MANAGING FOOD QUALITY IN HOTELS: INTEGRATED QUALITY APPROACHES TO FOOD PRODUCTION

REDA MOHAMED ABDELHAFIZ GADELRAB, BSc. (Hons), MSc., MSc.

Thesis submitted to the Cardiff School of Management in partial fulfillment of the requirements for the degree of Doctor of Philosophy.

2010
DECLARATION

I declare that this work has not been previously accepted in substance for any degree and is not being concurrently submitted for any other degree. I further declare that this thesis is the result of my own independent work and investigation, except where otherwise stated (a bibliography is appended). Finally, I hereby give consent for my thesis, if accepted, to be available for photocopying and for inter-library loan, and for the title and abstract to be made available to outside organisations.

Signed:

Reda Mohamed Abdelhafiz Gadelrab (Candidate)
DEDICATION

This thesis is dedicated to the soul of my grandmother, since I always feel her presence motivating me during my journey through life. It is also dedicated to my father and mother for all the love, support and encouragement they have given me and all prayers and supplications to God for me during my journey to achieve my goals in life.

I cannot forget to dedicate this work to my respectful wife Amira, for her endless patience, support and encouragement all along the way, particularly, during the difficult times I faced through my research. Her faith and confidence in me indeed never fails. Amira, I much appreciate your outstanding efforts and unwavering sacrifices during the period of this work and this thesis is the reward of your fatigue as I promised you.

This thesis is also dedicated to my beloved and sweetie kids, Mohamed and Yomna. They were always calm and I cannot forget their smiles that were removing all the hard times I have suffered during my research path.
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ABSTRACT

Definitions of quality are many and varied but focus on three key issues: the customer, the product and/or the manufacturing process. Quality must be appropriate and consistent. Quality is one of the most often-used words in relation to food service operations. The quality of the food that a hotel delivers to its customers is a key part of its product offering. Reputations of hotels ride on consistent food quality and thus food production operations are a critical issue. At present, quality is a source of competitive advantage, but as client demands continue to increase, quality will become essential simply for surviving and succeeding in business.

Food production operations can be managed through the application of a systems approach considering the input, process, and output of food. One of the quality management systems used in food production to provide products of consistent quality is the ISO standard, but its manufacturing origins made it too complicated to be applied in service industries, such as hotel operations. This study aims to develop a workable food quality management system to achieve consistent level of food quality through food production processes within hotels using the ISO quality system as a foundation.

This research adopts a pragmatic approach as a properly-integrated strategy using a multiple case study of hotel food production operations in and around the Cardiff area. The methodology combined quantitative and qualitative methods to answer the research questions and achieve the aim and objectives. Data collection involved multiple sources of evidence, i.e. an online survey to obtain preliminary information about the hotel approached; semi-structured interviews with managers in charge of food quality in hotels; a management questionnaire; a staff attitude questionnaire with hotel food production staff; non-participant observation of food production processes within hotel food production areas.

The results indicated that there was often an over-reliance on individuals rather than systems to provide food of consistent quality in hotel food production operations. A workable system based on effective documentation is needed to ensure consistent level of food quality. Based on the findings, a quality management system based on ISO standards and appropriate for the production of food of consistent quality in hotels is developed. The thesis concludes with recommendations for hotel food production operators to be taken into account to ensure consistency of food quality.
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1.1 Preface:

My name is Reda Gadelrab, assistant lecturer in the Hotel Management Department of Faculty of Tourism and Hotels at Helwan University, Cairo, Egypt. I am currently studying for a Ph.D at the Cardiff School of Management, University of Wales Institute, Cardiff, UK which is sponsored by the Egyptian Educational and Culture Bureau in London. My research addresses food quality management in hotel food production area. It aims to develop an operational system for consistent food quality in hotel food production operations and provide recommendations for hotel food production operators to help them ensure a consistent level of food quality within hotel food production processes. This chapter presents and clarifies my research in sections addressing the study’s background; significance; problem; rationale; questions; aim and objectives; approach; structure.

1.2 Background:

According to Jones (1999) the UK hospitality industry is one of the fastest growing industries within the UK tourism industry and a significant source of employment. Hotel operations have grown steadily since the nineteenth century and are now a global industry (Muller et al., 2009). Due to increased competition amongst hotels, hotel managers recognized the significance of the quality of their hotels’ products and services (Min and Min, 1997). However, delivering a consistent level of quality products and services within hotel operations still represents a major ongoing dilemma for the hotel sector (Clark et al., 2009).
Hotel food and beverage division is labour intensive as a result of offering meals to hotel guests alongside with non-residents (Medlik, 1999). Riley (2005) has emphasized the importance of the food and beverage division for hotel operations and it enhances the image of the hotel and represents a great source of hotel revenue. Kotas and Jayawardena (1994) have suggested that food in hotel operations is particularly significant as it is the only thing which remains in the memory of hotel guests as a pleasant thing after their visit and can represent half the total revenue (Australian Bureau of Statistics, 2004 cited Rodgers, 2005a). However, food and beverage management is the most challenging and complex area in hotel operations and much more difficult to run than the rooms division (Riley, 2005; Bosselman, 2007).

Consistent quality is critical for hospitality operations (Jones and Dent, 1994; Crandall et al., 1996), in particular, hotel food service operations (Bosselman, 1995). This is because customers of hotel restaurants are more concerned with the consistency of the quality of the food offered (Waller, 1999). However, providing a consistent level of food quality is a major challenging task (Walker, 2008).

1.3 The Significance of this Research:

Lattin (1995) shed light on the importance of providing quality food in hotels which in turn increases the overall quality of the hotel, the occupancy and average room rates, and the competition edge of the hotel. The main concern of food service operators is to make a profit and increase food sales through matching customers’ requirements (Edwards, 2004). Thus, quality food is a major challenge facing food service operations
not just only for customer satisfaction but also for surviving against business competitors (Namkung and Jang, 2007). Hence, customers are particularly concerned about the quality of the food provided (Hartwell and Edwards, 2009).

Susskind and Chan (2000) reported that food quality is one of the most significant aspects that have been recognized by customers when assessing the quality of food service operations. Since, there is a positive correlation between food quality and customer satisfaction (Oh, 2000). Thus, customer satisfaction is a crucial target for maximizing hotel restaurant revenue (Susskind, 2002; Heung and Lam, 2003). Thus, providing consistent quality food is one of the key aspects affecting customer satisfaction that will lead to repeat business and increased food sales (Gupta et al., 2007), and represents evidence of conforming to customers’ expectations (Ottenbacher and Harrington, 2009).

Vrtiprah (2001) indicated that the most frequent complaints from hotel guests are related to food quality. These food-related complaints represent a major problem facing hotel operations (Antony et al., 2004). According to Heung and Lam (2003) dissatisfied customers with food quality will not only stop going to hotel restaurants but they convey a bad image about these hotel restaurants to their friends other than satisfied customers who intended to return back again. Dissatisfied customers inform and average of 11.48 people about their bad experience within hotel restaurants while satisfied customers talk to an average 1.51 people about their positive experience (Susskind, 2002). Additionally, guests with food-related complaints inform more people about their experience (an average of 5.39) than those whose problem involved
with service (an average of 3.92) as revealed by Susskind (2002). This is because customers may accept poor or inconsistent service quality but they cannot accept poor or inconsistent food quality (Denove and Power, 2006 cited Longart, 2010). Since, satisfied quality food is a key driver of positive word of mouth with the meal experience (Longart, 2010).

Jones and Lockwood (2004) argue that there is an obvious shortage into the research addressing the quality of hotel products in which food is associated, and in particular the area of food production systems within food service operations (Cousins et al., 2002). Andaleeb and Conway (2006) mentioned that the study of food quality in food service operations was found seriously under-researching that they did not obtain any previous research addressing this area. According to Namkung and Jang (2007; 2008) despite that food represents one of the fundamental components of the food service experience, relatively little academic research had been paid to food quality and most of the studies addressing quality in food service operations focused only on the atmospheric and service quality. Additionally, Fernandez and Bedia (2004) and Ladhari (2008) stated that most of the studies addressing quality in hospitality was focused only on the SERVQUAL instrument. To fill this research gap, the current study focused on the food quality in hotel food production, particularly how to get a consistent level of food quality through food production processes within hotel food production operations. Thus, the current research approached hotel food operations to collect data in relation to this issue.
1.4 The Research Problem:

Due to the differences between food manufacturing and catering in hospitality operations (Dillon and Griffith, 1997), and HACCP was developed basically for manufacturing industry, it was seen by many food service operators as being too complicated to apply (Cousins et al., 2002; Taylor and Taylor, 2008). Therefore an easier system based on HACCP was launched which looks at the steps of getting supplies from suppliers to customers which is known as Assured Safe Catering (Dillon and Griffith, 1997; Cousins et al., 2002). In addition, a number of researchers (e.g. Clark and West, 2008; Clark et al., 2008; Taylor, 2008a, b; Taylor and Taylor, 2008; Taylor et al., 2008) addressed a new method which is called Menu-Safe for applying HACCP in hospitality and suggested new alternatives for the traditional HACCP that is considered to be an easily-workable method based on minimum effort for maximum utility.

As a result of involving a great extent of labour content in hotel food production operations (Davis et al., 2001); it has been noticed that there is a major challenge to produce consistent quality food from the same staff on a regular base (Davis et al., 2001). Since, there is a consensus that delivering a consistent level of quality products still represents a continuous major issue facing the hotel sector (Clark et al., 2009). The customer may accept inconsistent quality in the service part, but they do not accept quality food products (Denove and Power, 2006 cited Longart, 2010). Such a situation may affect the customer loyalty towards hotel food businesses (Clark et al., 2009).
Complaints of hotel guests due to deficiency in food quality are one of the most frequent problems facing management (Antony et al., 2004). Ramdeen et al. (2007) disputed that providing poor quality food in hotel food operations will lead to dissatisfied customers and employees which in turn increase the cost of attracting new customers as a result of non-repeated customers and high employee turnover, hence the increase of training cost for new employees. Moreover, the cost of attracting new customers is five times greater than the cost of retaining current customers and the cost of attracting new customers is greater than the cost of correcting errors (Edwards and Meiselman, 2005).

Kanji and Asher (1998) and Lentell (2001) indicated that the main aim of adopting ISO 9000 is to ensure quality consistency regardless of who will carry out the work. Manning and Baines (2004) demonstrated that the ISO 9000 is a proper management standard, particularly for food production. According to Lentell (2001) due to the manufacturing origins of ISO 9000 standards, it was seen as being too complex to be properly-applied in the service industries in which hotel operations as it is, thus it should be revised to be more applicable and workable in the service industry. In addition Karapetrovic and Willborn (2001) emphasized the importance of a regular revision for ISO 9000 as a key issue to adopt it properly. Therefore, it should not be implemented directly but it needs to be adapted according to the own requirements of each organization (Schroder and McEachern, 2002). This echoed that the successful organization uses the standard with slightly modification to meet its own specific requirements (Oakland, 2003).
Based upon this idea of streamlining a system to make it workable in hotel food production context, I will use the ISO quality system as a foundation from which I will develop a work process model to ensure a consistent level of quality product through the food production processes in hotels and recognize nature of products as well as employees and their attitudes. According to Cousins et al. (2002) there are two different approaches in the food production system: (1) the process approach which focuses on the specific processes of food production and (2) the product approach that concentrates on the type of dish of food produced. In this study I will address the first approach which focuses on the process approach to study how to get a consistent level of food quality within hotel food production processes from purchasing till presentation on plates or display on buffets.

1.5 Why am I interested in this Research:

To introduce myself, I have grown up in the hospitality industry over the last approximately 15 years, since when it has become part of my life. This is because I decided to take my first degree (i.e. five-year degree) in the Advanced Secondary School for Tourism and Hotel Affairs in Cairo, Egypt in 1996 which took five years. I was based in the food production department. From that time, I focused on the culinary art and decided to work in catering industry during my study. Therefore I have gained considerable experience in relation to food production within hospitality industry.

After secondary school graduation where I was the top student at the level of the Cairo Governorate, I decided to take a four-year degree in the Hotel Management Department
of Faculty of Tourism and Hotels at Helwan University, Cairo, Egypt. During my studies in Helwan University, I learned about management concepts in hotel operations, especially in the food production area. As a result of working during my academic study, I moved between the food production areas of independent restaurants, hotels and multi-national casual dining restaurants. I was promoted to reach the position of kitchen manager in one of the well-known international casual dining restaurants in Egypt while I was still studying in the faculty.

After faculty graduation, I was one of the first students in the hotel management division and was nominated by the faculty management to join the academic life as a demonstrator aid and promoted to assistant lecturer in the same faculty after obtaining two MSc. Degrees: the first was in Hotel Management from the Faculty of Tourism and Hotels at Helwan, University, Cairo, Egypt and the second was in Tourism Management, Education and Training from the Euro Arab Management School in Granada in Spain. I was then chosen by my faculty to be awarded a PhD scholarship in the UK.

Considering my interest in food production, I decided to focus on this area in my PhD studies and to build on my work in food production in two different areas of the catering industry, i.e. hotels and multi-national casual dining restaurants. During the period of work with those two different perspectives, I found that the food produced in the hotel sector was inconsistent in terms of its quality that each chef or cook and even the head chef had a different recipe with which to produce the same food, resulting in major disparity in taste, appearance and overall quality.
In contrast and when I worked in casual dining restaurants and was promoted to be as a kitchen manger, I discovered that the food quality system in that type of restaurants was very rigorous, so all food production employees were seen to follow the same quality manual procedures each and every time. So no matter who produced the dish, the same consistency of product quality offered was achieved. This is consistent with what has been confirmed by Riley (2005) and DiPietro et al. (2007) that theme/family restaurants which are known as casual dining restaurants (e.g. Chili's; Applebee's; TGI Friday's; Hard Rock Café) were found to provide a consistent level of quality food products, no matter who does it due to that they involved low degree of variety and strong quality controls written within their standard operating procedures (SOPs). Since in hotel food production there can often be high sophistication but low consistency but in casual dining food production there is often low sophistication but high consistency.

Robinson (2005 cited Chuang et al., 2009) reports that creative opportunities for casual dining chefs may be limited and the nature of casual dining food production is driven by speed and limited time (cook to order) with less elaboration and sophistication in food quality, variety, and culinary craftsmanship. On the other hand, fine dining chefs like in hotel food production, have more time to express their creativity in food production (Chuang et al., 2009). Chefs in hotel food production believe that consistency stifles creativity. But, Ottenbcaher and Harrington (2009) revealed that creativity and innovation contribute to consistency of food quality products. Kondo (2000) stated that consistency and creativity are not incompatible but mutually complementary and integrated. This could happen by adherence to the system as a mandatory aim but with giving people as much freedom as possible but not absolute freedom, e.g. optional
methods that should be documented and written to ensure consistency (Kondo, 2000). Therefore I decided to approach the hotel food production sector to develop a workable model for consistent food quality through hotel food production processes as one of my key dreams in the catering industry.

1.6 Research Questions:

Bryman (2007) stressed the great significance of the research question to determine the research approach and its methods and to interlink between the researcher's review of literature, data collection and analysis. The essence of ensuring an operational food quality system is the food itself and how it flows from purchasing to presentation within the food production area. Thus, this research suggested addressing the following two main questions:

- What quality control practices can be adopted to achieve effective consistent quality products through the food production processes in hotels?
- How are quality control practices best-integrated to enhance the consistency of quality products through food production processes in hotels?

1.7 Research Aim and Objectives:

The main aim of the proposed study is to develop a workable food quality management system to achieve consistency of food quality through food production processes within hotels. In order to achieve this aim, the following objectives were identified:
1. Undertake a critical review of relevant literature related to quality, quality management and food production processes within the context of an integrated quality approach in the hotel sector to develop a theoretical model for achieving a consistent level of food quality.

2. Investigate management approaches and staff attitudes towards a consistent level of food quality in hotel food production operations.

3. Identify and evaluate the management practices and staff attitudes against the conceptual framework to develop an operational model to achieve consistent quality in hotel food production.

4. Provide recommendations for hotel food production operators to ensure consistency in the level of food quality offered.

1.8 Research Approach:

This research adopts a pragmatic approach with abductive reasoning as a properly integrated strategy using the case study research through combining quantitative and qualitative methods for data collection to answer the research questions and achieve the aim and objectives. Because of this study aims to identify the practical issues related to quality in hotel food production, I found that the pragmatism approach is an appropriate epistemological stance to give practical significance to this research. As the topic must be investigated in its real-life context to reveal the key issues related to managing food quality in food production areas within hotel sector, the case study approach is suitable for deeper understanding of the topic (Yin, 2003). Additionally, Lyons (2005) shed light on the importance of using a case study approach in the food related studies and it
represents a critical issue of best practice for practitioners and for academics to be used as a report of industry-related practical research in their teaching. A multiple case study of hotel food production operations in and around the Cardiff area is addressed in this research. Various sources of evidence have been used in this research which includes: online survey; semi-structured interviews; management questionnaire; staff attitude questionnaire; non-participant observation. Data will be analyzed through using the constant comparison analysis to compare between similarities and differences across cases to ensure generalization.

1.9 Overview of Thesis:

This thesis structurally comprises ten chapters. The first chapter is the "Introduction" and it provides the study’s background; significance; problem; rationale; questions; aim and objectives; approach; structure. These sections are clarified below.

The second chapter is entitled "Research Design and Methodology". This chapter focuses on the epistemological and theoretical perspective of this research and justifies the selecting of the relevant methodology and the methods adopted in achieving the specific aims and objectives of the research. The chapter clarifies the theoretical perspective which underpins the epistemological stance and highlights case study as the preferred methodological strategy. The chapter then concludes by discussing in detail the various methods that have been used for data collection and data analysis.
Chapter three is called “Literature Review” that involves critically relevant literature review of this study. It covered the following areas: quality management and alternative approaches to quality management; the hotel sector identifying types of hotels, quality in hotels; the issues relating to hotel food and beverage operations identifying their importance, their various types, and the quality issues relating to food production. Then The chapter presents a theoretical framework of food quality through covering the following areas: the concept of consistent quality; the relationship between food quality and consistency; the ISO standards addressing their evolution and their use as a model for a consistent quality; the concept of a systems approach; developing an effective quality control system which covers the five major areas of system, i.e. system development, system documentation, system implementation, system maintenance, and system improvement; the conceptual framework for a consistent hotel food production quality management system.

The fourth chapter entitled “Results and Data Analysis ”. This chapter presents the results and analysis of all methods used to collect data in this study. These are Phase 1, i.e. a web-based questionnaire for 21 hotels in and around the Cardiff area; Phase 2 i.e. semi-structured interviews and management questionnaires with 13 hotels located in and around the Cardiff; Phase 3, i.e. staff attitude questionnaires for six hotel cases; Phase 4, i.e. a non-participant observation in one hotel case study.
Chapter five is entitled “Discussion - An Operational Model for Consistent Quality in Hotel Food Production”. This chapter reports in depth-analysis of data to get additional results which will lead to present a new model for best practice in managing food quality within hotels. In this chapter I will discuss the evolution of a quality management system for hotel food production through reviewing practice against the conceptual framework based on the literature in chapter three and the findings from chapter four.

Finally, the sixth chapter is entitled "Conclusions and Final Overview". This chapter sums up this study on managing food quality in hotels. The chapter provides a summary of the study's major findings, contribution and further explores the opportunity for further research.
CHAPTER TWO: RESEARCH DESIGN AND METHODOLOGY

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2.1 Introduction:

This chapter focuses on the epistemology and theoretical perspective of the research and justifies the selection of the relevant methodology and the methods adopted in achieving the specific aim and objectives of this study. The chapter starts by clarifying social science research; the nature of hospitality research; the difference between quantitative and qualitative research in sections 2.2; 2.3; 2.4 respectively. The chapter then moves to discuss the research approach, theoretical approach and practical approach in sections 2.5, 2.6 and 2.7 respectively to justify the theoretical perspectives, epistemological stances and methodological strategy adopted in this study. A case study approach using a variety of data sources through four stages is used to achieve the aim of this research. The chapter will then provide justification for sampling and generalization in section 2.8. The chapter further gives an overview of triangulation; validity; reliability; ethical considerations of this study in sections 2.8; 2.9; 2.10; 2.11; 2.12 respectively. The chapter concludes by discussing data analysis in section 2.13. Finally, a summary of the key issues highlighted this chapter is in section 2.14.

