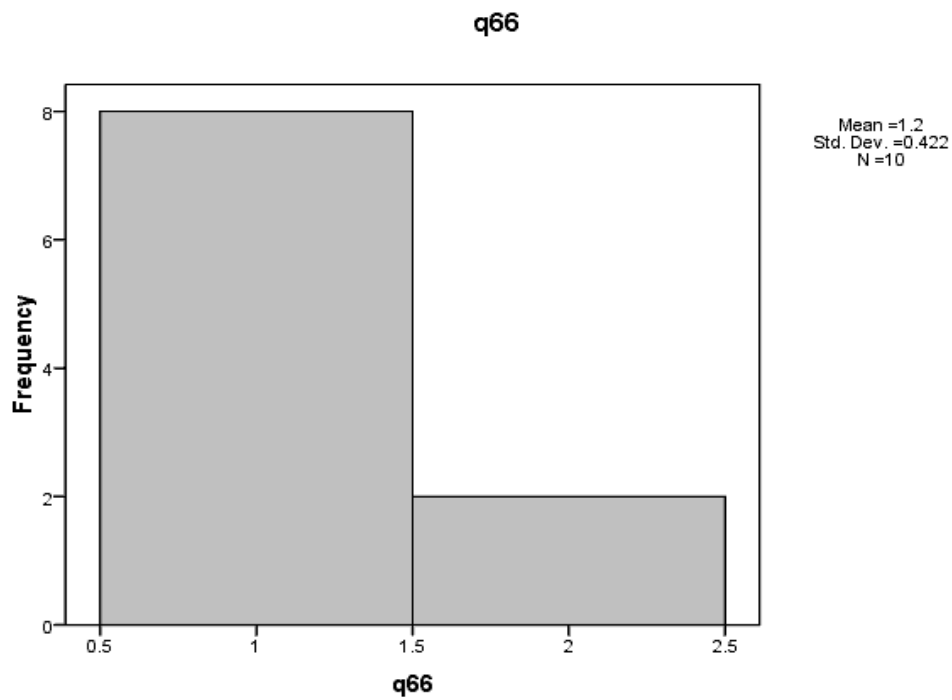
Q 20 product realization

Q65			
	ObservedN	ExpectedN	Residual
yes	5	5.0	.0
no	5	5.0	.0
Total	10		

Source:

Statistician researcher

Q 20 product realization



This histogram explain the is 80% from food have inspection methodes

Source:

Statistician researcher

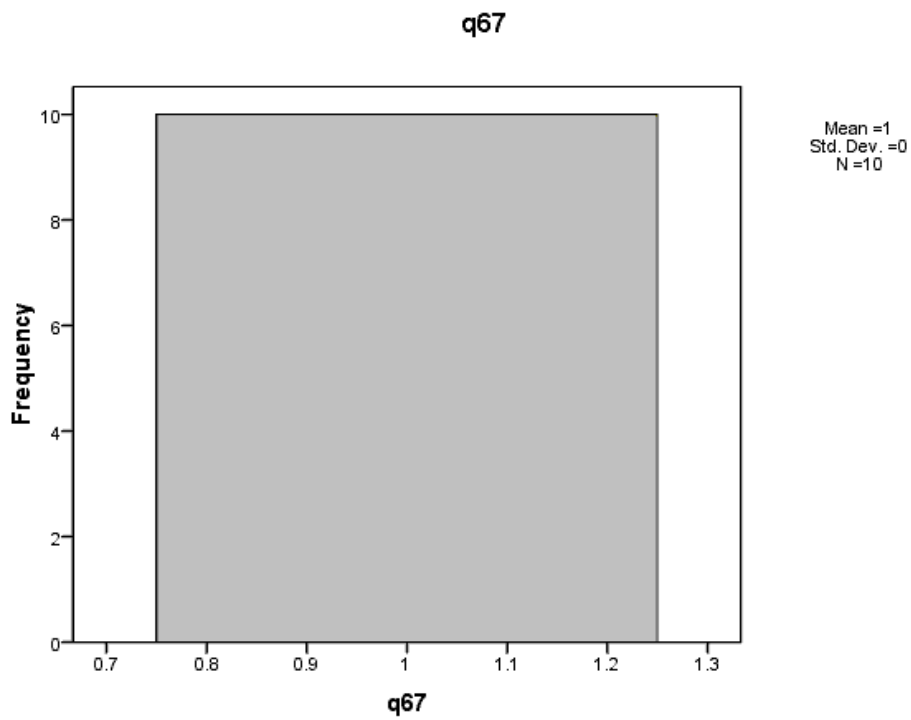
Q 21 product realization

q67			
	ObservedN	ExpectedN	Residual
yes	10	10.0	.0
Total	10 ^a		

Source:

Statistician researcher

Q 21 product realization



This histogram show 100%of product inspected and test

Source:

Statistician researcher

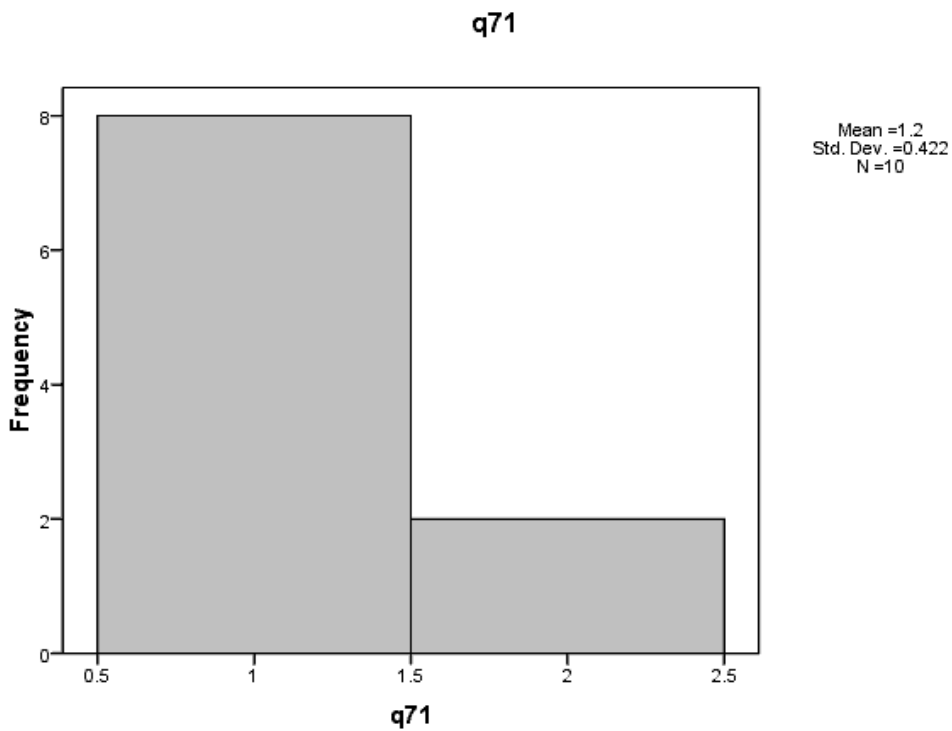
Q 22 product realization

Q71			
	ObservedN	ExpectedN	Residual
yes	8	5.0	3.0
no	2	5.0	-3.0-
Total	10		

Source:

Statistician researcher

Q 22 product realization



This histogram show the handling of customer property by 80%

Source:

Statistician researcher

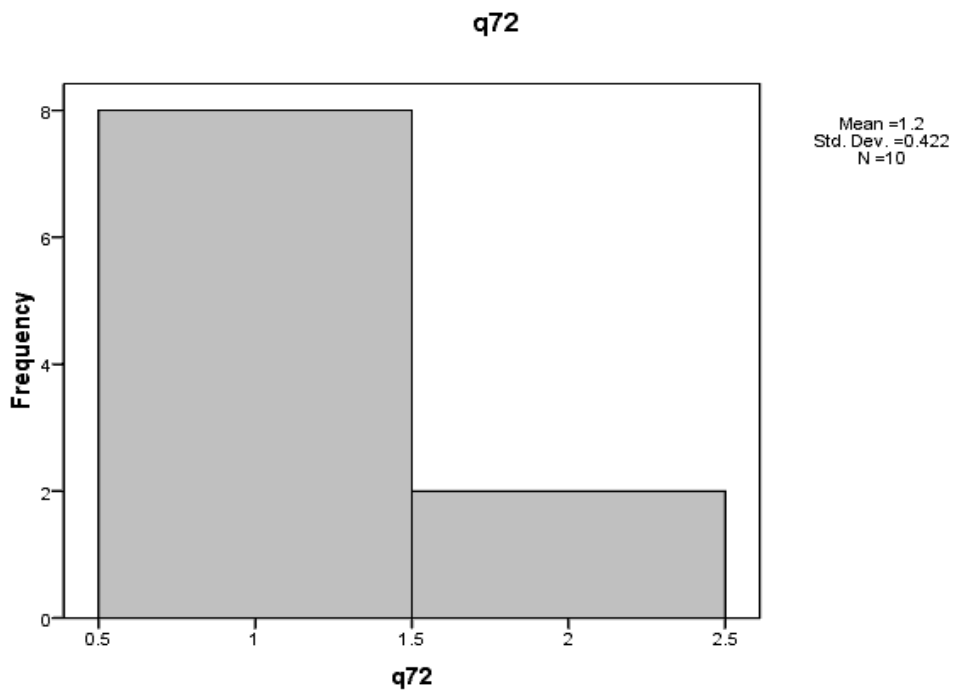
Q 23 product realization

Q72			
	ObservedN	ExpectedN	Residual
yes	8	5.0	3.0
no	2	5.0	-3.0-
Total	10		

Source:

Statistician researcher

Q 23 product realization



This histogram shows the storage and handled and packaged of product

Source:

Statistician researcher

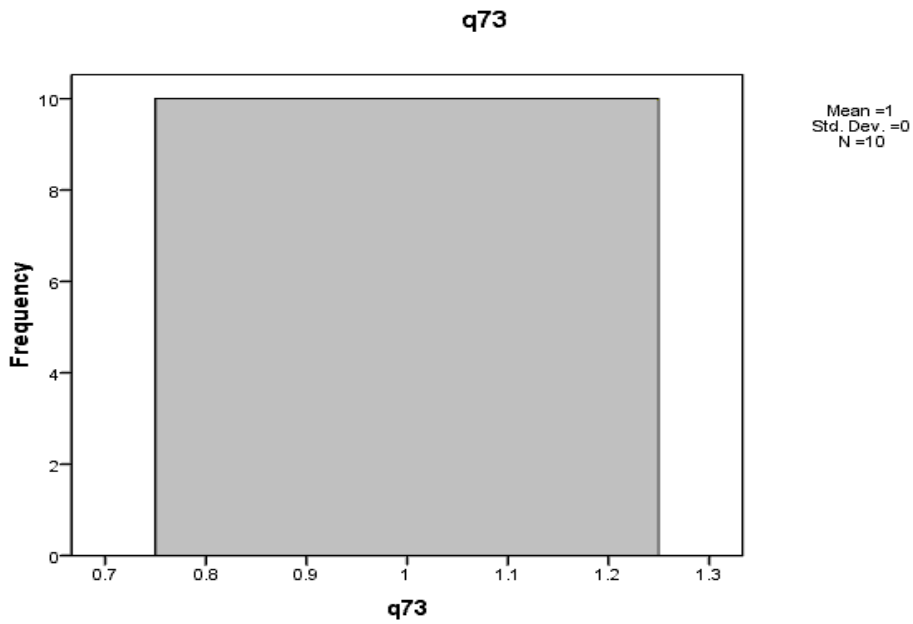
Q24 product realization

q73			
	ObservedN	ExpectedN	Residual
yes	10	10.0	.0
Total	10 ^a		

Source:

Statistician researcher

Q24 product realization



This histogram show calibrated of equipment against national standard

Source:

Statistician researcher

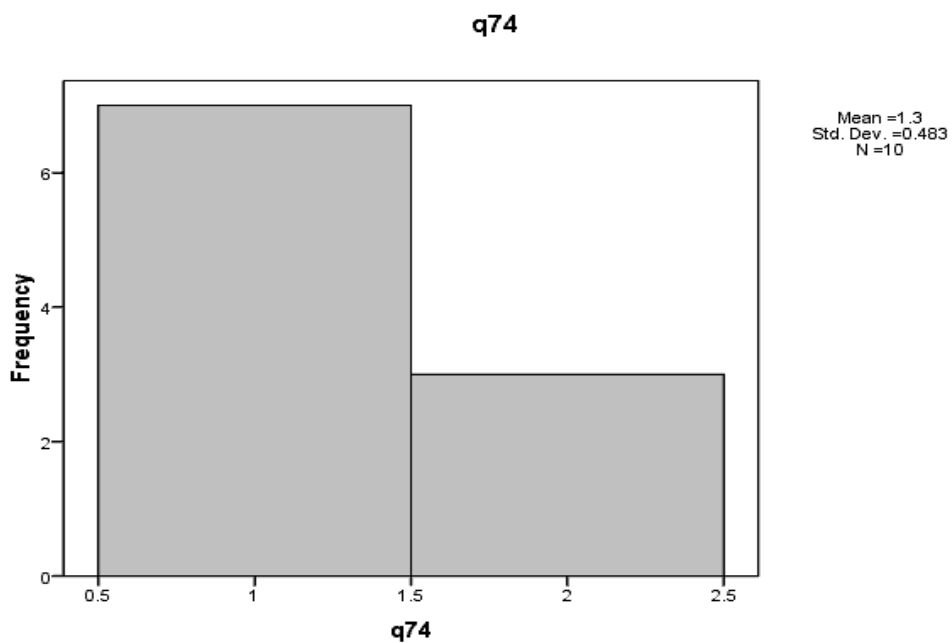
Q25 measurement analysis and improvement

Q74			
	ObservedN	ExpectedN	Residual
yes	7	5.0	2.0
no	3	5.0	-2.0-
Total	10		

Source:

Statistician researcher

Q25 measurement analysis and improvement



This histogram explain 70% measure customer satisfaction

Source:

Statistician researcher

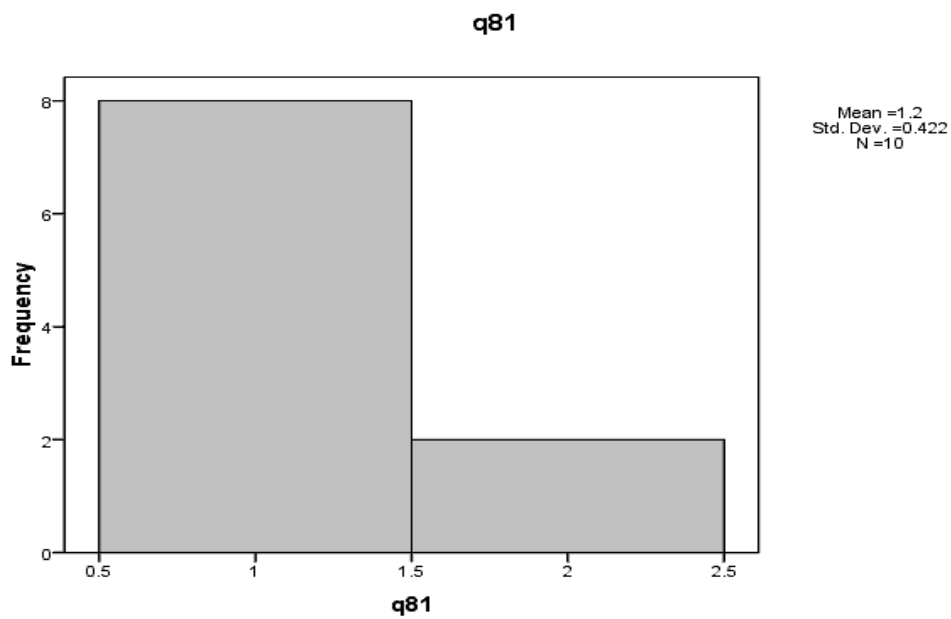
Q26 measurement analysis and improvement

Q81			
	ObservedN	ExpectedN	Residual
yes	8	5.0	3.0
no	2	5.0	-3.0-
Total	10		

Source:

Statistician researcher

Q26 measurement analysis and improvement



This histogram show the internal audit program was done by 85%

Source:

Statistician researcher

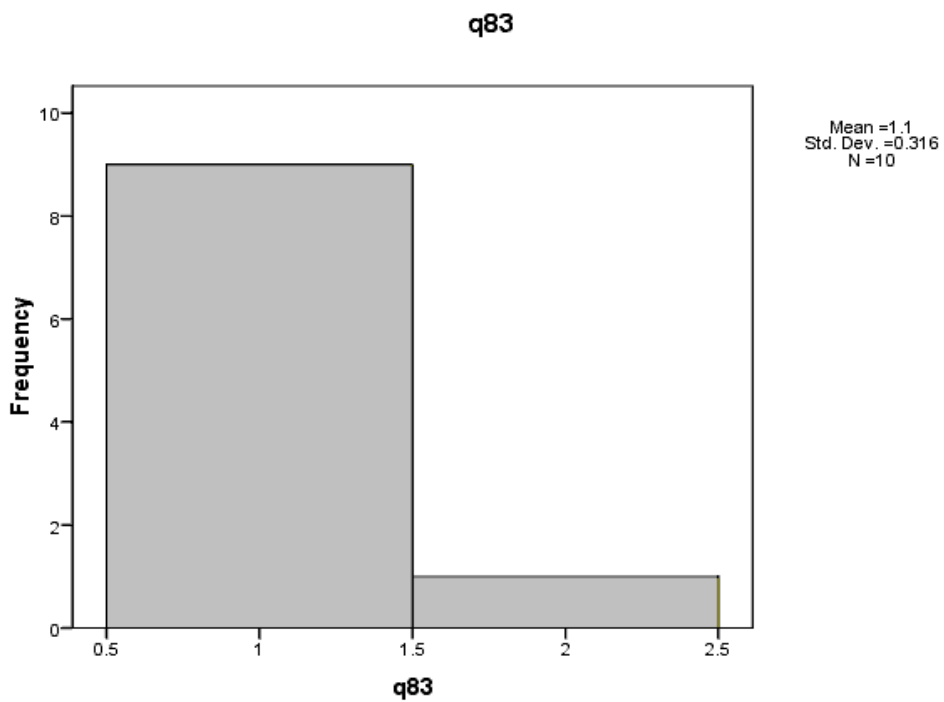
Q 28 measurement analysis and improvement

Q83			
	ObservedN	ExpectedN	Residual
yes	9	5.0	4.0
no	1	5.0	-4.0-
Total	10		

Source:

Statistician researcher

Q 28 measurement analysis and improvement



This histogram show the corrective action

Source:

Statistician researcher

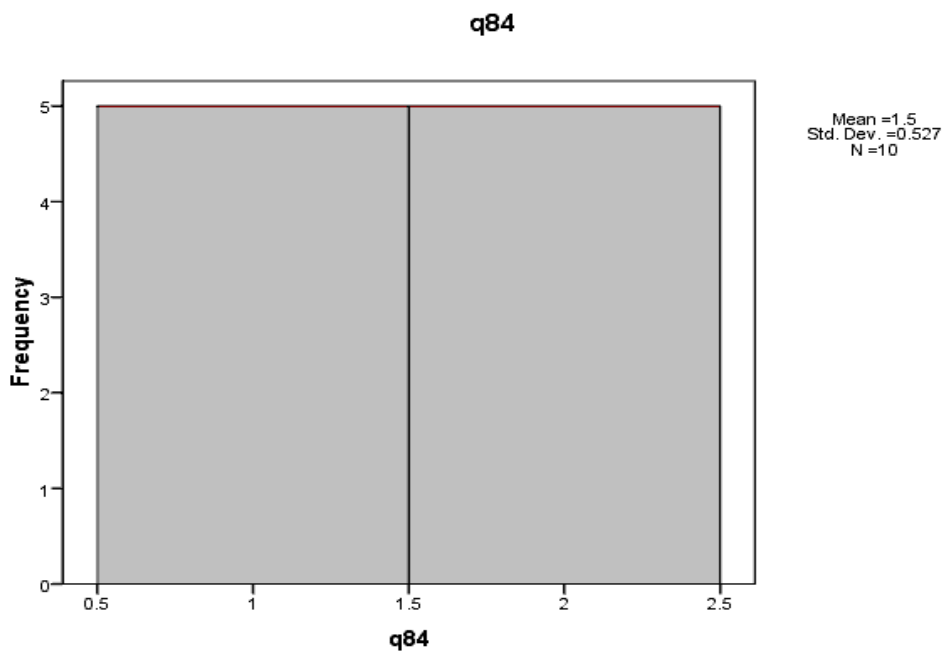
Q 29 measurement analysis and improvement