2.2 The Nature of Hospitality Research:

Myers (2009:6) defined research as "an original investigation undertaken in order to contribute to knowledge and understanding in a particular field". Considering different perspectives of thoughts in the hospitality research, Jones (2004) proposed six principal types of hospitality research: hospitality science model, hospitality management school,
hospitality studies, hospitality relationship, hospitality systems, and hospitality pragmatism as shown in Table 2.1.

### Table 2.1: The six basic types of hospitality research

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospitality science model</td>
<td>It based on that natural and physical sciences, and it involved studies in diet, nutrition, ergonomics, equipment performance, and so on.</td>
</tr>
<tr>
<td>Hospitality management school</td>
<td>It was obviously positivist, based on empirical and quantitative studies, and often concerned with studies of hospitality marketing and consumption.</td>
</tr>
<tr>
<td>Hospitality studies</td>
<td>They were more eclectic in their philosophy, involved non-positivist approaches which included both qualitative and quantitative approaches.</td>
</tr>
<tr>
<td>Hospitality relationship</td>
<td>It was a recent thought that separated differentiated hospitality from any management or industry association.</td>
</tr>
<tr>
<td>Hospitality systems</td>
<td>Large methodologies were used in this thought, since it encompassed both positivist and normative approaches.</td>
</tr>
<tr>
<td>Hospitality pragmatism</td>
<td>It was normative in its approach.</td>
</tr>
</tbody>
</table>

Source: Adapted from Jones (2004:38-39).

According to Jones (2004) there are two approaches to hospitality research: hospitality science and hospitality management. Litteljohn (1990 cited Jones, 2004) differentiated between hospitality science and hospitality management. The science approach referred to the phenomena that there were existing models, whereas the management approach covered the phenomena that researchers concerned with building new hospitality models (Litteljohn, 1990 cited Jones, 2004). According to Rodgers (2010) the research addressing operations management in foodservice is quite descriptive, i.e. interviewing stakeholders about existing practices rather than optimizing through modeling. To identify the purposes of conducting hospitality research, Jones (2004) suggested the following:
Chapter Two: Research Design and Methodology

- To explore and understand the existing patterns of behaviour and phenomena in the hospitality industry (i.e. positivist approach).
- To establish new and better managing ways in hospitality (i.e. normative approach).
- To enable hospitality schools to teach future practitioners.

According to Taylor and Edgar (1996; 1999 cited Jones, 2004) after analyzing the research methods presented by CHME (Council for Hospitality Management Education) members at the CHME conference and articles in the Hospitality Research Journal between 1992-1995, around one third of both the US and the UK cases conducted are conceptual, i.e. theory building, and focus only on quantitative approaches stressing a positivist approach to hospitality research.

2.3 **Quantitative versus Qualitative Research:**

There are two distinctive research approaches in the social sciences: quantitative approaches and qualitative approaches (Walle, 1997 cited Finn *et al.*, 2000), and are perceived as opposite approaches (Veal, 2006). According to Crotty (1998) any proposed study might either use only qualitative or quantitative methods, or could mix both qualitative and quantitative methods without affecting the quality of research, but with a constant epistemological stance, e.g. objectivism or constructionism (or subjectivism). Schulenberg (2007:100) stated that "*monomethod research designs that use quantitative or qualitative data are based on different epistemological and ontological assumptions*". Therefore, qualitative analysis interpreted different information rather than what has been found in quantitative analysis (Hoepfl, 1997).
To define quantitative research, Bouma (2000:171) stated "quantitative research is designed to give numerical results which can be reported in tables, graphs and charts stating the number of something, the proportion of something, or what the trends are". Considering features of quantitative research, Bergman (2008) stated that it is characterized by:

- A belief in a single reality;
- The possibility and necessity of separating the knower from the known;
- The possibility and necessity of value-free research;
- Generalization of results;
- Identification of universal and causal laws;
- Working with large representative samples;
- Stressing the deductive approach.

In terms of qualitative research, Strauss and Corbin (1998) stated that qualitative research is difficult to understand and it is not absolute, since it can mean different things to different people. However, Strauss and Corbin (1998:10, 11) defined it as "any type of research that produces findings not arrived at by statistical procedures or other means of quantification". It comprises studies related to: persons' lives; lived experiences; behaviours; emotions; feelings; organizational functioning; social movements; cultural phenomena; interactions between nations (Strauss and Corbin, 1998). Recognizing the characteristics of qualitative/naturalistic research, Hoepfl (1997) listed the following through reviewing a number of authors (e.g. Bogdan and Biklen, 1982; Lincoln and Guba, 1985; Patton, 1990; Eisner, 1991):
• Qualitative research data is featured by its natural setting, since the researcher observes, describes and interprets the data as they are.

• The researcher represents the human instrument in collecting the data.

• The most frequently used technique to analyze qualitative data by researchers is inductive analysis.

• The reports of the qualitative data are characterized by its descriptive text which based on the presence of voice in that text.

• The interpretive manner is the major feature of qualitative research which is targeted to cover the interaction between individuals and events by the researcher's interpretation.

• The uniqueness is the characteristic of the cases approached qualitatively.

• The qualitative research is characterized by its emerging setting on which researchers focused in line with the outcomes of the research.

• Qualitative research comprises special measures when judging its trustworthiness, i.e. validity and reliability.

The disparity between the two approaches is that quantitative research involves numerical data whereas qualitative research is based on meaning expressed through non-numeric data (Saunders et al., 1997). In addition, Myers (2009) explored that one of the most well-known distinctions between qualitative and quantitative is the research method. Examples of qualitative and quantitative research are illustrated in Table 2.2.
Table 2.2: Examples of qualitative and quantitative research

<table>
<thead>
<tr>
<th>Qualitative research: A focus on text</th>
<th>Quantitative research: A focus on numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Action research</td>
<td>Surveys</td>
</tr>
<tr>
<td>Case study research</td>
<td>Laboratory experiments</td>
</tr>
<tr>
<td>Ethnography</td>
<td>Simulation</td>
</tr>
<tr>
<td>Grounded theory</td>
<td>Mathematical modeling</td>
</tr>
<tr>
<td>Semitics</td>
<td>Structured equation</td>
</tr>
<tr>
<td>Discourse analysis</td>
<td>Statistical analysis</td>
</tr>
<tr>
<td>Hermeneutics</td>
<td>econometrics</td>
</tr>
<tr>
<td>Narrative and metaphor</td>
<td></td>
</tr>
</tbody>
</table>

Source: Myers (2009:8)

Qualitative research aims to answer what (i.e. what's happening in a particular settings; what's going here) or how (i.e. how realities of every day life are accomplished) questions (Bouma, 2000; Seale, 2000), to give in-depth information about something through interviewing and observing people (although documents may be used) to seek descriptions, interpretations, and explanations of something of the social world (Sheppard, 2004). Whereas quantitative approach aims to answer questions such as: "how many?", "how often?" or "what proportion?" of something (Bouma, 2000). Consequently, Hoepfl (1997); Daly (2003); Morgan (2007) agreed that qualitative research covers an inductive-subjective-contextual approach which seeks for understanding, theory building, and illumination; whereas quantitative one ensures a deductive-objective-generalizing approach which inquires for theory testing, causal determination, generalization, and making predictions. As the quantitative approach and qualitative approach has its advantages and drawbacks in data collection methods, I decided to use both types of approaches to answer the research questions of this study to offset the weaknesses of each one by utilizing the strengths of each approach to better integrate the research process.
2.4 Research Approach:

According to Veal (2006) there are two strategies for research explanation: finding out or inductive (i.e. the 'what?' of research) and explaining or deductive (i.e. the 'how?' and 'why?' of research) as shown in figure 2.1 and Table 2.3 respectively.

Figure 2.1: circular model of the research process

Table 2.3: difference between induction and deduction based on figure 2.1

<table>
<thead>
<tr>
<th>Inductive</th>
<th>Deductive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Begin at point A, observation/description</td>
<td>Begin at point C, with a hypotheses</td>
</tr>
<tr>
<td>Proceed to point B, analysis</td>
<td>Proceed to point A, observation/description, gathering data to test the hypotheses</td>
</tr>
<tr>
<td>Arrive at point C, explanation</td>
<td>Proceed to point B, analysis, to test the hypotheses against the data</td>
</tr>
</tbody>
</table>

Source: Adapted from Veal (2006:34)

According to Blaikie (2003) there are four different distinguished research strategies used by social researchers to answer their research questions: inductive, deductive, retroductive, and abductive. Researchers may follow one type of this strategy in their research or may even combine a mixture of these types in their research (Blaikie, 2003). The most common approach in tourism and hospitality research is the deductive one, i.e. analyzing and collecting data in a predetermined context to test theory rather than the
inductive approach, i.e. generating theory by collecting and analyzing in depth information (Connell and Lowe, 1997).

Crotty (1998) proposed four key themes that should be justified and identified in order to develop a research approach. These key themes are: methods, methodology, theoretical perspective, and epistemology as shown in Table 2.4 and Figure 2.2.

**Table 2.4: The four basic elements of any research approach**

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methods</td>
<td>The techniques or procedures used to collect and analyze data related to some research question or hypotheses.</td>
</tr>
<tr>
<td>Methodology</td>
<td>The strategy, plan of action, process or design lying behind the choice and use of particular methods and linking the choice and use of methods to the desired outcomes.</td>
</tr>
<tr>
<td>Theoretical perspective</td>
<td>The philosophical stance informing the methodology and thus providing a context for the process and grounding its logic and criteria.</td>
</tr>
<tr>
<td>Epistemology</td>
<td>The theory of knowledge embedded in the theoretical perspective and thereby in the methodology.</td>
</tr>
</tbody>
</table>

Source: Adapted from Crotty (1998:3)

**Figure 2.2: Four key elements of research approach**

Source: Crotty (2003:4)
Arguably, these elements of research approach could be split into two divisions: the theoretical approach which involves the epistemology and theoretical perspective and the practical approach which includes the methodology and methods (Crotty, 2003). Figure 2.3 highlights the specific approach adopted in this research.

2.5 Theoretical Approach:

This approach includes the philosophical stances related to epistemology and theoretical perspective.

2.5.1 Epistemology

To identify epistemology, Mynard (1994:10 cited Crotty, 1998:8) stated "epistemology is concerned with providing a philosophical ground for deciding what kinds of knowledge are possible and how we can ensure that they are both adequate and legitimate". Whereas, Crotty (1998:10) described it as "a certain way of understanding
"what it means to know", since it represents the strategy of approaching the research (Crotty, 1998).

Recognizing different types of epistemological approaches, Crotty (1998) suggested three different aspects of epistemology with their variants: objectivism, constructionism, and subjectivism. Whereas, Tashakkori and Teddlie (1998) stated that there are four paradigms of philosophical stances: positivism/logical positivism, postpositivism, pragmatism, and constructivism (i.e. interpretivism or naturalism). Table 2.5 compares these four paradigms.

Table 2.5: Comparisons of four important paradigms used in the social & behavioural sciences

<table>
<thead>
<tr>
<th>Paradigm</th>
<th>Positivism</th>
<th>Postpositivism</th>
<th>Pragmatism</th>
<th>Constructivism</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methods</td>
<td>Quantitative</td>
<td>Primarily quantitative</td>
<td>Quantitative + Qualitative</td>
<td>Qualitative</td>
</tr>
<tr>
<td>Logic</td>
<td>Deductive</td>
<td>Primarily deductive</td>
<td>Deductive + Inductive</td>
<td>Inductive</td>
</tr>
<tr>
<td>Epistemology</td>
<td>Objective point of view. Knower and Known are dualism.</td>
<td>Modified dualism. Findings probably objectively “true”.</td>
<td>Both objective and subjective points of view</td>
<td>Subjective point of view. Knower and Known are inseparable</td>
</tr>
<tr>
<td>Axiology</td>
<td>Inquiry is value-free.</td>
<td>Inquiry involves values, but they may be controlled.</td>
<td>Values play a large role in interpreting results.</td>
<td>Inquiry is value-bound.</td>
</tr>
<tr>
<td>Ontology</td>
<td>Naïve realism</td>
<td>Critical or transcendental realism.</td>
<td>Accept external reality. Choose explanations that best produce desired outcomes.</td>
<td>Relativism</td>
</tr>
<tr>
<td>Causal linkages</td>
<td>Real causes temporally precedent or simultaneous with effects.</td>
<td>There are some lawful, reasonable relationships among social phenomena. These may be known imperfectly. Causes are identifiable in probabilistic sense that changes over time.</td>
<td>There may be causal relationships, but we will never be able to pin them down.</td>
<td>Causal linkages</td>
</tr>
</tbody>
</table>

2.5.2 Thesis Epistemology - Pragmatism

This study adopts pragmatism as its epistemological perspective, since it involves both quantitative and qualitative data collected at different stages of the research to answer the research questions and achieve its aim and objectives. The research questions are “What quality control practices can be adopted to achieve effective consistent quality products through the food production processes in hotels?” and “How quality control practices are best-integrated to enhance the consistency of quality products through food production processes in hotels?”, hence the research aims to identify the practical issues related to quality in hotel food production areas, therefore pragmatism approach is an appropriate epistemology stance to give practical significance to this research. This study uses pragmatism as a properly integrated strategy.

Pragmatism

To identify the pragmatic philosophy, Crotty (1998:72-73) stated "the characteristic idea of philosophical pragmatism is that efficacy in practical application—the issue of 'which works out most effectively'—somehow provides a standard for the determinations of truth in the case of statements, rightness in the case of actions, and value in the case of appraisals". Nielsen (1991 cited Tashakkori and Teddlie, 1998:23) described pragmatism as "a reactive, debunking philosophy". In addition, Creswell and Clark (2007) stated that it is much more related to practice and what works with regard to research question.
Considering hospitality pragmatism, Jones (2004) proposed two distinctively different kinds of research: (1) research conducted by practitioners or for practitioners addressing critical issues to them (i.e. relied on practicality which answers questions did not based on theory) and (2) research basically investigating functional areas in hospitality which is strong in application but weak in theory (e.g. human resource management, quality management, yield management, and accounting).

According to Schulenberg (2007) pragmatism involves using mixed methodologies with quantitative and qualitative data in a single research study. Lyons (2005) emphasized the importance of combining quantitative and qualitative methods (science/ positivism and social science/ phenomenology) as an approach of best practice in research. Morgan (2007) identified the pragmatic approach in social sciences as a common approach which covers two perspectives: (1) general belief for the social sciences, and (2) justification for combining quantitative and qualitative methods in a single project. To differentiate between the three key categories of epistemological stances, i.e. qualitative, quantitative, and pragmatic approach, see Table 2.6.

Table 2.6: A pragmatic alternative to the key issues in social science research methodology

<table>
<thead>
<tr>
<th></th>
<th>Qualitative approach</th>
<th>Quantitative approach</th>
<th>Pragmatic approach</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connection of theory and data</td>
<td>Induction</td>
<td>Deduction</td>
<td>Abduction</td>
</tr>
<tr>
<td>Relationship to research process</td>
<td>Subjectivity</td>
<td>Objectivity</td>
<td>Intersubjectivity</td>
</tr>
<tr>
<td>Inference from data</td>
<td>Context</td>
<td>Generality</td>
<td>Transferability</td>
</tr>
</tbody>
</table>

Source: Morgan (2007:71)

In discussing these further, Morgan (2007) explained that the pragmatic approach involves abductive reasoning which interlinks between inductive (i.e. data-driven) and
deductive (i.e. theory-driven) by converting observations into theories and assessing those theories through action. Additionally, the abductive technique is commonly used when combining quantitative and qualitative methods in a sequential tradition (Morgan, 2007). Consequently the type of reasoning in this research will be the abductive perspective.

### 2.5.3 Theoretical perspective in Theory

Blaikie (1993 cited Crotty, 1998) explained that the term ontology referred originally to the theoretical perspective. Botterill (2000) described ontology as a group of assumptions about reality. Considering the theoretical perspective, Crotty (1998) referred it to the philosophical stance that lies behind the selected type of methodology. According to Crotty (1998) there are various theoretical perspectives, e.g. positivism, interpretivism (i.e. symbolic interactionism, phenomenology, and hermeneutics).

### 2.5.4 Theoretical Perspective—Interpretivism / Symbolic Interactionism

As mentioned earlier in this chapter that the main epistemological perspective of this research is the pragmatic approach, therefore the theoretical perspective for this research will be an interpretivist/symbolic interactionist approach (Crotty, 1998). This will be explaining in the following.
Interpretivism

In describing an interpretivist approach, Crotty (1998:67) explained that "it looks for culturally derived and historically situated interpretations of the social life-world". Additionally, Bryman and Bell (2007) viewed the main subject of social science, i.e. people and their institutions as basically distinctive from natural science, thus the interpretivist approach is a paradox to the positivist approach which addresses the methods of natural science. Therefore the main theoretical perspective of this research is interpretivism through interpreting views of people who are in charge of food quality in hotel food production areas.

Symbolic Interactionism

According to Crotty (1998) and Patton (2002) symbolic interactionism has been derived from the thoughts of the pragmatist philosopher and social psychologist, George Herbert Mead with Herbert Plumer. Since Crotty (1998:72) stated that "symbolic interactionism offers what is very much an American perspective on life, society and the world". Whereas, Patton (2002:112) stated "it is a perspective that places emphasis on the importance of meaning and interpretation as essential human processes in reaction against behaviourism and mechanical stimulus-response psychology". The focal point of symbolic interactionism is putting of oneself in the place of the other (Crotty, 1998). Psathas (1973 cited Crotty, 1998) recognized symbolic interactionism as the understanding of people view of actions, objects and society. Additionally, Patton (2002); Babie (2007); Davies (2007) shed light on the importance of symbolic interactionism perspective as an approach to understand the behaviour of others and
how they feel in certain circumstances. Plumer (1969:2 cited Crotty, 1998:72) listed three main interactionist assumptions as fundamentals to symbolic interactionism:

- 'that human begins act toward things on the basis of the meanings that these things have for them';
- 'that the meaning of such things is derived from, and arises out of the social that one has with one's fellows';
- 'that these meanings are handled in and modified through an interpretive process used by the person in dealing with the things he encounters'.

2.6 Practical Approach:

This approach comprises the philosophical stances related to methodology strategy and methods adopted to answer the key questions of this research.

2.6.1 Thesis Methodology—Case Study

“The use of case studies has become extremely widespread in social research” (Denscombe, 1998:30) including managerial business studies (Yin, 1994; Bryman and Bell, 2007; Myers, 2009). According to Meyer (2001) the case study approach has major attention by most of social science researchers. Additionally, the case study research (CSR) strategy frequently addresses sociology, industrial relations and anthropology (Hartly, 1994 cited Meyer, 2001). Both quantitative (statistical information) and qualitative (textual information) approaches are used in case study research (Yin, 2003; Lyons, 2005).
Yin (1994:13) described case study as "an empirical inquiry that investigates a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident". Robson (2002 cited Saunders et al., 2003:93) defined case study as "a strategy for doing research which involves an empirical investigation of a particular contemporary phenomenon within its real life context using multiple sources of evidence". Similarly, Yin (2003) stated that the case study approach is the properly-used approach when inquiring about “what”, “how” or “why” questions in the research. Additionally, Woodside and Wilson (2003:493) proposed a holistic definition of CSR as "an inquiry focuses on describing, understanding, predicting, and/or controlling the individual (i.e. process, animal, person, household, organization, group, industry, culture, or nationality)" and if the main aim of the study is to concentrate on research issues, the focal point of CSR would be theory and/or empirical inquiry on the individual. Based on that definition, CSR involves four basic research objectives (i.e. description, explanation, prediction and control) that could be used independently or combined with any of or all the other objectives (Woodside and Wilson, 2003). Table 2.7 explains these four objectives.

Table 2.7: The four basic research objectives of case study research (CSR)

<table>
<thead>
<tr>
<th>Research objective</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Description</strong></td>
<td>Including attempts to answer who, what, where, when and how questions.</td>
</tr>
<tr>
<td><strong>Explanations</strong></td>
<td>Including attempts to answer the why question, and including reports provided by: the direct participants in the case; informed third-party observers to the case; and the case study researcher.</td>
</tr>
<tr>
<td><strong>Prediction</strong></td>
<td>Including forecasting near-term and/or long-term psychological states, behaviors, or events that will follow within the individual case and/or similar cases.</td>
</tr>
<tr>
<td><strong>Control</strong></td>
<td>Including attempts to influence the cognitions, attitudes and/or behaviors occurring in an individual case.</td>
</tr>
</tbody>
</table>

Source: Adapted from Woodside and Wilson (2003:502).
Moreover, Stake (1986) and Smith (1990 cited Yin, 2003) proposed five applications for case study approach: explanation, description, illustration, exploration, and meta-evaluation of real-life interventions. Although, CSR is concerned with theory building which is paradox to theory testing (Eisenhardt, 1989; Dyer and Wilkins, 1991 cited Woodside and Wilson, 2003), both approaches of theory building and theory testing could be applied in CSR (Darke et al., 1998 cited Lyons, 2005; Myers, 2009).

According to Yin (1994) the case study approach incorporates multiple data collection methods, e.g. archives, different types of interviews, questionnaires, different types of observations, and documents (see Figure 2.4). This methodological triangulation strengthens the validity of research (Meyer, 2001; Johnson et al., 2007; Ma and Norwich, 2007). Since Gray (2004) stated that to conduct case study research, it is important to involve multiple data collection methods.

**Figure 2.4: Case Study using multiple sources of evidence**

Source: Adapted from Yin (2003:100)
As the topic must be investigated in its real-life context to reveal the key issues relating to managing food quality in food production area within hotel sector, CSR is suitable for gaining a deeper understanding of the topic (Yin, 2003). Additionally, Lyons (2005) emphasized the importance of using a case study approach in food related studies, since it represents a critical issue of good practice for practitioners and for academics to be used as a report of industry related practical research in their teaching. Considering the research questions which are "what quality control practices are adopted to achieve effective consistent product quality through the food production processes in hotels?" and "how these quality control practices are best integrated to enhance the consistency of quality product through the food production process in hotels?", the case study research approach represents a proper methodology approach to answer the what, how, or why research questions (Yin, 2003). Therefore the current research applies the case study approach as a methodological strategy to answer the research questions and achieve its aim and objectives.

2.6.2 Thesis Methods—Mixed Methods

According to Forgnier, (2002:146 cited Rihoux, 2003:361) "there was no ideal method in the social and behavioural sciences: the trick is to achieve the best correspondence between that data that are analyzed and the techniques that will be used".

The pragmatic approach associates both quantitative and qualitative methods in a single research study, since it represents the appropriate approach which uses mixed methods in research (Tashakkori and Teddlie, 1998; Creswell and Clark, 2007), since at least
thirteen different authors confirmed this belief (Tashakkori and Teddlie, 2003a cited Creswell and Clark, 2007). Additionally, using multiple data collection methods represents a key requisite when conducting case study approach (Gray, 2004). Therefore, it was decided to use both quantitative and qualitative methods to answer the questions of this research and achieve its aim and objectives.

Mixed methods

Tashakkori and Teddlie (2003a cited Creswell and Clark, 2007) and Guba and Lincoln (2005 cited Morgan, 2007) asserted the possibility of combining qualitative (science and positivism) and quantitative methods in a single research. Since combining quantitative (i.e. science and positivism) and qualitative (i.e. social science and phenomenology) methods represents an approach of best practice in research (Lyons, 2005).

Mixed methods research is the third significant approach along with quantitative and qualitative ones (Johnson et al., 2007). It represents a methodological strategy for collecting, analyzing, mixing and integrating quantitative and qualitative data in a single research (Ivankova et al., 2006) to deeply identify and understand the research problem which will lead to better reflection on the research questions (Johnson et al., 2007).

The main aim of conducting mixed methods strategy is to integrate the data and strengthen the analysis of qualitative and quantitative methods (Creswell and Clark, 2007) through using various viewpoints and perspectives to strengthen the validity of results (Johnson et al., 2007). In addition, it plays a fundamental role in answering complex questions and producing accurate, strong and unique findings, however it
increases the time, cost, resources and effort required to conduct it (Sosulski and Lawrence, 2008).

According to Tashakkori and Teddlie, 2003 cited Ivankova et al., 2006) based on literature review, there are around forty mixed methods strategies. Two major ways are commonly used, i.e. concurrent/parallel and sequential (Creswell et al., 2008) along with conversion method, i.e. transforming qualitative data to quantitative data to strengthen the findings (Creswell et al., 2003 cited Schulenberg, 2007). The most six strategies frequently adopted by researchers are: three sequential strategies, i.e. explanatory; exploratory; transformative, and three concurrent strategies, i.e. triangulation; nested; transformative (Creswell, 2003) as illustrated in Tables 2.12 and 2.13 respectively.

Building on the data illustrated in tables 2.8 and 2.9 the specific type of mixed method adopted in this research is mixed between two strategies: the sequential explanatory strategy and the concurrent nested strategy as the main aim of the research question is to get broader information through using different methods (i.e. web survey, semi-structured interviews, staff attitude questionnaires, and a non-participant observation) within different group levels (e.g. managers, staff) but methods of data collection were not adopted simultaneously but sequential as in the explanatory strategy, i.e. collecting quantitative then qualitative data.
Table 2.8: Comparisons of the three major types of sequential mixed methods strategies

| Main type          | Sub-types      | Description                                                                 | Purpose                                                                                           | Theoretical Perspective                                                                 | Strengths                                                                                           | Weaknesses                                                                                     |
|--------------------|----------------|------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|
| Sequential         | **Explanatory** | The most straightforward. Of the six ones. Collecting and analysing qualitative data then quantitative data. The priority given to quantitative data. | To use qualitative results to assist in explaining and interpreting the findings of a primarily quantitative study. | May or may not have a specific theoretical perspective | Straightforward nature, easy to implement, clear steps, separate stages, and easy to describe and report. | Length of time incorporated with the two separate phases of data collection. |
|                    | **Exploratory** | Collecting and analysing qualitative data then quantitative data. The priority given to qualitative data. | To use quantitative data and results to assist in the interpretation of qualitative findings. The primary focus is to explore phenomenon. | May or may not be implemented within a prescribed theoretical perspective | Easy to implement, and straightforward to describe and report. | Required a substantial length of time to complete both tow phases of data collection. |
|                    | **Transformative** | Either method may be used first. The priority can be given to either qualitative or quantitative phase, or even both if sufficient resources are available. The results of the two phases are integrated during the interpretation phase. | To employ the methods that will best serve the theoretical perspective of the researcher. | It has a theoretical perspective, whether it can be a conceptual framework, a specific ideology, or advocacy. | Shares the strengths of the previous two sequential types. | Shares the weaknesses of the previous two sequential types. there is little guidance on how to use the transformative vision to guide the methods |

Table 2.9: Comparisons of the three major types of concurrent mixed methods strategies

<table>
<thead>
<tr>
<th>Main type</th>
<th>Sub-types</th>
<th>Description</th>
<th>Purpose</th>
<th>Theoretical perspective</th>
<th>Strengths</th>
<th>Weaknesses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Triangulation</td>
<td>strategy</td>
<td>The most familiar of the six ones. This model generally uses separate</td>
<td>It used two types of methods to confirm cross-validate, or corroborate</td>
<td></td>
<td>To integrate the results of the two methods during interpretation to</td>
<td>Requires a great effort and expertise, difficult to compare results of two</td>
</tr>
<tr>
<td></td>
<td></td>
<td>quantitative and qualitative methods concurrently.</td>
<td>results within a single study.</td>
<td></td>
<td>obtain convergence of the findings. It is well-validated and results in</td>
<td>analysis, and difficult to resolve discrepancies.</td>
</tr>
<tr>
<td>Nested strategy</td>
<td></td>
<td>Both quantitative and qualitative data are collected simultaneously. There is</td>
<td>To gain broader perspective It may be employed when a researcher choose to</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Concurrent,</td>
<td></td>
<td>a predominant method that guides the study, and the other method will be</td>
<td>utilize different methods to study different groups or levels, e.g. if</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parallel, or</td>
<td></td>
<td>embedded. Tashakkori and Teddlie (1998) described it as a multilevel design.</td>
<td>an organization is being studied, then employees could be studied</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>quantitatively, managers could be interviewed qualitatively, entire</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>divisions could be analysed with quantitative data, and so forth.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transformative</td>
<td>strategy</td>
<td>It may take on the design features of either triangulation or a nested</td>
<td>To facilitate</td>
<td>Guided by the researcher's use of a specific theoretical perspective,</td>
<td>Shares strengths of nested and triangulation strategy</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>approach. The integration of different data may occur during the analysis</td>
<td></td>
<td>e.g. critical theory, participatory research, or a conceptual or</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>phase.</td>
<td></td>
<td>theoretical framework.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Adapted from Creswell (2003:217-219)
The main objectives of the field work are to investigate management approaches and staff attitudes towards consistent food quality issues in hotel food production areas to develop a workable model for consistent quality within hotel food production areas. Hence, the study's questions are “What quality control practices can be adopted to achieve effective consistent quality products through the food production processes in hotels?” and “How quality control practices are best-integrated to enhance the consistency of quality products through food production processes in hotels?” To obtain information for answering these questions from the number of hotels approached by the researcher over the Cardiff area, four stages were considered to be the most appropriate form of data collection instruments to gather a mix of quantitative and qualitative data.

2.6.2.1 Phase one/Web-based Questionnaires

Delanty (1997 cited Botterill, 2000) revealed that questionnaires were originally emerged in the early of twentieth century, in particular in the emergence of professional social science in the American universities. According to Saunders et al. (1997) There are two types of questionnaire: self-administered (where completed by respondents by post, e-mail or hand) and interviewer-administered (where responses from respondents are recorded by the interviewer such as structured interview and telephone questionnaire). Gray (2004) emphasized the importance of questionnaire as a frequently-used instrument for collecting primary data, particularly in hospitality research (Botterill, 2000). To define questionnaire, Gray (2004:187) stated that
"questionnaires are research tools through which people are asked to respond to the same set of questions in a predetermined order".

Considering web-based questionnaires, Crawford (2002) emphasized the major importance of using them in research as an effective tool for collecting data, particularly after developing the World-Wide Web (www) and electronic e-mails (Fricker and Schonlau, 2002). Web-based questionnaires include two specific forms: either sending a hyperlink involving the survey to respondents or sending an e-mail with attachment including the survey (Fricker and Schonlau, 2002; Veal, 2006).

The first phase in the field work adopted in this study was sending a web-based questionnaire to all targeted hotels (i.e. 31 hotels) in and around the Cardiff area. This has been done through sending an e-mail with a hyperlink (www.uwic.ac.uk/bestbet/foodsurvey) to the survey to hoteliers in charge of food quality to obtain preliminary information relating to: hotel accreditation, size, ownership, food and beverage outlets, number of guests served, staff involved in food preparation, functions and the availability of quality management system in the food production area. A full version of that questionnaire is found in appendix four. The web-based questionnaire was designed using SNAP software.

In July 2006, telephone contact was made with the hotels to ask for the name and the e-mail address of the person who is responsible for managing the food quality in the hotel to send the web-based questionnaire to be completed online. Meanwhile the web-based questionnaire was developed and released to be sent by e-mail to the hotels approached in and around the Cardiff area. After selecting the sample population (hotels that have
food and beverage outlets and have availability to be contacted by e-mail) the researcher decided to send the web-based questionnaire to these hotels. The whole population was 31 hotels in and around the Cardiff area. On 20/9/2006 the researcher sent the questionnaire to 11 hotels out of 31 hotels with a covering letter explaining the aim of the study and asking for their support for this study. Two weeks later, there was just only one respondent out of the 11 hotels completed the questionnaire. Therefore the researcher decided to send the web-based questionnaire to the rest of the whole population to raise the rate of response and also to investigate the previous 11 hotels to persuade the respondents to reply to the survey. This is consistent with Veal (2006) that follow-up represents a significant tool for raising the response rate (Veal, 2006). After contacting these hotels many times (some of them more than ten times through telephone calls or e-mails) to persuade the respondents to reply to the survey, the rate of response was raised to 20 (65%) out of the 31 hotels and this rate was recognized as a good response rate, since Veal (2006) stated that most of the survey response rate in literature is 30%. Respondents who did not respond to the web-based questionnaire were contacted again to identify reasons of not participating. These reasons were varied and included, e.g. that they do not want to help the study at all, their companies' policy does not allow them to help the study, lack of time to help or their hotel food service division was not so big that they just provide only breakfast for hotel guests, however there was one hotel (R6) which offers only breakfast and consented to participate in the current study. This echoed the notion of Lattin (1995) and Bosselman (2007) that a well-run food and beverage operation within a hotel, regardless of the size, makes a profit and increases the overall hotel revenue.
2.6.2.2 Phase two/Semi-structured Interviews and Management Questionnaires

The second phase involved two sections: (1) semi-structured interviews and (2) management attitude questionnaires with the same interviewees.

**Semi-structured interviews**

"Semi-structured interview is a term that covers a wide range of instances. It typically refers to a context in which the interviewer has a series of questions that are in the general form of an interview schedule but is able to vary the sequence of questions. The questions are frequently more general in their frame of reference than that typically found in a structured interview schedule. Also, the interviewer usually has some latitude to ask further questions in response to what are seen as significant replies."

(Bryman and Bell, 2007:213)

Bouma (2000) emphasized the importance of conducting in-depth interviews (i.e. one hour or more) as a way of obtaining significant two aspects: people's thoughts and feelings about specified issue and how can they react about that issue. In addition Coolican (1999) indicated that in semi-structured interviews, researchers should follow a list of specified topics and key questions to be covered and asked during the interview. Nevertheless, there is a flexibility regarding the ordering of questions which leads to extracting more information from participants in terms of issues specified by interviewer (Robson, 1997; Denscombe, 2003).

Audio-tape recording of data followed by verbatim transcription represents a matter of concern to most of social studies researchers (Lapadat and Lindsay, 1999; Davies, 2007). Patton (1990 cited Hoepfl, 1997) emphasized the crucial necessity of interview's tape-recording as a privilege for obtaining a full version of the data and letting the
researcher/interviewer concentrate on the interview rather than writing notes. However, the researcher wrote some contemporaneous notes during the interview in addition to tape-recording for further explain some key issues regarding food quality within hotel food production operations. Additionally, data recording ensured the accurate preservation and analysis of data (Creswell and Clark, 2007) and was a learning tool for the researcher/interviewer (Davies, 2007).

Poland (1995) asserted the major importance of transcribing audio-taped interviews (i.e. basic data in many qualitative research studies) accurately without errors to strengthen the quality of the interpretive activity. Thus, Lpadat and Lindsay (1999) stressed listening and reviewing recorded data several times to obtain an effective transcription. Therefore, the researcher has listened and reviewed the recorded interviews many times to ensure the accuracy of interview transcription. However full transcription of recorded data is more expensive and time consuming, since an hour of audio-tape takes around seven to ten hour to transcribe (Arksey and Knight, 1999), depending on three key elements: the clarity and quality of the tape-recording, the availability of transcribing equipment and the typing speed of the researcher (Denscombe, 2003). According to Corden and Sainsbury (2006) it is important to involve verbatim quotations from respondents through qualitative research analysis to effectively produce a best qualitative research practice; hence some researchers developed a final report with direct quotations. Therefore, interviews were transcribed verbatim (Creswell, 2005 cited Ivankova et al., 2006).
In this study a number of semi-structured interviews were conducted with stakeholders who are in charge of managing food quality in hotels to discuss and obtain in depth information regarding achieving consistent quality of food products through hotel food production processes (see appendix five for sample questions of these interviews). The main aim of conducting these semi-structured interviews was to evaluate whether the company has developed a system to meet its given standard. There was a question at the end of the web-based questionnaire asking respondents whether they consented to being contacted to conduct an interview to obtain further information regarding managing food quality within hotel food production operations. All respondents (13 hotels out of 20) who consented to conduct the interview were contacted by telephone and e-mail communication to ascertain when they would be willing to be interviewed. Seven respondents out of 20 respondents who completed the questionnaire declined to be involved in the interview and after contacting them. The reasons for rejecting the interview were varied which included that they did not want to help at all, they only offered breakfast, lack of time because they were busy, or they feared that the information gained may be used for official purposes. As such 13 (65%) hotels all of which were located in the Cardiff area were identified as the sample size of this study. The first interview was conducted on 23/10/2006 and the last one on 7/12/2006. Each interview lasted between one to two hours. All interviews were taped-recorded in addition to some notes being made of key issues raised within the interviews.

Management Questionnaires
At the end of each interview, a self-administered questionnaire was given to the same interviewees, since they (13 respondents) were then asked to rate their agreement and
acceptance of 11 questions as a quantitative data collection instrument (see appendix six for full version of that questionnaire). The main purpose of this management questionnaire was to investigate the attitudes of management towards aspects relating to ensuring a consistent level of food quality during the steps of hotel food production and to support the qualitative data analyzed from interviews with statistical data analyzed from this questionnaire to strengthen the overall analysis and ascertain the accuracy of some of their responses discussed during the interviews.

2.6.2.3 Phase Three/Staff Attitude Questionnaires

According to Alreck and Settle (2004) investigating people’s behaviours and attitudes relating to specific matters represent one of the commonly-used topics in survey research. Although attitudes would last several weeks, months, or even years; people may change their attitudes when they receive different information or experiences. According to Veal (2006) to identify people's attitude towards a specified issue, it is recommended to use attitude sentences anchored by Likert scales indicating their degree of agreement with that issue.

The questions that address the attitudes of staff represent a significant issue to determine the development of the quality culture within food production staff (Manning, 2000). Therefore the researcher decided the third phase of data collection for the current study, i.e. a self-administered staff attitude questionnaire to ascertain the attitudes of food production staff towards key-aspects relating to ensuring a consistent level of food quality through hotel food production processes (see appendix seven). At the end of
each interview, all respondents asked to allow the researcher to distribute staff attitude questionnaires across hotel food production staff to identify their attitudes towards food quality. Only six hotels out of 13 allowed the researcher to distribute staff attitude questionnaires which involved 65 questionnaires. Out of 65 questionnaires distributed there were 54 questionnaires valid for analysis: R4—eleven questionnaires, R5—seven questionnaires, R6—two questionnaires, R7—eight questionnaires, R9—thirteen questionnaires and R12—four questionnaires.

According to Churchill (1979 cited Ekinci and Riley, 1999) and Pallant (2005) it is preferable to use mixed-worded items (i.e. negative and positive statements) in scale questionnaires to avoid respondents' bias in measurements. Additionally, Engel et al. (1995 cited Ekinci and Riley, 1999) emphasized the major importance of involving negative and positive statements, since the attitude theory is formed by both negative and positive words. Therefore the staff attitude questionnaires of the current study included negative statements beside positive statements.

2.6.2.4 Phase four/Non-Participant Observation

To identify non-participant observation, Bouma (2000) revealed that it is a qualitative method where the researcher is not part in the observation and stands away to observe through using recording devices what is happening in the investigated area. Videorecording provides significance and strength to qualitative analysis, since it allows the researcher to observe non-verbal cues in the observed area (Davies, 2007). Therefore, the researcher decided to conduct a non-participant observation as the main instrument
of the fourth phase of data collection of this study to verify whether the given system is being adhered to (see appendix eight). The observation investigated what has been actually done in hotel food production operations, since it provided information about food handlers and the food production environment within hotel food production areas. When conducting the observation, the researcher used audio-tape recording as well as video-recording to record the observation in addition to checklist involving key issues relating to consistent food quality within hotel food production operations. A full version of this checklist is illustrated in appendix eight of this study. Only one case study (R9) out of 13 allowed the researcher to conduct the compliance audit via a non-participant observation on 29th of November, 2006. The other twelve hotels refused to participate in this phase of the research for various reasons, e.g. that most of the respondents said that the food production area is a critical area which does not allow anyone to come and do an observation; the policy of the hotel rejects to conduct that observation. In addition, one of the cases (R10, i.e. the operations manager) refused to distribute staff attitude questionnaires or even conduct the observation as he frankly said when contacting him by phone.