Q84			
	ObservedN	ExpectedN	Residual
yes	5	5.0	.0
no	5	5.0	.0
Total	10		

Source:

Statistician researcher

Q 29 measurement analysis and improvement



This histogram show the inspection during the stages of production done by 100%

Source:

Statistician researcher

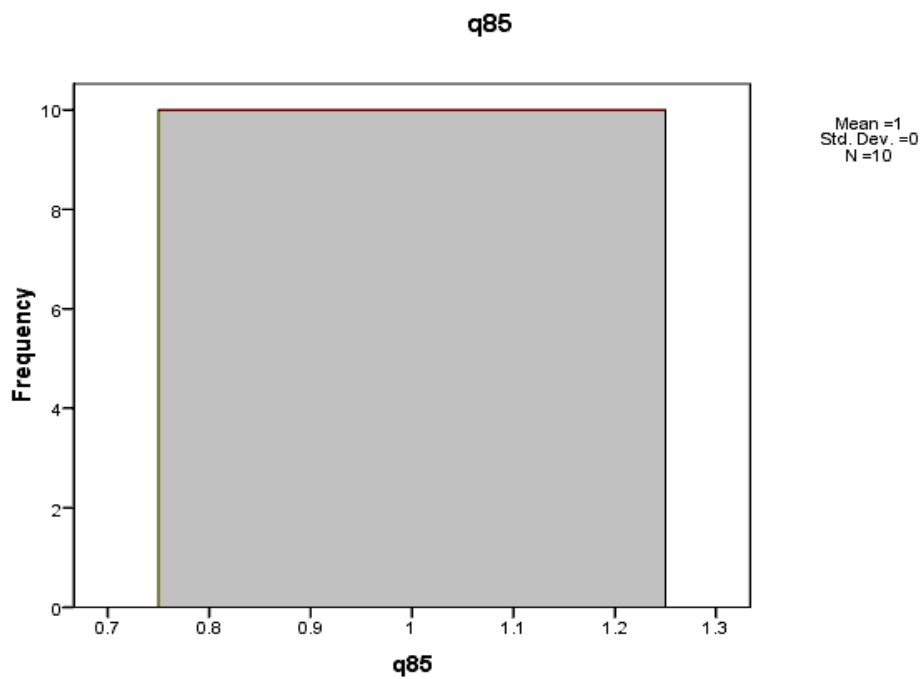
Q 30 measurement analysis and improvement

Q85			
	ObservedN	ExpectedN	Residual
yes	10	10.0	.0
Total	10 ^a		

Source:

Statistician researcher

Q 30 measurement analysis and improvement



This histogram show the control of nonconformity product

Source:

Statistician researcher

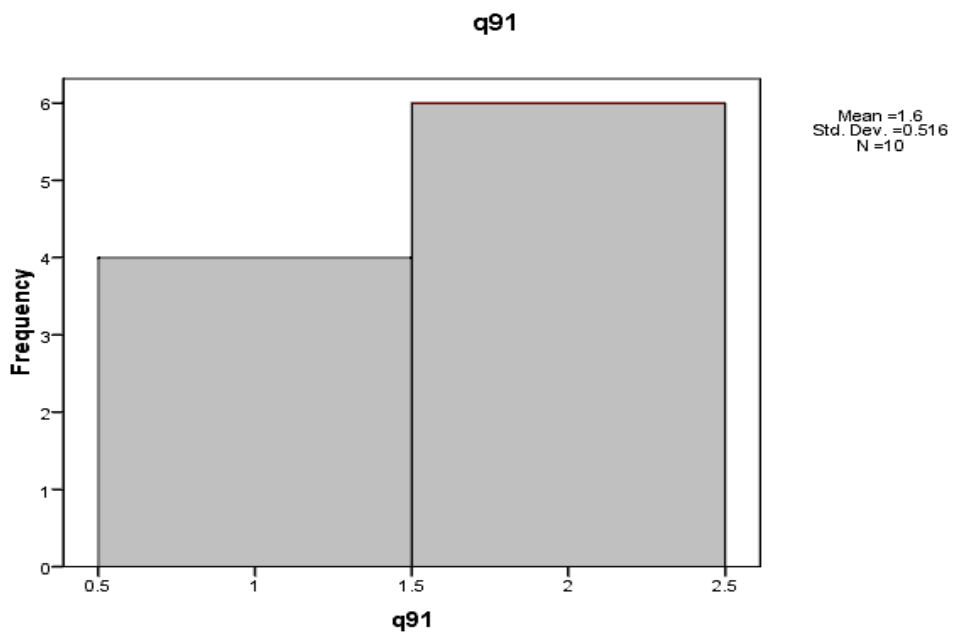
Q 31 measurement analysis and improvement