*We actually face a big issue in quality in the food production area and we cannot allow any external person to audit it*

(R10)

2.7 Sampling and Generalization:

Sampling

Arcury and Quanndt (1999 cited Green, 2001) revealed that researchers seldom articulate how respondents in their qualitative studies are selected. Conversely, Guest et
al. (2006) disputed that a great deal of qualitative studies identified how to select participants. Hoepfl (1997); Guest et al. (2006); Creswell and Clark (2007) revealed that the most commonly-used type of sampling in qualitative research is non-probability sampling, in particular purposeful sampling. On the other hand, in quantitative inquiry it is preferable to use probable sampling strategy (Creswell and Clark, 2007).

In terms of purposeful sampling, researchers purposefully select specific respondents who have experience in a particular issue to be explored and studied (Creswell and Clark, 2007). According to Patton (2002) critical case sampling approach represents one of the sampling techniques of purposeful sampling. The main aim of this sampling technique is ensuring logical generalization and maximum application of information to the other cases, since if accurate information for one case has been truly obtained, it could be generalized for the other cases. Therefore the type of sampling in this study is the critical case sampling techniques to obtain rich information about specific cases to generalize this information to the other cases. For the purpose of identifying the target population, Table 2.10 illustrates all websites used to determine the population (hotel cases) of this research. The targeted population was geographically in and around the Cardiff area, because Cardiff is the capital of Wales that represents a famous tourist destination, especially for domestic tourists in addition to overseas tourists, since there is a remarkably strong growth in tourism sector in Wales (BDO Hospitality Consulting, 1996).

| Table 2.10: Different hotel websites used to identify targeted population (hotel cases) |
|---------------------------------|---------------------------------|
| www.waleswebsite.co.uk/hotels | www.southernwales.com |
| www.walesdirectory.com | www.priceline.co.uk |
| www.activehotels.com | www.visitwales.co.uk |
| www.southwales.com | |
Sample size

According to Ragin et al. (2003) social studies are found in two different categories: either extensive (i.e. addressed large number of cases) or intensive (i.e. addressed small number of cases). Guest et al. (2006) noticed that some studies present guidelines for actual sample sizes and propose actual numbers for interviews in qualitative research which vary depending on the type of research and the viewpoint of author; however none of these studies provide evidence and justification for their proposals.

There are two key-different strategies for identifying sample size: breadth and depth, since in breadth researchers could approach larger number of cases to study a specific set of experiences, whereas in depth researchers could approach a smaller number of cases to obtain more rich information, thus random probable samples are not good for in depth strategy but purposeful samples (Patton, 2002). In quantitative inquiry, the sample size needs to be large enough for effective statistical analysis (Creswell and Clark, 2007). Since Davies (2007) stated that it might be between 50 and 120 or more. While in qualitative inquiry, Patton (2002:244) stated "there are no rules for sample size in qualitative inquiry", however it depends on different aspects, e.g. purpose of study; credibility of information; availability of time and resources. Qualitative studies are featured by its small sample size to obtain rich information (Creswell and Clark, 2007). Davies (2007) suggests that it could be between five and twenty.

Creswell and Clark (2007) revealed that most researchers who are interested in the CSR approach frequently address a small number of cases to be deeply examined. Thus, many researchers attempt to examine only one or two cases in their research (Ragin et
al., 2003). However, the use of a multiple case study approach which contains more than one case which has been analyzed independently and across the cases (Stake, 1995; Yin, 2003 cited Ivanoka et al., 2006) enables researchers to conduct a quantitative analysis (Lyons, 2005) through looking for similarities and differences across cases to develop theoretical reflection on the findings (Bryman and Bell, 2007). Since Creswell and Clark (2007) proposed four to ten cases to be studied.

In mixed method strategy, it is possible to use the same participants or individuals in both qualitative and quantitative samples in order to compare data or use different participants or use unequal sample sizes to provide a full picture of the study (Creswell et al., 2008). Therefore the sample size of this research is 13 hotels to obtain rich information and the same respondents were approached to get further information through using multiple different methods for data collection.

Generalization

Lewis and Ritchie (2003) emphasized the importance of generalization, although it is not clear and some researchers refuse and ignore it in their studies. According to Brewer and Miller (2003) and Lewis and Ritchie (2003) generalization is achieved through two key-steps: First, theoretical inference via data to build theory and concepts; second, empirical application of data to a broader population. In quantitative research Flick (1999) and Brewer and Miller (2003) revealed that using randomly-unbiased sampling can lead to generalization. While in qualitative research, although it is featured by its small number of cases approached, empirical generalization can be achieved through parallel qualitative studies with different cases so that comparisons
can be conducted between them comparison between different fields in a single case (Brewer and Miller, 2003; Lewis and Ritchie, 2003). Therefore, researchers who are interested in a single case study claim to generalize the findings coming out from that case (Bryman and Bell, 2007). Additionally, Flick (1999) reported that generalization can be achieved in CSR when using a constant comparison analysis to compare between similarities and differences across cases. The current study achieved generalization through conducting multiple case study approach and using constant comparison analysis as a main analytical technique to compare similarities and differences between the cases.

2.8 Triangulation:

Campbell and Fiske (1959 cited Ma and Norwich, 2007) revealed that the concept of triangulation was first launched in the approach of quantitative data analysis. According to Tashakkori and Teddlie (1998) triangulation techniques are a common approach in all mixed methods studies. Ma and Norwich (2007) disputed that triangulation aims to strengthen the validity of research by using multiple methods and measurement procedures only when encompassed within the same methodology. Moreover, Flick (1999) concluded that it is more than a strategy or a tool for validating results, since it is an alternative to validation.

Considering different strategies of triangulation, Denzin (1989b cited Flick, 1999) proposed four distinctively types: (1) data triangulation (i.e. using various sources in a study), (2) investigator triangulation (i.e. using various different researchers), (3) theory
triangulation (i.e. using multiple perspectives and theories to interpret the results of a study), and (4) methodological triangulation (i.e. using multiple methods to study a research problem) which consists of two types: within-methods triangulation (i.e. using either multiple quantitative or qualitative approaches) and between-methods triangulation (i.e. using both quantitative and qualitative approaches). Almost the same types have been suggested by Patton (2002) as follows: methods triangulation, i.e. integration of data collection through using qualitative and quantitative methods; data triangulation, i.e. comparing between different data sources at different times and by different means (e.g. comparing interviews with observations, different views of people, and sane people at different times); triangulation through multiple analysts, i.e. using several investigators or interviewers to reduce the likelihood of bias; theory triangulation, i.e. using different theoretical perspectives in the same data. Jick (1979 cited Johnson et al., 2007) summarized the following privileges of triangulation: confidence of findings; development of creative ways of data collection; richness of data; integration and competency of theories; disclosure of discrepancies. Consequently the current study adopts the triangulation technique through combining quantitative and qualitative data in a single research to strengthen its validity and ensure the richness of information obtained from the fieldwork of this study.

2.9 Validity:

According to Lewis and Ritchie (2003) validity is the correctness or precision of the research reading. To identify validity, Veal (2006:117) defined it as "the extent to which the data collected truly reflect the phenomenon being studied"; yet tourism
studies encounter difficulties in achieving that condition due to the nature of empirical research which relies on the behaviours and attitudes of people rather than natural sciences. According to Creswell and Clark (2007) the validity in qualitative inquiry differs than the validity in quantitative inquiry, but it leads to ensuring the quality of data and analysis in both approaches. Concerning validity in qualitative research, Ryan and Bernard (2003:103) stated that "there was no ultimate demonstration of validity, but we can maximize clarity and agreement and make validity more". In addition, Creswell and Clark (2007) stated that it is difficult to identify the validity of qualitative research; however they represent it as ensuring the accuracy of information obtained from data collection through triangulation of data from various sources (e.g. transcripts, pictures) or from various individuals. Whereas in quantitative research Creswell and Clark (2007:133) stated "validity means that the researcher can draw meaningful inferences from the results to a population". Yin (1994) emphasized the importance of using a case study approach in research, thus incorporating multiple data collection methods to strengthen the validity of constructs and hypotheses of the research. In addition, Ma and Norwich (2007) disputed that triangulation aims to strengthen the validity of the research by using multiple methods and measurement procedures when encompassed within the same methodology. Moreover, Flick (1999) concluded that triangulation is more than a strategy or a tool for validating results, since it is an alternative to validation (repeated in triangulation). Consequently the current study achieves validity through using multiple sources of data collection methods and through conducting triangulation techniques to strengthen the validity of the data collected.
2.10 Reliability:

Bryman and Bell (2007:40) stated that "reliability is concerned with the question whether the results of the study are repeatable"; whether another study using the same methods has been conducted (Lewis and Ritchie, 2003; Veal, 2006). However, social studies in which tourism and leisure research rarely achieve that condition as it deals with people's behaviours and attitudes (Veal, 2006). The reliability in qualitative inquiry is judged by different criteria than that used for quantitative inquiry (Guba and Lincoln, 1994; Madill et al., 2000 cited Hruschka et al., 2004). Ryan and Bernard (2003) concluded that there is no specific single way for identifying themes in qualitative data, since each one could see the data differently. Although, Lewis and Ritchie (2003) stated that the concept of reliability in qualitative research is ignored due to its naive feature and difficulty to be repeated, Creswell and Clark (2007) argued that reliability is common but it is limited in qualitative research, and we can obtain it by comparing coding data among several coders. Whereas in quantitative data; reliability represents those answers and scores obtained from participants which are consistent and stable over time (Creswell and Clark, 2007). Pallant (2003) confirmed that if the Cronbach's Alpha is above 0.7, the scale of the sample will be reliable.

The qualitative data of this research has been classified into key themes and codes to ensure its validity. While in quantitative data instruments that used scale questions such as management questionnaires and staff attitude questionnaires, the researcher has conducted the Cronbach's Alpha coefficient that is 0.875 for management questionnaires and 0.77 for staff attitude questionnaires. This means that the reliability
has been achieved and the scale has been recognized reliable with the sample (Pallant, 2003). These two tests are illustrated in Tables 2.11 and 2.12 respectively.

Table 2.11: Reliability Statistics for the 13 management questionnaires distributed across 13 hotel cases

<table>
<thead>
<tr>
<th>Cronbach's Alpha</th>
<th>N of Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>.875</td>
<td>11</td>
</tr>
</tbody>
</table>

Table 2.12: Reliability Statistics for the 54 staff attitude questionnaires distributed across 6 hotel cases

<table>
<thead>
<tr>
<th>Cronbach's Alpha</th>
<th>N of Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>.770</td>
<td>16</td>
</tr>
</tbody>
</table>

2.11 Ethical Considerations:

Bryman and Bell (2007) identify four ethical issues which should be taken into account in the business and managerial studies: First, harm to participants (i.e. the research should not harm the participant within all stages of research by ensuring confidentiality or anonymity); second, lack of informed consent (i.e. the research participants should be given as much information as needed to give them the opportunity whether or not they wish to participate); third, invasion of privacy (i.e. research participants have the right to refuse to respond to any sensitive information when withdrawing information from them); fourth, deception (i.e. when researchers represent their research as something other than what it is). In addition permission should be obtained to collect data from research participants from them or from the person in charge of the organization approached (Creswell and Clark, 2007).
The research study was designed in a way which ensured that it met the appropriate ethical standards for social science research. In recruiting hotel restaurants as cases to the study, an email was sent to the subjects as a method of introduction to explain to them the nature of the study and to invite them to participate. As part of the email, there was a link to a questionnaire to collect some profiling data and to record their consent to participate. Bouma (2000) emphasizes the importance of sending a letter of introduction to respondents which will help to identify the researcher and secure the cooperation of respondents with the proposed research. Therefore a covering letter was used in this research to identify the researcher and to explain how anonymity of participants would be ensured. The participants were assured of their anonymity in relation to the sharing of the information. Arksey and Knight (1999) emphasized the importance of anonymity and they explained that this means that the identity and personal information of participants is not disclosed unless they agree. In this study the individual cases were coded and in the thesis are only referred to by their codes. None of interview transcripts that might enable participant identification are included and the email correspondence with participants is similarly not included.

To ensure these ethical principles, as previously mentioned the researcher coded the names of participants. Each participant was been given a code which involved the letter R (i.e. an abbreviation relating to the first letter of the word respondent) followed by a number determined according to the date of conducting the interview, since R1 means the first interview and R2 means the second one until R13 as 13 hotels agreed to conduct the interview. Whereas, the rest of the hotels (seven hotels) that completed the survey but refused to conduct the interview, there was no meaning for the number after
the letter R except to differentiate between these hotels. In addition, when contacting all participants the researcher has put in the covering letter the sentence that everything will be confidential and it will not be used for anything other than the study aim and all personal data will be kept secret. Furthermore the researcher provided all participants with the information about the research and its aims. The researcher was given permission from all of them to collect data using different instruments and to audio-record the interview and video-record the observation. The right of participants to withdraw from the study and not to answer any sensitive questions was emphasised. Permission from managers was taken before distributing staff attitude questionnaires and employees were invited by managers to participate by responding to the employee questionnaire with the manager explaining that participation was voluntary.

The results presented in chapter four in relation to phase 4 were collected using non-participant observation. This posed some interesting ethical considerations. Access was negotiated in the one hotel which agreed for the non-participant observation to take place through the operations manager and was arranged for a day when the hotel kitchen would be in receipt of foodstuffs. The operations manager had explained to the executive chef and other staff the purpose of the non-participant observation. The interesting question is if the presence of the researcher changed the behavior of the kitchen staff. This is a question that is impossible to answer and a potential limitation of the research. Alternative approaches might have been covert participant observation with the researcher masquerading as a temporary member of staff. For a variety of reasons this was not an option.
2.12 Data Analysis:

Strauss and Corbin (1998:13) described analysis process as "the interplay between researchers and data". Table 2.13 shows the different procedures in qualitative and quantitative data analysis.

Table 2.13: Procedures in quantitative and qualitative data analysis

<table>
<thead>
<tr>
<th>Quantitative procedures</th>
<th>General procedures in data analysis</th>
<th>Qualitative procedures</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Coding data by assigning numeric values</td>
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<td></td>
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<tr>
<td>• Cleaning the database</td>
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<td></td>
</tr>
<tr>
<td>• Recording or computing new variables for computer analysis</td>
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<td></td>
</tr>
<tr>
<td>• Establishing code book</td>
<td></td>
<td></td>
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<tr>
<td>Preparing the data for analysis</td>
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<td></td>
</tr>
<tr>
<td>• Organizing documents and visual data</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Transcribing text</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Preparing the data for computer analysis</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Visually inspecting data</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Conducting a descriptive analysis</td>
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<td></td>
</tr>
<tr>
<td>• Checking for trends and distributions</td>
<td></td>
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</tr>
<tr>
<td>Exploring the data</td>
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<td></td>
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<tr>
<td>• Reading through the data</td>
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<td></td>
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<tr>
<td>• Writing memos</td>
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<tr>
<td>• Developing qualitative codebook</td>
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<td></td>
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<tr>
<td>• Choosing an appropriate statistical test</td>
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<tr>
<td>• Analyzing to answer research or test hypotheses</td>
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<tr>
<td>• Reporting inferential tests, effect sizes, confidence intervals</td>
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<tr>
<td>• Using quantitative statistical software programs</td>
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<tr>
<td>Analyzing the data</td>
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<td></td>
</tr>
<tr>
<td>• Coding the data</td>
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<td></td>
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<tr>
<td>• Assigning labels to codes</td>
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<td></td>
</tr>
<tr>
<td>• Grouping codes into themes (or categories)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Interrelating themes (or categories) or abstracting to smaller set of themes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Using qualitative software programs</td>
<td></td>
<td></td>
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<tr>
<td>• Representing results in statements of results</td>
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<td></td>
</tr>
<tr>
<td>• Providing results in tables and figures</td>
<td></td>
<td></td>
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<tr>
<td>Representing the data analysis</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Representing findings in discussions of themes or categories</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Presenting visual models, figures, tables</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Using external standards</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Validating and checking the reliability of scores from past instrument use</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Establishing validity and reliability of current data</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Validating the data</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Using researcher, participant, and reviewer standards</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Employing validation strategies (e.g., member checking, triangulation, peer review)</td>
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</table>


To analyze mixed method data (i.e. quantitative and qualitative), Creswell and Clark (2007) suggested the use of two stages: First, analyzing each type of data individually; second, merging the two data sets by comparing and discussing the findings to develop
a complete picture of the data collected. Statistical Package for the Social Sciences or SPSS was launched in 1989 as an analytical tool for questionnaire data (Davies, 2007). Therefore SPSS version 15.0 for windows was used to facilitate the production of basic frequencies and percentages for all responses of the three quantitative methods in this research (i.e., web-based questionnaire, management questionnaire, and staff attitude questionnaire). According to Pallant (2000) the proper technique recommended when statistical data is nominal (categorical) or ordinal (ranked) is non-parametric techniques (e.g. Spearman's rank order correlation; Mann-Whitney U test) which are highly-preferable in small samples as well. Therefore two techniques were used to analyze the statistical data: (1) Spearman's rank order correlation to identify the significance (P<.05) of relationship between two variables in management questionnaire and staff attitude questionnaire; (2) Mann-Whitney test for results coming from staff attitude questionnaire to identify the difference between two groups (see Pallant, 2000).

Considering qualitative data analysis, Coolican (1999) revealed that the appropriate technique of analyzing data obtained from semi-structured interviews is content analysis. This technique is commonly used to analyze non-statistical data in a systematic way (Finn et al., 2000). McNeil (1990 cited Finn et al., 2000:135) defined it as "a method of analyzing the contents of documents or other non-statistical material in such a way that is possible to make statistical comparisons between them". According to Hruschka et al. (2004) the most common widespread approach which is applied by most social researchers is to analyze qualitative data through identifying and coding data into themes. This approach incorporates various tasks, e.g. discovering themes and
sub-themes, picking important themes, establishing hierarchies of themes, and linking themes into theoretical models (Ryan and Bernard, 2003).

Kurasaki (2000) identified that themes are the joint concepts emerged in qualitative data not invented from the researchers' imagination. Therefore, researchers should share their voices with participants (e.g. interviewees) to produce a quality interpretative analysis (McCormack, 2000). According to Ryan and Bernard (2003) themes emerge from two perspectives: (1) the inductive approach of data (i.e. empirical data, e.g. texts, images, and sounds) and (2) theoretical understanding of investigator about the study. Discovering themes starts with transcribing audio-taped data (Ryan and Bernard, 2003). To highlight the importance of identifying texts in qualitative data into themes, Ryan and Bernard (2003) summarized the following potential benefits:

- Themes represent the focal point for social science research, since without them researchers could not say anything about their research.
- Themes enable consumers of qualitative research to evaluate our methodological issues.
- Themes give researchers an explicit and vocabulary to be used in epistemological and methodological issues.

Additionally, Ryan and Bernard (2003) emphasize the importance of seeking similarities and differences in analyzing qualitative data, since Glaser and Strauss (1976:101-16 cited Ryan and Bernard, 2003) titled this technique as the constant comparison method which covering looking for similarities and differences by making systematic comparisons across units of data. Therefore many researchers preferred to
incorporate this technique to identify themes in their qualitative data as well as their personal experiences and themes derived from previous studies (Strauss and Corbin, 1990; Dey, 1995; Sandelowski and Barroso, 2002; Ryan and Bernard, 2003 cited Markovic, 2006).

The qualitative data of this study from semi-structured interviews and non-participant observation has been analyzed using content analysis to identify similarities and differences between hotel cases through categorizing data into key themes. From these themes a number of major findings have emerged. Additionally, an extensive number of verbatim quotations have been used within data analysis of this study to strengthen the quality of the study. This supports the notion of Corden and Sainsbury (2006) that there is an emphasis to incorporate verbatim quotations from respondents through qualitative research analysis to effectively produce a best qualitative research practice that some researchers developed a final report with full of direct quotations. Therefore, there is a need to transcribe interviews verbatim (Creswell, 2005 cited Ivankova et al., 2006).

In phase 1 descriptive statistics to produce frequency data was done on the 20 completed questionnaires received from the 31 hotels invited to participate analysis was done using SPSS version 15.0.

In phase 2 the semi-structured interviews were analyzed using content analysis to identify the key issues identified by the managers for each case and cross-case analysis (Yin, 2009) was used to identify congruence and dissonance between cases. To analyze
the management questionnaire SPSS version 15.0 was used to achieve descriptive statistical analysis of the data. Frequency data and correlations between the various questions were calculated. The Mann-Whitney U test was used to determine differences between those hotels with a quality manual and those without.

In phase 3 descriptive statistics using SPSS version 15.0 was done to produce frequency and correlations between the various questions of the staff attitude questionnaire for the six hotels. The Mann-Whitney U test was used to differentiate between those hotels in which leadership was committed to quality manual and those hotels in which leadership was not committed to quality manual.

In phase 4 the data comprised a list of comments relating to each phase of the food production process from receipt of goods to presentation on the plates or buffets supplemented by comments from kitchen staff. These were analyzed using content analysis and themes identified as presented in chapter four.

2.13 Summary:

This research adopts a pragmatic approach with abductive reasoning as a properly integrated strategy. It uses a case study approach to combine quantitative and qualitative methods for data collection to answer the research questions and achieve its aim and objectives. Various sources of evidence were used in this research which included: an online survey; semi-structured interviews; a management questionnaire; a staff attitude questionnaire; non-participant observation. Data will be analyzed through
using content analysis technique with constant comparison analysis to compare between similarities and differences across cases to ensure generalization.

Figure 2.5 provides an overview of each of the phases of the research study. Phase 1 was the invitation to hotels to participate in the study. 31 hotels were approached and 20 responded to the questionnaire. Of these 13 hotels proceeded to Phase 2 which involved semi-structured interviews and management questionnaire with managers who are in charge of food quality in hotel food production areas. Of these six hotels proceeded to Phase 3 that included distributing staff attitude questionnaires to the hotel food production staff. Only one hotel out of the 13 hotels proceeded to phase 4 which is non-participant observation though all stages of food production process from receipt of goods to presentation on plates or buffets.
Figure 2.5: Summary of the four phases of the research study (numbers in the boxes to the right indicate the numbers of hotels involved at each stage of the research).

Phase 1: Email contact with potential participants to collect profiling data and voluntary informed consent to participate using a web-based questionnaire.

- 20 consents/31 invites

Phase 2: Semi-structured interviews and management questionnaires.

- 13 participants/20 in Phase 1

Phase 3: Staff attitude questionnaires

- 6 hotels participating/13 cases in Phase 2

Phase 4: Non-participant observation in hotel kitchen

- 1 non participant observation/13 in Phase 2
### CHAPTER THREE: LITERATURE REVIEW

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3.1 Introduction

This chapter presents a critical review of the literature relevant to this study. Section 3.2 explores quality management and discusses alternative approaches to quality management. The chapter moves on to discuss quality issues related to the hospitality industry in Section 3.3 before looking specifically at the hotel sector to identify types of hotels, quality in hotels in Section 3.4. Following this section 3.5 explores issues relating to hotel food and beverage operations identifying their importance, the various types and the quality issues relating to food production. Section 3.6 explores the concept of consistent quality and section 3.7 discusses the relationship between food quality and consistency. Section 3.8 focuses on ISO standards addressing their evolution and their use as a model for a consistent quality. Section 3.9 explores the concept of a systems approach and section 3.10 moves on to discuss the development of an effective quality control system covering five major areas, i.e.: system development; system documentation; system implementation; system maintenance; system improvement. Section 3.11 develops a conceptual framework for a consistent hotel food production quality management system (QMS) that will be used as a framework for collecting data and will be reflected on it in chapter nine. The chapter culminates in a summary of the key issues highlighted in the previous sections (section 3.12).

3.2 Quality and Quality Management

Several studies have recognised quality as a vital issue for economic performance (Kimes, 2001; Skalpe and Sandvik, 2002), i.e. maximizing product price and increasing
market share to influence return on investment (Kimes, 2001). Curry and Kadasah (2002) argued that a quality culture is influenced by the attitudes and perceptions of employees towards quality. Thus, it should be interlinked with the people and business culture to obtain appropriate outcomes (Pallet et al., 2003).

To identify the benefits of quality, King and Cichy (2006) considered quality as a critical issue for assuring customer loyalty, competing with other rivals and surviving in difficult market conditions. Additionally, Motwani (2001) stated that applying higher quality has several advantages, e.g. less rework, cost cutting, increased productivity, lower prices, and higher market share. To achieve and sustain these advantages, continual improvements in quality are important (Oakland, 2003). Karapetrovic and Willborn (2001) summarized some of the benefits that a company can gain from a successfully-implemented quality system (see Table 3.1).

**Table 3.1: Benefits of implementing a successful quality system**

- Increased confidence in the quality services,
- Added value, minimised quality cost, maximised revenues,
- Reduced paper work and bureaucracy,
- Enhanced company image and competitiveness,
- Improved training of staff, higher morale and job security,
- More effective cooperation of the client and the company,
- Improved operational control by means of internal and external audits,
- Attracting new customers,
- Continuous improvement of the service quality.

Source: Adapted from Karapetrovic and Willborn (2000).

### 3.2.1 Understanding Quality

Definitions of quality are many and varied. *"The word quality is one of the most widely used, and abused words and quality is a subject about which nearly everyone likes to..."*
According to Oakland (2003), Fernandez and Bedia (2004) and Eraqi (2006) the term quality is not necessarily about luxury or expensive products or services but it is about meeting or exceeding customer needs. These ideas echo in the British Standard definition, i.e. “the totality of features and characteristics that bear on its ability to satisfy stated or implied needs” (British Standard 4778, 1987; ISO 8402, 1986 cited Hayman, 1994:17). Therefore the appropriate level of quality depends on the customer as emphasised by Reeves and Bednar (1994 cited Chiu and Lin, 2004:187) who described quality as "the extent to which a product or service meets a customer’s expectations".

Almaraz (1994:9) identifies three bases for defining quality that are most commonly utilized in the writings of the operations management literature and the quality gurus, such as Deming (1986), Juran (1988), and Crosby (1984):

1) **User-based definition**: Quality is measured by the degree to which the wants and needs of customers are satisfied. O’Neill and Palmer (2004:40) support the importance of the customer perceptions of quality in uniting the definitions of Crosby (1984) and Juran (1982), i.e. "conforming to requirements" and "fitness for use", respectively. Most recently, the UK Department of Trade and Industry (DTI, 2008: 2) suggested that the most appropriate definition of quality is "delighting the customer by fully meeting their needs and expectations". Where customer can be either external (a client) or internal (a colleague) and needs referred to the product or service provided (Yeates and Wakefield, 2004). Clearly customer satisfaction is a critical element in business survival.
2) **Product-based definition:** Quality refers to the amount of desired attributes contained in the product. ISO 2000 (cited Schroder and McEachern, 2002:79) and BSI EN 9001 (2000 cited Manning *et al.*, 2006: 91) defines quality as the "degree to which a set of inherent characteristics (distinguishing features) fulfils requirements"

3) **Manufacturing-based definition:** Quality is measured by the percentage of scrap or rework required during the production process.

Sebastianelli and Tamimi (2002: 443-444) supplement these with two additional bases for defining quality:

4) **Transcendent-based definition:** Quality is synonymous with innate excellence. Wyckoff (2001: 29) proposed that quality may be defined as “the degree of excellence intended, and the control of variability in achieving that excellence, in meeting the customer’s requirements” and highlighted three key components: (1) design quality, or the intended degree of excellence (2) conformance quality, or the minimizing of variance from the intended design, and (3) fitness of design, or the extent to which the product meets the customer’s needs.

5) **Value-based definition:** Quality is a performance with an acceptable price, or a conformance with an acceptable cost. Morgan (1992:17) emphasises the issue of matching quality and cost to market needs in citing Deming (1982) and suggesting that quality is "a predictable degree of uniformity and dependability at low cost and suited to the market". It is probably more important that the cost is acceptable to the customer than that the cost is low.
These various bases identify the key elements in quality delivery, i.e. the manufacturing process; the product; the customer. The product must be delivered with consistent quality and at an appropriate price to satisfy customer expectations. Northen (2000: 230) explores the issue of objectivity in relation to quality and suggests a spectrum from quality being about “technical specification (Garrett and Silver, 1973)” to it being about its “metaphysical properties and transcending measurement (Steenkamp, 1989)”.

A number of definitions cut across these categories and emphasise the importance of taking a holistic view of quality. Murdick et al. (1990 cited Mogendorff, 1999:127) for example provided a detailed definition of quality which has been "quality comprises the degree to which attributes of the service desired by the users are identified and incorporated in the service and the degree to which desired levels of these attributes are perceived by the users to be achieved". Similarly, Madu (1998 cited Madu and Madu, 2003:130) defined quality as “an organization wide effort to continuously improve products and services delivered to customers by developing supporting organizational culture and implementing statistical and management tools”. Oakland (2000 cited Douglas and Connor, 2003:166) described quality as “a way of managing business processes to ensure complete consumer satisfaction at every stage, internally and externally”.

Thus, there are critical elements in relation to quality. Customer satisfaction must be the priority in quality evaluation and the service provider must have a complete understanding of the product attributes which meet customer requirements in terms of the product specification. There must be processes in place which ensure the consistent
delivery of quality and these processes must be defined and managed properly. System
design will lead to manufacturing processes that will result in consistent product quality
that will delight customers. Customer feedback should lead to continuous improvement
of the system design (see Figure 3.1).

3.2.2 Quality Management

Quality, in general, and service quality in particular, have been considered as major
concerns within management literature and the strategic plans of many organisations
recognize quality as a focal point for success (Skalpe and Sandvik, 2002). As
emphasised in the previous section of this chapter, a systematic approach to quality
must be considered and must be visioned, initiated, planned, delivered and maintained
(Pallet et al., 2003). Management has been described as a process of directing a
sequence of functions that utilize resources to achieve specified targets (Hayman, 1994).
According to Ho and Fung (1994) most of the quality gurus revealed that 80% of
quality problems are related to management, whilst only 20% are related to employees.
Thus, quality has to be managed effectively and adopted throughout the organization by
being shared amongst all employees (Oakland, 2003). Therefore quality issues appear to be a management concern (Lindoe and Olsen, 2004).

Munro-Faure and Munro-Faure (1992) stated that quality has not been clearly defined in business although it was a key issue even for large organisation survival. Additionally, product quality has been considered as a reflection of an organisation's reputation which leads to the success for both organisations and their employees (Lockyer et al., 1991). Therefore, quality has been widely viewed as the “hallmark of every successful company” (McIlveen, 1994:18). Moreover, Gendron and Burlingham (1989 cited Munoz et al., 1992) stated that to save time and cost, it is important to produce a quality product first time rather than to return it for correction and repair. Therefore, the cost of poor quality is a critical issue which can exceed the cost of developing quality (Wyckoff, 2001). It has been estimated that the cost of poor quality was around 20% of the gross profit in the manufacturing industry, whereas in the service industry it averaged around 30% (Tally, 1991 cited Skalpe and Sadvik, 2002).

BS 4778: Part 1: (1987 cited Hayman, 1994: 24) defined quality management as "that aspect of the overall management function that determines and implements the quality policy". A QMS must stress clear principles and measures for consistent levels of quality to be achieved (Hofmann and Geiger, 1995). Waller (1999) explained that quality management involves a systematic planning of all operational activities, techniques, and procedures and that the elements of that system must be clearly-defined and well-managed. Within an organisation, quality must be defined in a way which is clearly valid, relevant, reliable, and understood for all people in the operation (Waller,
Soriano (1999) emphasized that every organization had the right to define quality in its own way according to the type of product and service and customers' demands.

Thiagarajan and Zairi (1997b) argued that any management programme should include two distinguishing aspects: (1) hard (quantifiable production techniques) and (2) soft (qualitative) aspects. In discussing this further, Wilkinson et al. (1991, 1992 cited Rees, 1995) explained that the hard aspects include total quality control, just-in-time production, and task-based teamwork, whereas the soft aspects involve the use of human resources to establish commitment to quality; and management reinforcement towards cultural change, customer satisfaction, and continuous improvement. To develop a comprehensive QMS, Heymann (1992) suggested ten operational elements that should be included as follows:

1. Establish a culture of quality
2. Develop a team orientation;
3. Develop leadership skills;
4. Develop customer-driven policies and procedures;
5. Set standards;
6. Develop human resources;
7. Plan for quality;
8. Build systems to measure achievements;
9. Evaluate performance to improve performance;
10. Build reward and recognition systems.
Quality management encompasses all activities that managers carry out to implement their quality policy, e.g. quality planning; quality control; quality assurance; quality improvement (Praxiom Research Group, 2005). According to King and Cichy (2006: 9) "there is no right or wrong way to achieve quality" although they identify three common threads for organizations wishing to excel in managing and improving quality: 1) leadership by top management; 2) a view that quality is long-term process; 3) a passion for gathering and acting on feedback from customers.

3.2.3 The Evolution of Quality

Systems for managing quality have evolved rapidly in recent years. Four distinct stages can be identified: inspection; quality control; quality assurance; total quality management (Lockwood, 1996). Figure 3.2 illustrates the evolution of quality management.
Quality Inspection

Inspection was the earliest, and the easiest, approach to quality management and focused on discovering any defects in a product/service before delivering to customers through an inspection stage(s) (Lockwood, 1996) using a checklist to audit the physical attributes of the product to get things right (Davis et al., 2001). The emphasis is on putting things right rather than identifying problems and dealing with the cause of defective products (Lockwood, 1996; Davis et al., 2001).
Quality Control (QC)
The concept of quality control emerged in the United States in the 1920s and was based on controlling the distribution of defective products (Berk and Berk, 2000). Quality was defined as defect-free and quality control was often applied at the end of manufacturing process to check that the product was right. If not, it would be rejected and either scrapped or reworked (EAMS Research Team, 1999). Minor and Cichy (1984: 248) described quality control as "ensuring day-in, day-out consistency of quality of product or service". Whilst the British Standards Institute (cited Waller, 1999: 172) defined it as "a system for programming and co-ordinating the effect of various groups within an organization to maintain and improve quality at an economic level that allows for customer satisfaction". Munro-Faure and Munro-Faure (1992: 6) stated that "quality control was designed to answer the question: 'have we done the job in accordance with the requirements?'". To achieve this production processes must be observed and performance problems should be solved through stages (Praxiom Research Group, 2005).

Quality Assurance (QA)
Jones and Lockwood (2004) differentiated between quality control and quality assurance stating that quality assurance is designed to ensure that errors do not occur. Table 3.2 shows various definitions of quality control and quality assurance.
### Table 3.2: Generic definitions of quality control / assurance

<table>
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<tr>
<th>Definition</th>
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<tr>
<td><strong>Quality Control</strong></td>
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<tr>
<td>“An effective system for coordinating the quality maintenance and quality improvement efforts of the various groups in an organization so as to enable production at the most economical levels which allow for full consumer satisfaction.”</td>
<td>Feigenbaum (1951)</td>
</tr>
<tr>
<td>“The core activity in any quality management programme through which actual quality performance can be measured, compared against a qualified standard, and acted upon to prevent deficiencies.”</td>
<td>Sinha and Willborn (1985)</td>
</tr>
<tr>
<td><strong>Quality Assurance</strong></td>
<td></td>
</tr>
<tr>
<td>“All those planned or systematic actions necessary to provide adequate confidence that a product or service will satisfy given needs.”</td>
<td>ANSI/ASQC (1978)</td>
</tr>
<tr>
<td>“A planned and systematic pattern of all means and actions designed to provide adequate confidence that items or services meet contractual and jurisdictional requirements and will perform satisfactorily in service. Quality Assurance includes Quality Control.”</td>
<td>Canadian Standard Association Standard (1978)</td>
</tr>
</tbody>
</table>

Source: Munoz et al. (1992:8).

The British Standards Institute (cited Waller, 1999: 172) defined quality assurance as "all activities concerned with attainment of desired quality designing quality into the system, error prevention and ensuring that no problems occur". These activities ensure that all quality requirements have been achieved which in turn affect the confidence of customers and managers about the quality of products (Praxiom Research Group, 2005). Quality assurance also can be described as “a strategic management function concerned with the establishment of policies, standards and systems for the maintenance of quality” (Early, 1995 cited Walley et al., 1999: 149).

King (1984) suggested that most definitions of quality assurance comprise five distinct concepts:

- Standards set on the basis of customers’ wants and expectations;
- Products and services designed to meet those standards;
- Production methods that meet customer requirements are the lowest cost;
• A system for ensuring that the operation’s output meets those standards;
• Procedures that minimize “non-conforming output,” or the failure to meet standards.

Effective quality assurance activities will lead directly to safe and quality products and processes (Manning and Baines, 2004). Munro-Faure and Munro-Faure (1992) stated the key features of an effective quality assurance will in turn lead to: an effective QMS; a regular audit of the operation of the system to ensure it is effective; a regular review of the system to ensure it continually meets the changing requirements imposed on it.

Total Quality Management (TQM)

Total Quality Management (TQM) originated in Japan in 1949 and was adopted by companies in the United States of America around 1980 (Powell, 1995, cited Martinez-Lorente et al., 1998) and subsequently achieved universal acceptance due to increased levels of competition amongst organizations (Martinez-Lorente et al., 1998). It has a significant role in the manufacturing sector (Lakhe and Mohanty, 1995) and has been applied as a holistic approach for implementing quality management (Lenehan and Harrington, 1998). The UK Department of Health, Social Services Inspectorate (SSI, 1991 cited Collins, 1994) considered TQM as an approach to quality assurance which in turn focused on the integrity of product and service quality. However, one of the key aspects that differentiates quality assurance from TQM is that quality assurance is more concerned with the assurance of product and service quality, whilst TQM extends throughout an organization (Laszlo, 1998; 1999) and is more concerned with people (Guimaraes, 1996).
TQM definitions are many (Lakhe and Mohanty, 1995). There is no single definition of TQM which has been recognized as a strategy for a continuous improvement (EAMS Research Team, 1998a). Moreover, there is no a single correct method for implementing TQM in business – it varies according to the requirements of individual organizations (Peters, 1994; Lakhe and Mohanty, 1995). Warwood and Antony (2003) stated that some authors considered the European Foundation for Quality Management’s excellence model (1995) as the closest description of what TQM should be although other researchers prefer the American Baldrige Award, the Japanese Deming Prize, or International ISO 9000 quality system standards as synonyms for TQM.

Lakhe and Mohanty (1995:139-140) recognized TQM as "a quest for excellence, creating the right attitudes and controls to make prevention of defects/errors possible and optimize customer satisfaction by increased efficiency and effectiveness". Whilst Arasli (2002:347) described it as "the satisfaction of social-shareholders customers, staff, owner/s and suppliers by implementing hard issues, such as effective planning, programmes, policies and strategies, as well as using soft issues, such as human and all other asserts, efficiently and continually within an organization". Praxiom Research Group (2005:7) defined it as "a management approach that tries to achieve and sustain long-term organizational success by encouraging employee feedback and participation, satisfying customer needs and expectations, respecting societal values and beliefs, and obeying governmental statutes and regulations". All of these definitions emphasize the significant role of customers and employees’ feedback.
The EAMS Research Team (1998b) split the definition of TQM into three sections as follows:

- **Total** means that everyone in the organization is involved in the final product or service to the customers.

- **Quality** does not mean luxury. It is conformance to requirements.

- **Management** recognizes that TQM is a managed process which involves people, systems and supporting tools and techniques and it will not happen by accident.

TQM is a thorough approach which optimizes the human resource element of an organization to achieve its goals (Zetie *et al.*, 1994) as a cost-effective system with a major focus on continuous improvement (Yeates and Wakefield, 2004). In details, Feinberg (1998); EAMS Research Team, 1998b; Tannock *et al.* (2002); Padhi (2005) and the UK Department of Trade and Industry (DTI, 2008) stated that TQM is a method of engaging employees and processes to manage them accurately (using proper tools, technology, and training) to meet customer expectations at all stages of processes as a main target by doing things right first time to ensure zero waste. Therefore applying TQM programmes within organizations reduces employee turnover through increasing job satisfaction, job involvement and organization commitment (Guimaraes, 1996; Ooi *et al.*, 2007). According to Ho and Fung (1994), Waldman (1994), Beardsell and Dale (1999) and Thiagarajan and Zairi (1997a) the key elements of successful TQM implementation are: leadership; management commitment; culture; customer satisfaction; continuous improvement; employee involvement; training and education; ownership; reward and recognition; error prevention; teamwork. Concerning the potential benefits of applying TQM, Macdonald (1993) proposed the following:
• A greatly improved product or service;
• A major decrease in wasted resources;
• A massive leap in productivity;
• The best opportunity to increase profit;
• A long-term increase in market share;
• A sustained competitive advantage;
• A real release of the potential of people;
• A motivated workforce;
• The elimination of much hassle and frustration involved in management.