Q91			
	ObservedN	ExpectedN	Residual
yes	4	5.0	-1.0-
no	6	5.0	1.0
Total	10		

Source:

Statistician researcher

Q 31 measurement analysis and improvement



This histogram show the collecting and analyzing data done by 40%

Source:

Statistician researcher

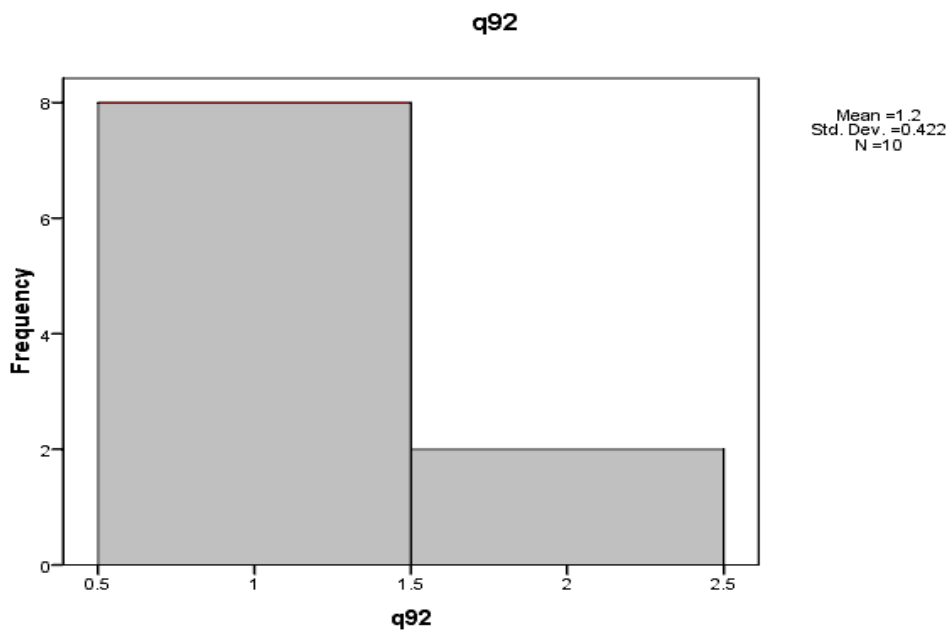
Q 32 measurement analysis and improvement

Q92			
	ObservedN	ExpectedN	Residual
yes	8	5.0	3.0
no	2	5.0	-3.0-
Total	10		

Source:

Statistician researcher

Q 32 measurement analysis and improvement



This histogram show the procedure of corrective action

Source:

Statistician researcher

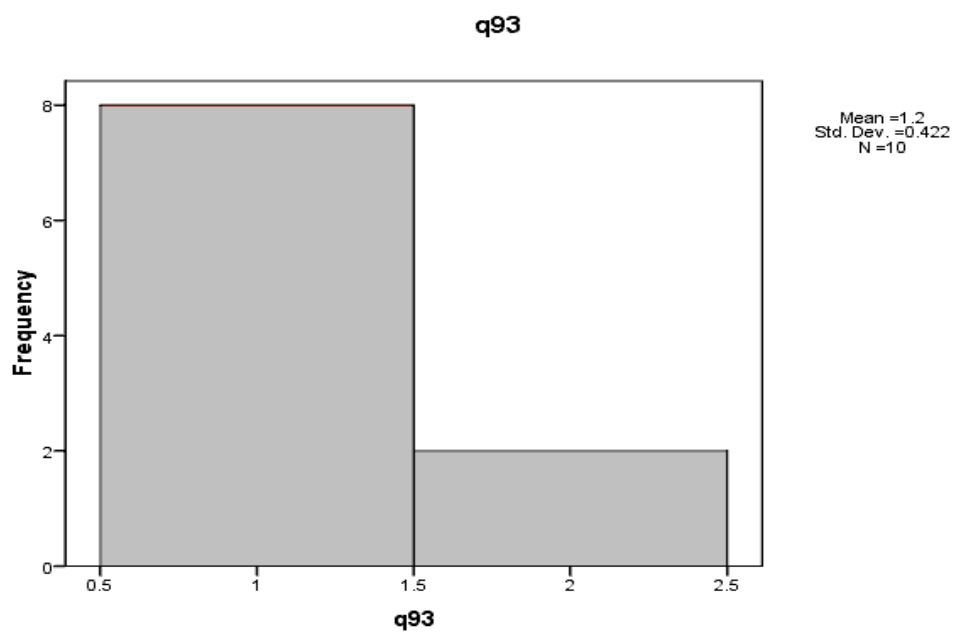
Q33 measurement analysis and improvement

Q93			
	ObservedN	ExpectedN	Residual
yes	8	5.0	3.0
no	2	5.0	-3.0-
Total	10		

Source:

Statistician researcher

Q33 measurement analysis and improvement



This histogram show the procedure of preventive action

Source:

Statistician researcher

4.8.1 Analysis of Research Result:

Face to face interview with catering employee:

Catering depart	Reason for implement standard	results	expectations
hot kitchen	Customer requirements Own initiative	Increase production and operation	Control of the operation and the production
Cold kitchen	Customer requirements Own initiative	Customer satisfaction Increase production	Control of document
pastry	Customer requirements Own initiative	Increase production	Adapting to market needs
Bakery	Customer requirements Own initiative	Opportunity for the development	Adapting to market needs
Quality control unit	Customer requirements Own initiative	Increase production and operation Customer satisfaction	Increased sales More/larger customers increase the level of quality Opportunity for the company's development

From spss & interview result we can find that if we apply the system we can gets a good benefits and make all this research Hypotheses true.

4.9 Discussion and Recommendations

4.9.1 Discussion:

The aim of this study was to investigate how the process of implementing a quality management system is handled. The purpose was also to discuss the difficulties the companies face and the possibilities that arise when certified. Furthermore the main reasons for implementation of a standard are discussed as well as the expectations the companies have on the certificate.

4.9.2 Reasons of implementing a standard:

The first research question can be answered in the same way for all the companies studied. The reason to why the system was needed was mostly due to customer requirements, or requirement from the owner. Another explanation was that it was a good chance of development.

4.9.3 Conclusions

The analysis of the data collected through interviews resulted in some features estimated as important for a well operated implementation process. The first thing is that it is of main importance that everyone in the company has the same vision and that it is clear to everyone what the vision involves. It is also very important that the quality management system is well suited for the production it is applied on. This is due to a number of reasons; among them is that the paperwork in the production increases for many companies when applying the requirements of the qms standard. This is perceived as time-consuming and the many detailed requirements. The qms standard itself is also

Hard to interpret for some of the companies; it is sometimes hard to know exactly how to

adjust the standard to the production and the help from a consultant was needed in many cases. The main benefits of a food safety standard are market oriented rather than quality or food safety oriented according to most companies studied, this might be due to the structure of the organization and that the profitability is what is discussed within the management rather than the food safety.

4.9.4 Recommendations:

- i- sudan airways catering department have to apply the system to be an international airline company that by increase the customer and business and profits and decrease the waste and non conformity products and presses.
- ii- Sudan airways must work hard to a wear and train the employees inside and outside sudan
- iii- The training can be practical or Theoretical,They can uses an international Experiences and Experts
- iv- Sudan government have to help sudan airways to solve the problem
- v- Sudan airways manegment have to understand the important of the system and work hardly to implement the quality system to be ready to get the ISO certificate.

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