3.2.4 Contemporary Approaches to Managing Quality

Munro-Faure and Munro-Faure (1992) revealed that the contemporary concept of quality involves how organizations satisfy customers' expectations. Therefore each organization should clearly identify its target market and prepare itself to meet the needs of that market ensuring that all employees understand and are committed to satisfying their customers' demands constantly and regularly. Customer satisfaction is recognized as a determinant for the quality of product or service actually delivered to them (Vavra, 1997 cited Pizam and Ellis, 1999) and vice versa (Aigbedo and Parameswaran, 2004). Therefore, quality of product or service should be improved in order to increase customer satisfaction (Ekinci, 2003).
Wyckoff (2001) proposed some of the current thinking of quality management approaches into the following statements:

- Quality should meet customer requirements.
- High quality product or service is the result of a thorough quality system throughout all aspects firm's businesses.
- The cost of poor quality exceeds the cost of developing good quality.
- Management must go beyond thinking of inspection to prevent bad products from reaching customers.

### 3.3 Quality in the Hospitality Industry

In the UK the hospitality industry is not only one of the fastest growing industries but is also a significant employer (MacVicar and Brown, 1994; Jones, 1999). Quality issues are a key concern in the hospitality industry and have been recognized as a source of competitive advantage (Johns, 1996) since consistent quality leads directly to high revenues (Lovelock, 2001). To that end, service operations are continuously attempting to improve their quality of service (Berry and Parasuraman, 1997 cited Bharati and Berg, 2003) through training all staff members to establish a consistent standard for excellence service (Dittmer and Griffin, 1997). The concept of quality is widely discussed in the world of hospitality management (Teare, 1996; Hayes and Ninemeiere, 2006). Although, managing quality in hospitality properties is a big challenge (Vrtiprah, 2001), the hospitality enterprises (both chains and independent enterprises) are continuously attempting to find ways of improving quality (Ottenbacher and Gnoth, 2005; Testa and Sipe, 2006). Quality in hospitality consists of tangible and intangible
elements (Ingram and Daskalakis, 1999). In addition, the quality practices of these elements in the hospitality industry involve the same procedures followed in the manufacturing industry (Douglas and Connor, 2003).

A number of studies addressing quality in the hospitality industry have been carried out (Ingram and Daskalakis, 1999). For example, Guerrier et al. (1992) and Ingram (1997) emphasized the significance of satisfying customers' requirements as the main concern of quality in hospitality, since both control and quality approaches contribute to the same aim which is customer satisfaction (Pujo and Pillet, 2002). The cost of attracting new customers is three to five times the cost of retaining an existing customer (Jang and Mattila, 2005).

Kivela et al. (1999), Pizam and Ellis (1999), Kivela and Chu (2001), Getty and Getty (2001), Aigbedo and Parameswaran (2004), Lewis and McCann (2004), Ryan and Huimin (2007) and Kincaid et al. (2010) contended that many researchers in the field of hospitality quality have used the five dimensions of SERVQUAL (Parasuraman et al., 1988; Zeithaml, Berry, & Prasuraman, 1993, 1996) or its variations, such as DINESERV (Barsky, 1992; Stevens, Knuston, & Patton, 1995), HOLSERV (Wong et al., 1999) and LODSERV (Knuston, Steven, Wullaert, Patton, & Yokoyama, 1991) or LODGQUAL (Getty and Thompson, 1994), as instruments to assess service quality. In addition, Raajpoot (2002) developed a new quality scale which is called TANGSERV to measure the tangible aspects of quality service in the restaurant operations. Eraqi (2006) proposed a new concept of quality - TourServQual - to improve tourism service
quality. To apply QMSs within the hospitality industry, Hayman (1994) emphasised four key issues as follows:

1) The customer as end consumer.
2) The corporate client as customer.
3) Meeting regulatory requirements.
4) The achievement of financial savings.

Additionally, Hayes and Ninemeier (2006) proposed six ingredients for a successful quality system in hospitality operations (see Figure 3.3).

**Figure 3.3: Six components of Quality in the Hospitality Industry**

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ingredient 1</td>
<td>Consider the guests being served.</td>
</tr>
<tr>
<td>Ingredient 2</td>
<td>Determine what the guests’ desire.</td>
</tr>
<tr>
<td>Ingredient 3</td>
<td>Develop procedures to deliver what guests want.</td>
</tr>
<tr>
<td>Ingredient 4</td>
<td>Train and empower staff.</td>
</tr>
<tr>
<td>Ingredient 5</td>
<td>Implement revised systems.</td>
</tr>
<tr>
<td>Ingredient 6</td>
<td>Evaluate and modify service delivery systems.</td>
</tr>
</tbody>
</table>


### 3.4 Quality in Hotels

Consumers place high priority on the quality of products and services offered (Gilbert and Morris, 1995; Thomson Learning, 2001) so quality is a matter of concern in hotel operations (Breiter et al., 1995; Vritprah, 2001) and driven by increasing levels of competition (Martinez-Lorente et al., 1998; Soriano, 1999). The concept of quality echoes widely across the hotel sector (Pallet et al. (2003) since most hotel operations
used the word quality as a marketing tool directed at customers and in standards manuals directed at staff (Jones and Lockwood, 2004).

Hotels adopting consistently effective quality systems achieve potential benefits, such as maximizing customer satisfaction, employee satisfaction and profit margins; reducing costs; making better utilization of resources than their competitors who do not pay attention to quality (Arasli, 2002; Getty and Getty, 2003). Hence, quality affects a hotels’ economic performance (Campos-Soria et al., 2004). To control quality in hotel operations, King (1984 cited Jones and Lockwood, 2004) suggested four main stages (see Table 3.3).

Table 3.3: The four main stages of quality control model in hotel operations based on manufacturing

<table>
<thead>
<tr>
<th>Name of stage</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Design quality level:</td>
<td>Define customer requirements:</td>
</tr>
<tr>
<td></td>
<td>• Identify desired quality characteristics.</td>
</tr>
<tr>
<td>2. Set product standards:</td>
<td>Design product to meet standards:</td>
</tr>
<tr>
<td></td>
<td>• Drawings.</td>
</tr>
<tr>
<td></td>
<td>• Equipment and material specification</td>
</tr>
<tr>
<td></td>
<td>• Document procedures</td>
</tr>
<tr>
<td></td>
<td>• Plan organisation and training.</td>
</tr>
<tr>
<td>3. Check conformance:</td>
<td>Output:</td>
</tr>
<tr>
<td></td>
<td>• Inspecting</td>
</tr>
<tr>
<td></td>
<td>• Quality audit</td>
</tr>
<tr>
<td></td>
<td>• Cutest complaint</td>
</tr>
<tr>
<td></td>
<td>Process:</td>
</tr>
<tr>
<td></td>
<td>• Check employee performance</td>
</tr>
<tr>
<td></td>
<td>• Equipment monitoring</td>
</tr>
<tr>
<td>4. Correct non-standard output:</td>
<td>Correct non-standard output</td>
</tr>
<tr>
<td></td>
<td>• Redo or defer sale of rejects</td>
</tr>
<tr>
<td></td>
<td>• Analyse rejects for cause of failure</td>
</tr>
<tr>
<td></td>
<td>• Adjust production process</td>
</tr>
</tbody>
</table>

Source: Adapted from Jones and Lockwood (2004:155, 156) based on King's approach (1984).

Glover et al. (1984) stated that certain fundamentals are critical in quality assurance processes in hotel operations:

- First - management sets its goals and policies for guest service.
• Second - from these goals, performance standards are set for each employee.

• Third - based on the standards, management can measure performance and productivity.

• Fourth and finally - by establishing quality-assurance committees composed of employees and department heads, management can ensure the programme’s continuity.

According to Teare (1995), Lewis and McCann (2004), Ottenbacher and Gnoth (2005) and Claver et al. (2006), hotel operations concerned with delivering consistent quality products and services remain competitive and increase profitability through standardizing processes, cutting costs and reducing waste and errors.

In relation to quality measures, Kimes (2001) found that hotels typically assessed their quality through internal or external inspections and the feedback from customers to indicate their product quality. The most widely-used method of obtaining customer feedback in hospitality businesses is the customer comment card in addition to customer surveys, customer interviews, focus groups, toll-free telephone numbers and service encounter observations (Wisner and Corney, 1997). Table 3.4 shows the most common methods of obtaining customer feedback and the common methods of listening to customer.
Table 3.4: Customer feedback methods

<table>
<thead>
<tr>
<th>The most common methods of obtaining customer feedback include:</th>
<th>The common methods of listening to the customer include:</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Comment cards</td>
<td>• Guest comment cards</td>
</tr>
<tr>
<td>• Mail, phone, and in-person questionnaire</td>
<td>• Management-guest interaction</td>
</tr>
<tr>
<td>• Free-phone numbers</td>
<td>• Employee feedback</td>
</tr>
<tr>
<td>• Focus groups</td>
<td>• Formal customer interview – mail, phone, in-person</td>
</tr>
<tr>
<td>• Employee feedback</td>
<td>• Spotters (mystery guests)</td>
</tr>
<tr>
<td>• Management observations and</td>
<td>• Role playing</td>
</tr>
<tr>
<td>• Sales data</td>
<td>• Focus groups</td>
</tr>
<tr>
<td></td>
<td>• Guest-survey programmes and</td>
</tr>
<tr>
<td></td>
<td>• Guest-preferences research.</td>
</tr>
</tbody>
</table>


3.5 Hotel Food and Beverage Operations

According to Baker et al. (1995) and Riley (2005) food and beverage managers are the most challenged managers in the hotel industry, since food and beverage management is more complex than rooms’ management and requires knowledge, skills and creativity which rooms management does not. Medlik (1999) classified hotel restaurant customers into three categories: (1) hotel residents for whom breakfast is the most major meal; (2) non-residents (individuals or small groups) who eat midday and evenings, particularly at weekends; (3) organized groups who use hotel food and beverage operations for functions in hotels, such as meetings and conferences.

3.5.1 Importance of Hotel Food and Beverage Operations

Kotas and Jayawardena (1994) emphasized the importance of food as a pleasant memory for hotel guests. Thus, food and beverage operations are a critical component of the hotel industry (Hanson, 1984; Lattin, 1985; Kotas and Jayawardena, 1994;
Siguaw and Enz, 2007) in satisfying the needs and expectations of guests (Chon and Sparrowe, 2000) and improving a hotel’s image and revenues (Minor and Cichy, 1984; Riley, 2005). Additionally, Powers and Barrows (2003); Bosselman (2007) consider food and beverage operations in hotels as a marketing tool providing competitive advantage.

The ideal hotel food and beverage department reaches about 50% of room sales (Powers and Barrows, 2003). Susskind (2002) and Heung and Lam (2003) emphasized the importance of keeping customers satisfied as crucial to increasing hotel restaurant revenue. They further, added that dissatisfied customers not only stop going to the hotel restaurant but also tell their friends - Susskind (2002) reported that dissatisfied customers spoke on average to 11.48 people about their negative experiences whereas satisfied customers spoke on average to only 1.51 people about their positive experiences.

3.5.2 Types of Hotel Food and Beverage Outlets

According to Medlik (1999) and Walker (2006) most hotels have at least one restaurant providing meals to customers either residents or non-residents. The number and type of restaurants is restricted by the size and diversity of operations served by the hotels (Medlik, 1999). The variety of food and beverage outlets within hotels provides competitive advantage in terms of retaining the guest's food business inside the hotel (Powers and Barrows, 2003). Jones (2002) explained that the business of food and beverage operations in hotels involves four key components: restaurants (which
typically account for 68% of hotel catering sales), banqueting (20%), room service (8%), and bar/lounge service (4%). Medlik (1999) emphasized the importance of food within hotels as one of the most profitable hotel products. Rey and Wieland (1985) indicated that a large hotel’s food and beverage operation could offer various dining facilities ranging from low-check average outlets (i.e. coffee shops) to high-check average outlets, as follows:

**Low-Check-Average Table Service Outlets**

*Coffee Shop Operations:* are characterised by fast service and low prices, therefore both guests and non-guests enjoy them. The service should be swift and correct paying careful attention to guest satisfaction (Rey and Wieland, 1985). In coffee shops, customers order coffee and other items - doughnuts, sandwiches or a slice of pie (Dittmer and Griffin, 1997).

*Family-Oriented Operations:* cater for family groups—parents with children and other contemporary family groupings (Dittmer and Griffin, 1997). They involve a wide variety of menu items at reasonable prices in pleasant atmosphere and it may be open 24 hours or from early morning until late evening (Rey and Wieland, 1985). Additionally, family restaurants are usually less sophisticated in theme or ambience.

**Moderate-Check-Average Dining Outlets**

*Specially or Theme Dining Rooms:* emphasize the total dining experience (Rey and Wieland, 1985) with menu items and service that are typically closely linked to the theme and atmosphere (Dittmer and Griffin, 1997). In addition, theme restaurants stress
providing customers with experiences reminiscent of other times or places (Chon and Sparrowe, 2000).

High-Check-Average Dining Outlets

These offer a high level of attentive table service and expensive-looking furniture and décor to establish a feeling of luxury dining (Chon and Sparrowe, 2000). Few convenience foods are used, and most foods are prepared from fresh ingredients (Dittmer and Griffin, 1997).

First-Class Dining Rooms: provide high-class dining services to quality-conscious customers but are not considered as “gourmet”. They may specialize in seafood, steaks and chops, or seasonal food. Customers were conscious of service levels and demand high quality food and beverages (Rey and Wieland, 1985).

Gourmet Dining Rooms: guests visit these restaurants to enjoy the art of gourmet food. Often food servers are actually seen preparing food and beverage items tableside in front of guests during a meal and, therefore, quality servers are required and the selling price is high (Rey and Wieland, 1985).

Room Service and Banquet Service

Room Service/In-Room Dining: according to Walker (2006) the term room service refers to all services provided in hotel guest rooms. Consequently some hotels recently renamed room service as in-room dining to provide a more upscale image. Hotel guests can order a meal from a menu to be brought to their rooms (Chon and Sparrowe, 2000).
Banquets: banquets are usually profitable in hotels (Powers and Barrows, 2003). Hence, many hotels announce their banquet facilities to enhance both restaurant and guest room sales (Chon and Sparrowe, 2000). Many hotels provide banquets and catered receptions on-site for both small and large groups (Rey and Wieland, 1985).

3.5.3 Quality in Hotel Food and Beverage Operations

According to Bosselman (2007) a well-run food and beverage operation within a hotel, regardless of the size, makes a profit and increases overall hotel revenue. He further proposed that one of the misconceptions about food service in hotels is hiring a good chef and leaving the operation to him, since he stressed the importance of a team approach in hotel food and beverage operations to get consistent quality food.

To highlight the importance of quality in food and beverage operations, Hart and Casserly (1985) indicated that quality, and TQM programmes, in particular, are considered as major requirements in the restaurant industry to achieve competitive advantage, operating efficiencies, and high-quality dining experiences. Thus, the quality of well-prepared food represents a key element in restaurant success (Blum, 1997). Consequently, it is important for restaurant establishments to ensure and balance the quality of their tangible and intangible products to achieve customer satisfaction (Soriano, 2003).

Matching customer expectations leads to repeat businesses enabling survival in a highly-competitive market (Kivela et al., 1999; Sulek and Hensley, 2004). Since
satisfied customers tell their good experiences to fewer people than dissatisfied customers who have poor experiences (Edwards and Meiselman, 2005). Jang and Mattila (2005) revealed that the cost of attracting a new customer represents three to five times greater than the cost of retaining an existing customer. Providing quality food is an important way to increase customer loyalty and retention (Ramdeen, 2007) and maximize restaurant business revenues (Namkung and Jang, 2007). Since repeat customers spend more on food than new customers within hotel food and beverage operations (Ramdeen, 2007).

In a previous study focused on best practice in hotel food and beverage management, Siguaw and Enz (2007) explored the experiences of hotel champions in developing their food quality as a reference for food quality best practices (see Table 3.5).

Table 3.5: Overview of food and beverage best-practice champions focusing on product quality

<table>
<thead>
<tr>
<th>F&amp;B champions</th>
<th>Practice initiated, developed</th>
<th>Measures of success</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Boulders</td>
<td>Food forager to improve quality of restaurant offerings</td>
<td>Increased food quality, decreased food cost, decreased wait-staff turnover, and increased prices, profits, and wait-staff gratuities</td>
</tr>
<tr>
<td>Country Inns &amp; Suites</td>
<td>Co-branding of hotel and brand-name restaurant</td>
<td>Increased customer satisfaction, reduced hotel capital cost (from not building a hotel restaurant), increased lunch and dinner business</td>
</tr>
<tr>
<td>Four Seasons &amp; Regent Hotels &amp; Resorts</td>
<td>Single dining venue with broad cuisine choices (and two dining rooms)</td>
<td>Boosted capture rate of hotel guests, increased local patronage, labour-cost savings</td>
</tr>
<tr>
<td>The Greenbrier</td>
<td>Establishing resort as a centre for culinary excellence, including a culinary apprentice programme</td>
<td>Maintained occupancy and reputation, retained skilled kitchen staff, increased off-season businesses</td>
</tr>
<tr>
<td>Wyndham Hotels and Resorts</td>
<td>Upgrade of organization’s food and beverage culture</td>
<td>Achieved higher average checks, increased staff earnings and retention, increased total sales, wine sales and profits</td>
</tr>
</tbody>
</table>

Due to the high proportion (67%) of failure for new restaurants during the first four years (English et al., 1996), Parsa et al. (2005) researched the reasons for restaurant failure and identified: lack of documented strategy; lack of written mission and vision; inability or unwillingness to produce written, documented and maintained operational standards; frequent changes in management and staff; lack of integrating mission and vision into operation; lack of management commitment and employee involvement.

3.5.4 Food Production in Hotels

Food production is the transformation of raw ingredients by food production staff into final dishes and meals (Medlik, 1999; Davis et al., 2001; Ball et al., 2003; Hayes and Ninemeier, 2006) and takes place in the food production area (Dittmer and Griffin, 1997). A complete kitchen in a large hotel involves a hot section (stock kettles, broilers, grills, steamers, fry kettles, and roasting ovens); the garde-manger (cold food) sections; the pantry (salad) area; the butcher shop; the pastry shop and sometimes a bake shop; the scullery (dish and pot washing) area; an employees’ cafeteria; banquet kitchen(s); and room service kitchen (Lattin, 1995). Most kitchens involve two production areas: a central production area in which basic preparation of food is undertaken and satellite kitchens for the final preparation of foods in which foods are finished immediately before service (Dittmer and Griffin, 1997).

The food production area is headed by an executive chef or food production manager who carries out various duties (Powers and Barrows, 2003). Murray-Gibbons and Gibbons (2007) argued that the chef profession represents the most stressful profession
amongst hospitality industry careers. The head chef should not spend all his/her time cooking in the kitchen and s/he requires skills beyond technical skills to undertake administrative work, management, developing staff training, purchasing functions, stock control, staff selection, supervision through good communication and leadership, designing menus, and overall maintaining the quality of the food leaving the kitchen. Thus, the main duties of the head chef are organizing, supervising and administering not cooking (Kotas and Jayawardena, 1994; Pratten, 2003a; Pratten, 2003b; Stutts and Wortman, 2006). The responsibility of developing and changing menus is ascribed to the executive chef who in turn identifies which items are in demand and should be left on the menu and which items are less popular and should be removed from the menu (Kivela, 2003). The majority of restaurants change their menus every three to six months - no less - to ensure stability (Morrison, 1996). Murray-Gibbons and Gibbons (2007) contended that to improve commitment and motivation amongst people in the kitchen, the head chef should motivate and support those in his charge, e.g. giving tangible support (technical help or information) and acknowledging good work. Good communication between kitchen staff and management and cross training directly reduced the level of work stress and increased job satisfaction.

According to Davis et al. (2001) since food production has a very short operational cycle providing little time to correct mistakes, it is critically important to achieve quality food right first time. To discuss this further, Kotas and Jayawardena (1994) listed the following principles which should be taken in mind to achieve excellent food production:

- Develop a proper attitude towards cooking.
• Use standard recipes.
• Use the right technique and equipment
• Train employees accurately.
• Supervise employees properly.
• Maintain production equipment.
• Schedule food production according to needs.
• Have variety of menu items.

3.6 The Concept of Consistent Quality

Hofmann and Geiger (1995) stated that quality management should involve measures to achieve a consistent level of quality. Kondo (2000) shed light on the importance of consistent quality products through documenting work flow and issuing standards as evidence to conforming to standards. Yet, consistency is a big challenge (Knodo, 200).

From an operational perspective, consistency is recognized as a significant factor for delivering quality and meeting customer expectations (Castle, 1996; O'Neill and Black, 1996) and the main aim of a QMS (Oakland, 2003). Waller (1999) and Ritzer (2004) emphasized the importance of detailed standards underpinned by an effective system to make sure that all staff produce a consistent level of quality. According to Amar and Zain (2002) inconsistent quality products are a significant barrier to quality in organizations.
Krajewski and Ritzman (1996 cited Southern, 1999) emphasized the importance of delivering consistent quality as vital amongst eight critical factors relating to the design of operating system in hospitality organizations. Moreover, Lenehan and Harrington (1998) pointed out through a review of quality practices in British hotels that functional dimensions which involve consistent quality provide competitive advantage. Furthermore, Lashley (2000) stressed the consistent quality as a key feature of the services provided in hospitality operations. In addition, analysis of the study of Bowen et al. (2004) reported that setting and achieving consistent quality standards represented a key theme of the seven core elements of best practice in UK hospitality and tourism SMEs (see Table 3.6).

**Table 3.6: highlighting a consistent quality between four studies**

<table>
<thead>
<tr>
<th>eight critical factors relating to the design of operating system in hospitality organizations</th>
<th>functional dimensions which represented a competitive advantage in British hotel industry as claimed by respondents</th>
<th>key features of the services provided in hospitality operations</th>
<th>seven core elements of best practice in UK hospitality and tourism SMEs</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Low cost operations, • High performance design, • Consistent quality, • Fast delivery time, • On-time delivery, • Development speed, • Customization, • And volume flexibility.</td>
<td><strong>Functional elements:</strong> • Trained and motivated staff, • Consistency of service, • And competency of management. <strong>Technical-related elements:</strong> • Size, • And location.</td>
<td>• Branded, • Customer focused, • Standardized, • Consistent in quality, • Managed via operating systems, • Sales driven, • And mass marketed</td>
<td>• Customer focused goals, • Planning and control, • Cash flow and performance measurements, • Internal and external communication, • Achieving consistent standards, • Partnering and networking, • And strategic workforce management.</td>
</tr>
</tbody>
</table>


According to O'Neil and Black (1996), to be competitive hospitality operations must attain and maintain a consistent level of product and service quality to survive, through
constant and comprehensive adherence to quality standards and manuals (Ottenbacher and Harrington, 2007).

In a study addressing Investors in People at a four-star hotel in Glasgow, Macvicar and Brown (1994) found that the hotel took two approaches to achieving consistent quality: (1) management and supervisory staff involved staff in quality improvement on a daily basis and (2) giving induction training not only for full-time staff but also for part-time to reduce labour turnover which in turn affecting the delivery of consistent quality.

3.7 Food Quality and Consistency

Quality is a problematic term (Dillon and Griffith, 1997) which covers different concepts for different people (McEachern et al., 2001) depending on their perspectives, since if it is about process of production, it means achieving the standard, doing it right first time, or getting the job done in the best possible way (Yeates and Wakefield, 2004). Cousins et al. (2002) proposed two distinctive aspects which food service operations involve: (1) technical standards (product quality, e.g. food items, portion size, cooking method, presentation) and (2) service standards (service quality including service procedures, e.g. meeting and greeting, order-taking, payment, and how these procedures are implemented, e.g. body language and tone of voice). They further shed light on the importance of balancing between those two aspects.

The word quality is considered to be the most commonly-used word in the area of food industry – production and service (McIlveen, 1994 and Meiselman, 2001). Generally,
most historical records emphasized the importance of food quality control as a basic requisite to protect consumers (Whitehead, 1995). Food quality represented the absolute condition in food and beverage outlets (Sulek and Hensley, 2004). According to Kim et al. (2006) food quality is the most significant element which affecting guest satisfaction in restaurants. For example, Andaleeb and Conway (2006) concluded that food quality represented a major factor which increased levels of customer satisfaction in restaurants.

Morris and Young (2000 cited Straete, 2008) reported that the aspects of food quality cover the following elements: method of production, place of production, traceability, raw materials/content, safety, nutrition, sensual attributes, functional, and biological. Cardello (1995 cited Klosse et al., 2004:114) stated that "food quality can be considered both the most well-defined and the least well-defined concept in the food industry today". Peri (2005:4) defined the word quality more appropriately for foodstuffs as, "fitness for consumption", thus he described the food quality as "the requirements necessary to satisfy the needs and expectations of the consumer".

Considering food quality attributes, Lovelock (1985 cited Namkung and Jang, 2008) revealed that food offerings which represent tangibles in the restaurant business are the fundamental attributes while the environmental and service issues are secondary attributes. Ingram and Daskalakis (1999) found tangibles as the most significant satisfaction attribute. Furthermore, Johns et al. (1997) noticed that tangible characteristics which involve food were most mentioned in their study. Generally researchers described food quality as involving six attributes: (1) presentation (2)
variety (3) healthy options (4) taste (5) freshness, and (6) temperature (Namkung and Jang, 2007; 2008). In discussing these further, it has been noted that:

*Presentation:* referred to how attractively food was presented and decorated as a tangible cue for customer perceptions of quality (Namkung and Jang, 2008).

*Variety:* involved the number or assortment of different menu items (Namkung and Jang, 2008).

*Healthy options:* involved offering nutritious and healthy food (Namkung and Jang, 2008).

*Taste:* was regarded as a key attribute in food in the experience (Kivela et al., 1999 cited Namkung and Jang, 2007).

*Freshness:* usually was recognized as the fresh state of food, since related to crispness, juiciness and aroma (Penau, Hoehn, Roth, Escher, and Nuessli, 2006 cited Namkung and Jang, 2007). Fresh ingredients vary according to several elements, e.g. season, weather, and handling (Thompson, 2005).

In light of identifying food quality components, Dillon and Griffith (1997) disputed that the quality of food is not represent a single attribute but encompassed several components as suggested below:

- Legislative needs,
- Food safety,
- Other properties,
- Convenience,
- Natural or pure,
- Consistency
- Organoleptic properties (i.e. aroma, texture, appearance and sound),
- And nutritional value.
According to Dillon and Griffith (1997) customers considered all of these components when assessing the overall food quality, arranging them according to their preferences. In addition, McEachern *et al.* (2001) debated that food safety was a sub-division of food quality describing it as ensuring that the food is free of health hazards during preparation and consumption. Thus, Manning (2007:496) stated that “the terms quality and safety are not interchangeable”.

As stated by Munoz *et al.* (1992) there is a strong need for a system to maintain the quality features of food products and achieve consistently high quality. Since high turnover represents a major challenge for hospitality businesses - retaining the same managers in operations for a long time is difficult (Taylor, 2008b). To implement a holistic food quality approach, Nobis (1993) stated that although each organization has its own approach, he suggested three key elements should be at least found in each quality system. These are: (1) specifications, i.e. what is to be achieved (2) documented instructions, i.e. how it is going to be achieved, and (3) the recording system, i.e. evidence on how the stated programme/operation has been achieved. To maintain the delivery of consistent quality products in the food production area, Oakland (2003) suggested that the chef should develop detailed documentation of the system used and to be adopted by all other employees in the food production area.

Hart and Casserly (1985) demonstrated recount the experiences of the owner of a Japanese multi-unit food service operation when a problem of inconsistent quality food products arose. He immediately developed a comprehensive and easily understood manual to be adhered to and forced management to work on a system and not to punish...
employees, since quality problems are related to the management not employees. He also identified the following reasons for inconsistent quality food products:

- Lack of management commitment towards quality, since managers were found to be resistant and in fear of quality,
- Lack of direct communication between managers and employees,
- Lack of involvement of all employees in the quality strategy,
- Excessive paperwork needed to be filled which led to lack of time for efficient management,
- A high percentage of part-time employees which resulted in high turnover that led to inconsistent quality,
- Insufficient quality-related training.

After that, the owner focused on a TQM programme as a method of ensuring a consistent level of quality food and improving the operating efficiency within the restaurant operations (Hart and Casserly, 1985).

### 3.8 ISO 9000 Quality Series Overview

The ISO 9000 series is based on the application of a systems approach (Lockwood, 1996) to ensure consistent quality products (Dillon and Griffith, 1997; Kanji and Asher, 1998; Lentell, 2001), as a major aim for a QMS (Schroder and McEachern, 2002), and for achieving quality in hospitality, particularly food production areas (Manning and Baines, 2004). Various ISO standards are shown in Figure 3.4.
Table 3.7 lists the ISO 9000 series which together form a coherent set of QMS standards to facilitate mutual understanding internationally.
Table 3.7: The ISO 9000 series of standards on quality management systems

<table>
<thead>
<tr>
<th>ISO Name</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>9000 Fundamentals and vocabulary</td>
<td>Describes the fundamentals, the use of a particular standard and specifies the terminology for a QMS. It is considered with ISO 9004 as one part of the series and is intended only as guidelines.</td>
</tr>
<tr>
<td>9001 Requirements</td>
<td>Is considered along with 9002, and 9003 as the most important and generic standards. It specifies the requirement for a QMS for an organization with processes ranging from design development, production to installation and servicing, to provide products that fulfill customer requirements and aims to enhance customer satisfaction. It contains 20 clauses of system requirements.</td>
</tr>
<tr>
<td>9002 Requirements</td>
<td>Is considering the requirements and standards for an organization that does not offer design and development services. It means that the company is engaged in production and installation only to establish and maintain a documented quality system.</td>
</tr>
<tr>
<td>9003 Requirements</td>
<td>Is considering the requirements and standards for an organization whose processes do not include design control, process control, purchasing, or servicing. This is the standard for those involving with the testing and inspection of final products and services compared to the specified requirements.</td>
</tr>
<tr>
<td>9004 Guidelines for performance improvements</td>
<td>Describes the establishment of an internal QMS within the broad and general context of TQM. Provides guidelines that consider both the effectiveness and efficiency of the QMS, with the aim of improving the performance of the organization and satisfaction of customers and other interested parties.</td>
</tr>
</tbody>
</table>

Source: Adapted from McIlveen (1994:18); Chin and Lau (1999:609-10); Oakland (2003:209); King and Cichy (2006:140-41).

Pun et al. (1999) pointed out that there is a lack of continuous improvement in the ISO 9000 series. The advantages and disadvantages of ISO 9000 are summarized in Table 3.8.

Table 3.8: Advantages and disadvantages of ISO 9000

<table>
<thead>
<tr>
<th>Advantages:</th>
</tr>
</thead>
<tbody>
<tr>
<td>▪ Useful discipline to stick to 'sensible' procedures</td>
</tr>
<tr>
<td>▪ Error reduction, reduced customer complaints &amp; reduced costs of quality</td>
</tr>
<tr>
<td>▪ Provides evidence of the quality of the outputs, and of the control of organizational operations</td>
</tr>
<tr>
<td>▪ Eliminating of unnecessary procedures</td>
</tr>
<tr>
<td>▪ Marketing benefit</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Disadvantages:</th>
</tr>
</thead>
<tbody>
<tr>
<td>▪ 'Management by manual&quot; and over-systematized decision making</td>
</tr>
<tr>
<td>▪ Difficult to choose the right standard from the series</td>
</tr>
<tr>
<td>▪ Time consuming and expensive to gain / maintain registration</td>
</tr>
<tr>
<td>▪ Little encouragement for continuous improvement</td>
</tr>
<tr>
<td>▪ Primarily cared to the needs of the engineering industries</td>
</tr>
</tbody>
</table>

With regard to the requirements for ISO 9000 (1994) which involved 20 clauses, Dillon and Griffith (1997) listed them as illustrated in Table 3.11.

Considering applying the ISO 9000 in leisure and hospitality industry, Mills (1992) recognized all the above requirements illustrated in Table 3.9 except two clauses which were design control (4.4) and servicing (4.19). Whereas Lockwood (1996) addressed all elements of ISO 9000, excluding design control (4.4).

To interlink the 20 clauses of the international standard with the food sector, Dillon and Griffith (1997) split it into three key operational sections: system management which involved four clauses (4.1, 4.2, 4.14 and 4.17), system methods that covered thirteen clauses (4.3, 4.4, 4.5, 4.6, 4.7, 4.8, 4.9, 4.10, 4.13, 4.15, 4.18, 4.19 and 4.20) and system maintenance which addressed three clauses (4.11, 4.12 and 4.16) as shown in the following Figure 3.5.
## Table 3.9: Requirements for ISO 9000 (1994)

<table>
<thead>
<tr>
<th>Clause</th>
<th>Description</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.1</td>
<td>MANAGEMENT RESPONSIBILITY</td>
<td>For quality policy, organization and review</td>
</tr>
<tr>
<td>4.2</td>
<td>QUALITY SYSTEM</td>
<td>A documented system with procedures and instructions for implementation</td>
</tr>
<tr>
<td>4.3</td>
<td>CONTRACT REVIEW</td>
<td>To ensure that contract requirements are complete and unambiguous, in line with the customer's requirements and within available resources</td>
</tr>
<tr>
<td>4.4</td>
<td>DESIGN CONTROL</td>
<td>Designing products or services to meet specified requirements</td>
</tr>
<tr>
<td>4.5</td>
<td>DOCUMENT &amp; DATA CONTROL</td>
<td>Ensuring that documents about the quality system are available wherever needed and that all authorized changes are incorporated</td>
</tr>
<tr>
<td>4.6</td>
<td>PURCHASING</td>
<td>Selecting subcontractors to meet specified requirements</td>
</tr>
<tr>
<td>4.7</td>
<td>CONTROL OF CUSTOMER SUPPLIED PRODUCT</td>
<td>Checking and storing products supplied by clients and ensuring they are fit for use</td>
</tr>
<tr>
<td>4.8</td>
<td>PRODUCT IDENTIFICATION &amp; TRACEABILITY</td>
<td>Unique identifiers, where products vary for individual customers</td>
</tr>
<tr>
<td>4.9</td>
<td>PROCESS CONTROL</td>
<td>Clear work instructions, monitoring, passing, with stipulated criteria for workmanship</td>
</tr>
<tr>
<td>4.10</td>
<td>INSPECTION AND TESTING</td>
<td>Of inputs, of the process and of the final product</td>
</tr>
<tr>
<td>4.11</td>
<td>CONTROL OF INSPECTION, MEASURING &amp; TEST EQUIPMENT</td>
<td>Defining methods &amp; frequency of checks</td>
</tr>
<tr>
<td>4.12</td>
<td>INSPECTION AND TEST STATUS</td>
<td>Identifying for each product which checks have been made and which remain to be made</td>
</tr>
<tr>
<td>4.13</td>
<td>CONTROL OF NONCONFORMING PRODUCT</td>
<td>Identification to prevent inadvertent use or installation</td>
</tr>
<tr>
<td>4.14</td>
<td>CORRECTIVE ACTION</td>
<td>Examining the cause of errors and taking preventative action, changing procedures</td>
</tr>
<tr>
<td>4.15</td>
<td>HANDLING PACKAGING, STORAGE &amp; DELIVERY</td>
<td>To prevent damage pending use</td>
</tr>
<tr>
<td>4.16</td>
<td>CONTROL OF QUALITY RECORDS</td>
<td>To demonstrate the quality system's effective operation</td>
</tr>
<tr>
<td>4.17</td>
<td>INTERNAL QUALITY AUDITS</td>
<td>Procedures to review and update the quality system</td>
</tr>
<tr>
<td>4.18</td>
<td>TRAINING</td>
<td>Procedures to identify and meet the training needs of all staff</td>
</tr>
<tr>
<td>4.19</td>
<td>SERVICING</td>
<td>As specified in the contract</td>
</tr>
<tr>
<td>4.20</td>
<td>STATISTICAL TECHNIQUES</td>
<td>Where appropriate, identify adequate statistical techniques for analysis</td>
</tr>
</tbody>
</table>

*Source: Dillon and Griffith (1997:19-20).*
Regarding the adoption of ISO 9000 standards in production, Lentell (2001) indicated in his study that the ISO 9002 approached this area. He further suggested all the above elements of ISO 9000 without element 4.4 which involved design control that was a part of the ISO 9001 not the 9002. Figure 3.6 shows the main points of ISO 9002.
Chapter Three: Literature Review

3.8.1 ISO 9000 as a Quality Management Model for Consistency

According to Lockwood (1996) the ISO 9000 provides an organized and effective way to establish, document and maintain the quality control system, however it does not provide clear instructions to identify how to set up a company quality system it is left to each company to decide how to do this. Kanji and Asher (1998) and Lentell (2001) stated that the main aim of adopting ISO 9000 is ensuring product or service quality consistency regardless of who will carry out the work. Additionally, Schroeder (2004) emphasized the importance of applying ISO 9000 as one of the commonly and significant approaches which organizations used to ensure consistently quality products. Moreover, Cousins et al. (2002) stressed the application of ISO 9002 (i.e. specified for production) in food service establishments for two reasons: (1) as evidence of the


![Diagram of ISO 9000 Quality Management Model]

1. Management Responsibility
2. Quality System
3. Document Control
4. Corrective Action
5. Internal Quality Audits

**Quality System Control**

**The Operation Process**

- Sales & Marketing
  - Contract Review

- Production
  - Process Control
  - Inspection & Testing
  - Inspection & Test Status
  - Control of Non-Conforming Products
  - Control of Purchaser Supplied Product

- Distribution
  - Handling, Storage, Packaging and Delivery

- After Sales
  - Servicing

**Support Activities**

- Quality Resources
  - Purchasing
  - Inspection Measuring and Test Equipment
  - Training

- Quality Data
  - Product Identification and Traceability
  - Control Quality Records
  - Statistical Techniques
application of high system, and (2) failure to meet it would lead to removal of these establishments from the ranked ones.

To obtain a product of consistent quality, Dillon and Griffith (1997) proposed the following points to be taken into account by organizations:

- Developing a systematic plan to make sure that raw materials / service meet the specified requirement, e.g. purchasing from the right supplier.
- Controlling process changing with affecting the overall quality of product.
- Maintaining appropriate sampling methods.
- Ensuring sufficient training for all staff.
- Controlling non-conforming product: separating the correct from the wrong products and improve the wrong ones.
- Proper packaging, storing and delivering after final inspection.
- Meeting customers' orders appropriately and on time.
3.8.2 ISO 9000 Evolution

Rose (2001) revealed that the old ISO 9000 (1994) standard series with its unfriendly approach and lack of continuous improvement, had been replaced by ISO 9001 (2000) which is characterized by its focus on customers and continuous improvement and its flexibility since each individual organization can customize the standard to suit its local circumstances. Oakland (2003) emphasized another two features of ISO (2000): first a focus on a process approach and second a focus on skills-based approach to personnel.

The old ISO 9000 involving 20 sections was reduced to five sections in the 9001 version (2000) (Praxiom Research Group, 2009f). The changes make it more flexible than the old version (Praxiom Research Group, 2009c). Table 3.12 shows differences in vocabulary between ISO 9000 (1994) and ISO 9001 (2000).

3.9 A Systems Approach

A systems approach has a great deal to offer in the areas of problem solving, design and control (Kirk, 1995). According to an Open University definition of the term system, Southern (1999: 366) stated it as "A set of components that do something; if any component is taken away it changes the system". The components of a system encompass inputs into the system derived from the environment (physical, financial, human resources and information) which are converted to outputs (desired effects) through the application of suitable process (Augustyn, 1998:147). Figure 3.7 illustrates
the general model of a system. Additionally, Jones (1999) emphasized the importance of input-process-output model as a core principle in operations management.

![Figure 3.7: General model of a system](image)

Key
- System boundaries

Source: Augustyn (1998:147)

To get integration in a systems approach, it is necessary to either implement a thorough system throughout the whole company or merge two or more systems through their structural similarities (Wilkinson and Dale, 2000). They identified a number of issues against integration (i.e. culture; cultural diversity; complexity; failure to understand differences in the systems) and the issues that aid integration (e.g. simple systems; employee involvement, understanding systems). To develop a holistic system, it should be interlinked with a set of subsystems or components related to the functions they fulfil (Southern, 1999). Therefore, systems thinking needs to identify these relationships between parts of the system (Testa and Sipe, 2006). The key concepts of systems thinking and the differences between managerial and operational systems are summarised in Tables 3.10 and 3.11 respectively (Cusins, 1994).
Table 3.10: The key concepts of systems thinking

- A system is defined from its environment by an arbitrary boundary.
- Inputs from its environment cross the boundary into the system.
- Within the system, inputs interact in a transformation process.
- Transformed inputs leave the system as outputs.
- The direction of flow indicates the flow of energy, materials, information, etc.

Source: Adapted from Cusins (1994:19).

Table 3.11: Differences between Managerial and Operational Systems

<table>
<thead>
<tr>
<th></th>
<th>Managerial</th>
<th>Operational</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Inputs</strong></td>
<td>Inputs tend to be conceptual, often sited in the future, and general in nature. E.g. future business trends, technological advances, or economic variables</td>
<td>Inputs tend to be tangible, immediate, and specific in nature, e.g. resources, tools, raw materials, working space</td>
</tr>
<tr>
<td><strong>Transformation process</strong></td>
<td>Work is almost exclusively related to concept and information. Trends and beliefs about the future are transformed into visions and strategies, i.e. general descriptions of where they want the company to go, and how the company will get to where they want it to be. Almost exclusively words, combined in a variety of ways, and very general in what they describe, e.g. goal policies, strategies.</td>
<td>Work more physically related to materials and tangibles. Described more specifically, i.e. as procedures or job instructions. Listed as specific observable action steps to be taken in transforming the inputs into outputs</td>
</tr>
<tr>
<td><strong>Outputs</strong></td>
<td>Almost infinite variety of tangible products, and some words, which are mainly specific in what they describe e.g. reports, information on forms</td>
<td>Almost infinite variety of tangible products, and some words, which are mainly specific in what they describe e.g. reports, information on forms</td>
</tr>
</tbody>
</table>


The control of input-process-output systems represents a vital aim of quality management (Waller, 1999). According to Jones et al. (2003) the hospitality industry involves systems such as hard systems / technological systems (e.g. management information system, property management system, central reservation system, and food production system) and soft systems / non-technological systems (e.g. marketing planning, total quality management, budgeting or employee recruitment, and selection policies and procedures).
3.10 Developing an Effective Food Quality Control System

Introducing a QMS to meet business requirements is a major challenge (Rose 2001). A QMS is a bundle of interconnected processes, since each process uses resources to turn inputs into outputs which become inputs for another process (Praxiom Research Group, 2005). Catering systems are featured by their cyclical nature (Edwards and Ingram, 1995). To ensure an effective quality and control system, McEachern et al. (2001:31) recommended the use of a systems approach and identified the following requirements for an effective systems approach:

- Full support of management;
- Participation from all levels of production;
- Decisions which are recorded and based on scientific principles;
- Well documented procedures and activities which are available to all staff.

According to East (1993) there are three main elements to a QMS – system development, system documentation, and system implementation. McEachern (2001) suggested that two aspects which must be involved in food quality control: system development and system support which will achieve the development, implementation, and maintenance of a system. In addition, ISO 9001 (2008) considered five elements for designing a QMS: (1) QMS establishment/development (2) QMS documentation (3) QMS implementation (4) QMS maintenance (5) QMS improvement (Praxiom Research Group, 2009d).
Building on these different views previously mentioned this study will use five major sections to structure and integrate a QMS for hotel food production to produce consistent food quality. These sections are: system development, system documentation, system implementation, system maintenance, and system improvement which will be discussed in sections 3.10.1, 3.10.2, 3.10.3, 3.10.4, and 3.10.5, respectively.

### 3.10.1 System Development

System development covers three major areas: (1) system identification which covers the identification of the standard, control measures, and corrective actions procedures; (2) management responsibility which comprises quality commitment, customer focus, and supporting the quality policy; (3) quality resources which include competent personnel, effective training, and suitable work environment and equipment. These areas will be discussed below in detail.

#### 3.10.1.1 System Identification

Considering system identification, McEachern et al. (2001) proposed three key issues: standard identification, control measures identification, and corrective action procedures identification.

*Standard identification*

The standard is a model against which comparison can be made (Waller, 1999). It clarifies the way of establishing, documenting, and maintaining an effective QMS as
evidence that the company is committed to quality and the existence of necessary systems and procedures to achieve it (Vrtiprah, 2001). It is a documented bundle of rules that control how people develop products (Praxiom Research Group, 2005). BSI (2006) identified the potential benefits of standards in the food industry as follows:

- Products and services improvement;
- Attracting new customers;
- Increasing competitive edge;
- Cost reductions
- Less mistakes;
- Product suitability;
- Leading to success and survival;
- Conformance to regulations.

Standards should be consensually clearly identified, since the use of multiple standards is a major reason for inconsistent quality products (i.e. dishes are prepared differently by each cook), guest confusion (i.e. a guest does not know what to expect from a hotel restaurant), and dissatisfied managers and employees (Glover, 1995). In addition, McEachern et al. (2001) emphasized the importance of identifying the standards to be adhered to (e.g. legislative requirements, customer demand, product specification) as the first step in developing a quality system through listing and understanding all products and production processes. The main aim of standard identification is to help people do their job right first time and as a means of communication to promote collaboration in achieving products of consistent quality (Zilliacus, 1985; Yeates and Wakefield, 2004).
These standards must be reviewed and revised to make them more appropriate if management feel that staff fail to conform to them (Jones and Lockwood, 2004).

Standards and manuals are a core issue to help management reduce risks and maintain effective quality control on a regular basis among food production staff through hotel food production processes (Sandoff, 2005) and leads to consistent product quality (Ottenbacher and Harrington, 2007). According to Ritzer (2004) it is better to have a poor standard in place rather than no standards since it would lead to quality improvements.

**Control measures identification**

It is important to have clear standards which enable managers to measure the quality of their products (Glover, 1995). Quality control measures should be clearly-identified to know how standards will be met through products and production processes on a regular basis (East, 1993; McEachern et al., 2001). These measures (e.g. availability of specific equipment, special training for quality) should be determined by the producer who will determine the person responsible for quality control, the action to be taken, and the records to be kept (McEachern et al., 2001).

**Corrective action procedures identification**

Manning (2000:xv) defined corrective action as: “an action taken following nonconformance”. Corrective action needs should be in place to ensure that out of control product does not move to either the next process in the production line or the customer (Manning, 2000). When the required standards have not been met, the
producer should identify corrective actions to be followed to rectify the deficiency and ensure its recurrence in the future (McEachern et al., 2001). These actions might involve, e.g. rejection of a product that does not match the required standards; correcting or adjusting the product to meet the required standards; exceptionally the acceptance of a product under concession with/without correction; or reassigning for another alternative (Oakland, 2003). In addition, Oakland (2003) emphasized the importance of follow-up for actions taken to ensure the effectiveness of a product, to record the action and involve the action in quality management reviews.

3.10.1.2 Management Responsibility

Regarding management responsibility, it covers three major areas: commitment to quality, focus on customer and supporting quality policy as indicated in ISO 9000 (2008).

Commitment to quality

Rose (2001) emphasized the importance of management commitment to the quality system. This commitment includes supporting the development, implementation and improvement of the quality system (ISO 9001, 2008 cited Praxiom Research Group, 2009d). Managers who are committed to quality and follow an empowering leadership style (i.e. extensive employee control and employee-dominant influence) can create good communication in a transformational environment to transfer their quality commitment to their employees and to translate their commitment into employee actions towards a quality product (Clark et al., 2009). In addition they revealed that directive leadership leads to low employee participation and empowerment and lower
acceptance of managerial decisions, since participative leadership recognizes the opinions and suggestions of employees and encourages their involvement and loyalty. Empowering leadership exceeds participative leadership by helping employees through their supervisors and managers to be team workers, work together towards a common goal, and gives them the authority and autonomy to think about problems and make decisions, and use their intelligence to overcome hindrances which will affect positively their commitment to quality and emotional issues (Lashley, 1995; Gill et al., 2010).

**Focus on customers**

The main determinant of the degree of the quality product is customers’ requirements, thus involving customers in quality issues (e.g. internal quality audit; identifying nonconforming products) represent a fundamental aspect to identify their needs (Manning, 2000). It is important for organizations to identify customer requirements to obtain customer satisfaction and confidence with the products through ensuring that such requirements are fully matched (Oakland, 2003). Consequently, customers are the main focus in any QMS (Yeates and Wakefield, 2004) so managers need to clearly identify their customers (Bosselman, 2007).

**Supporting quality policy**

The quality policy constitutes a statement describing a commitment to quality (Praxiom Research Group, 2005). According to Cracknell et al. (2000) this policy (i.e. guidelines to run the business) should be realistic, simple, easily-understood, address all staff, ensure communication between departments, and provide freedom of decision-making for departmental heads. Manning (2000:xvi) defined it as: “a document developed by
the senior management within an organization outlining the organization’s commitment to quality and the development of quality objectives for the organization” Rose (2001) revealed that the policy should be stated basically to match its targets, e.g. customer requirements and compliance with standards. A full management commitment is a must to guarantee that the policy is working throughout all levels of the organization (Oakland, 2003).

3.10.1.3 Quality resources

It is significant for the success of an organization to assess whether it has sufficient resources to implement its quality system and if not what it will do to obtain these resources (Manning, 2000). This reflects three major areas: competent personnel, effective training and suitable work environment and equipment.

Competent personnel

According to Smith (1995); Cheng and Brown (1998) the success and survival of the hotel industry is much more reliant on the quality of its employees and how effectively they are managed to achieve its goals. Therefore it is significant for hotels to develop an efficient human resources strategy to select, recruit and retain competent personnel (Zilliacus, 1985; Cheng and Brown, 1998). However, hospitality organizations still do not pay a recognized attention for hiring the right people (Ottenbacher, 2007). This in turn leads to job dissatisfaction, poor job performance, and increased staff turnover (Chapman and Lovell, 2006).
Oakland (2003) emphasized the significance of selecting and recruiting people who are qualified in specific aspects, e.g. education; experience; skills to match and achieve business requirements. However, hiring qualified personnel in hospitality appears to be a big dilemma facing the hospitality industry which in turn leads to reliance on unqualified people that affects the quality of product/service offered (Poulston, 2008). Therefore, it is difficult to recruit or even retain chef professions due to skill shortage and unattractive terms and conditions (Murray-Gibbons and Gibbons, 2007). Additionally, due to skill shortages and unattractive terms and conditions for chef professions (Murray-Gibbons and Gibbons, 2007) there is much more reliance on unqualified people which affects the quality of product/service offered (Poulston, 2008).

Traditionally, chef professions were of little interest of many people as people prefer academic rather than vocational, especially culinary studies (Horng and Lee, 2009). In addition, due to the increased number of hospitality businesses and the low skills requirements for entry-level jobs, recruiting and retaining employees in hospitality operations is a big challenge, especially for restaurant operations (Kang et al., 2010).

According to BDO Hospitality Consulting (1996) the hotel and catering industry in the UK was found to be more reliant on part-time and casual personnel who accept low pay and have flexible work hours. Thus, high turnover is a critical issue across the UK hotel industry (Allin, 1999; Jones and Lockwood, 2004). In addition, the higher is the percentage of younger staff in food production areas, the higher is the employee turnover, since they are only doing the job temporarily at the beginning of their career while studying or travelling and this affects the quality of food produced (Pratten,
Effective training

According to Makings (1985) training means: “the examination of human resources; helping people to acquire desirable habits and apply correct operational procedures thereby maintaining and improving standards”. To meet standards a systematic approach to training should be followed (East, 1993). Training objectives should be clearly identified and might include, e.g. compliance with standards; defining responsibilities and levels of authorities; ensuring teamwork (Manning, 2000). Oakland (2003) emphasized the significance of defining and providing appropriate training to achieve business requirements and conforming to product quality. He further requested that this training should be regularly evaluated to ensure its effectiveness.

Glover (1995) preferred the concept of training not trailing in hotel operations, since many managers tell new staff to trail an experienced employee who may not clearly understand hotel objectives to teach them the job. Training should focus on customer requirements and the requirements of the system, e.g. new legislation, also training records should be kept as evidence that it is implemented and effective (Manning, 2000). Mathews et al. (2001); Taormina (2002) indicated that training is a key factor in ensuring quality. It is important for all staff are allowed sufficient time for special training for quality (Rose, 2001). Several types of training should be developed for employees in the catering industry, e.g. initial training (i.e. basic training before starting work); supervisory/managerial training; on-the-job training; periodic refresher training
(Worsfold and Griffith, 2003). It is important to provide formal training programmes to improve catering practices (Coleman et al., 2000; Bolton et al., 2008) and to increase positive employee interactions (Tews and Tracy, 2009).

Coleman et al. (2002 cited Alexander, 2007) shed light on practical training alongside with managerial skills as a core aspect of hospitality management programmes. However, Lashley (2004 cited Alexander, 2007) indicated that higher education institutions specializing in hospitality do not provide their graduates with the food and beverage skills to meet industry requirements. Therefore, large hospitality operations often prefer to train staff themselves as they lack confidence with the training conducted by public institutions like universities (Chapman and Lovell, 2006). Thus, public institutions should focus on preparing employees for specific job levels to contribute to hospitality industry - schools concentrating on lower level training and universities covering managerial level training (Chapman and Lovell, 2006).

Horng and Lee (2009) revealed that traditional mentors (i.e. qualified chefs) often keep specialized skills and knowledge (i.e. tricks of the trade) secret, since they do not want to share them with apprentices. This supports Zetie et al. (1994) who suggest that the tyrannical chef is an experienced chef but reluctant trainer as he/she is more concerned with developing his/her skills than sharing those skills with others. It is significant for chefs not to have this dominant anachronistic role (Rutherford and O’Fallon, 2007).
Suitable work environment and equipment

According to Manning (2000) the work environment encompassing two key aspects: physical work environment (e.g., light, temperature, air flow and accessibility of test equipment such as temperature probes, timers, weighing scales) and management system factors (e.g. accessibility and availability of documentation and information required to carry out the tasks) has a fundamental influence on staff ability to conduct the tasks required of them. It is important to provide a suitable work environment through identifying and managing the environment and equipment needed to match business requirements (ISO 9001, 2008 cited Praxiom Research Group, 2009d).

Managers are responsible for providing food production staff with the requisite tools in a convenient location in the kitchen to help the production of quality food (York et al., 2009). According to Rogers (2010) there are new devices controlling quality, e.g. time-temperature indicators (TTIs) which monitor food quality according to colour changes affected by temperature.

Considering managerial factors, it has been found that creating a suitable environment through organizational atmosphere is a major component in the job satisfaction of culinary staff (Chuang et al., 2009; Horng and Lee, 2009). Organizational structure is a key issue and needs clear documentation outlining job descriptions, hierarchy and procedures (Manning et al., 2006).

It is important to encourage all employees to be involved in quality issues and to recognize their contribution, feedback and suggestions regularly (Zilliacus, 1985;
MacVicar and Brown, 1994; Lashley, 1995; Yeates and Wakefield, 2004). For instance, a small daily taste panel among kitchen personnel is a good way to achieve consistent level of food quality (Zilliacus, 1985). Additionally, in the food production area, chefs and cooks should be given opportunities to express their creativity in the culinary arts through experiencing craftsmanship skills to achieve professional recognition and personal growth (Chuang et al., 2009). The main focus and concern with creativity and innovation in culinary is consistent product quality (Ottenbacher and Harrington, 2009). This is also consistent with Kondo (2000) who indicated that there was a misconception that consistency prevents the display of creativity and innovation, since creativity and consistency are not incompatible but mutually complementary and integrated.

Muller et al. (2009) found that miscommunications were common in the culinary business because the kitchen area is hot and noisy and most chefs assume that their cooks understand their communication which they do not. Therefore good communication between kitchen staff is core to consistent food quality and job satisfaction (Murray-Gibbons and Gibbons, 2007; Clark et al., 2008). Figure 3.8 shows major areas of system development.
3.10.2 System Documentation

Documenting the QMS demonstrates that controls are in place and they are effective and complied with (Manning, 2000) - if an informal system is found, it should be documented, i.e. say what you do then write it down. Rose (2001) emphasized the significance of QMS documentation as a reference and for training purposes. Additionally, documenting the system can save time and cost for production staff to ensure consistent food quality (Pham and Setchi, 2001). Therefore, it is important to document what is already done to ensure the existence of a clearly identified standard (Oakland, 2003).

Inability or unwillingness to develop and maintain written documentation of operational standards is a major reason for restaurant business failure (Parsa et al., 2005). System documentation and paper work poses a dilemma for employees in the hospitality
industry, since they often feel uncomfortable writing down all what they do (Taylor and Taylor, 2008). However, concise and effective documentation (i.e. based on minimum effort for maximum utility, e.g. in detailed recipes and for groups of dishes), will help achieve consistent product quality (Taylor, 2008b; Taylor and Taylor, 2008) even for informal systems (Manning, 2000).

3.10.2.1 Managing and Preparing QMS Documents

This involves developing QMS documents and ensuring that these documents reflect and respect what has been actually done and how it can be done (ISO 9001, 2008 cited Praxiom Research Group, 2009e). East (1993) stated that the QMS documentation should include three key components: the quality manual (i.e. satisfying standards’ requirements); the control procedures (i.e. details of what has to be done, by whom, where and when); the work instructions (i.e. details of how the job is done). According to Vrtiprah (2001) documentation should incorporate:

- Quality regulations/manuals, i.e. prepared by the management representative responsible for quality and approved by the director;
- Procedures for the quality system, i.e. prepared by department managers, verified by the management representative responsible for quality and approved by the director;
- Work instructions, i.e. prepared by authorized department heads, reviewed by their co-workers, and approved by the management representative for quality);
- Other forms and documents, i.e. external standards and so on which are prepared in separate areas of the organization and they are reviewed and approved by the management representative on quality.
According to East (1993) the quality manual is a short document which covers the organization’s approach to satisfying the requirement of its standard. Manning (2000); Oakland (2003) revealed that every organization should prepare properly documented and clear quality manuals which include, e.g. quality policy; quality objectives; quality standard; definition of QMS. These manuals should be in place for all staff and for customers in the case of quality inquiry (Rose, 2001). They also represent evidence of achieving quality products and as an aid for assessing the quality system (Yeates and Wakefield, 2004). They could be paper manuals or electronic manuals (Praxiom Research Group, 2005). Developing the quality manuals includes their maintenance (ISO 9001, 2008 cited Praxiom Research Group, 2009e).

3.10.2.2 Controlling QMS documents

It is important for organizations to control and standardize their QMS documents as a focal point for an integrated QMS (Wilkinson and Dale, 2000). These documents should be controlled effectively and need to explicitly detail the number of pages and the issue date/number (Manning, 2000) to make sure that the most up-to-date version is generated, maintained and in place and all old versions are removed (East, 1993). Controls might include: quality manuals approval and review; their availability and accessibility in all locations; the removal of quality manuals no longer in use; maintaining them in an orderly manner (Manning, 2000; Oakland, 2003). Figure 3.9 illustrates major areas of system documentation.
3.10.3 System Implementation

Once the QMS has been developed and documented, it has to be implemented effectively (East, 1993). According to Rose (2001) implementing a QMS is a major challenge. It means introducing the system (Manning, 2000). Each organization needs to identify the sequence and linking of its production processes which will convert customer requirements into customer satisfaction to achieve consistent quality products (Oakland, 2003).

3.10.3.1 Food Production Systems

Cousins et al. (2002) identified three distinct major systems in food and beverage operations: (1) a system for food production (2) a system delivery or service sequence, and (3) a system for customer management or customer process. Therefore, food
production constitutes an operating system which can be effectively managed through the adoption of a systems approach (Cousins et al., 2002). Figure 3.10 illustrates a summary of the three systems and the relationship between them.

Figure 3.10: The three systems of food and beverage operations and their interrelationship

Additionally, Cousins et al. (2000) developed a generic model for food production based on using the suggested process approach of food production elements (see Figure 3.11).

Figure 3.11: A generic model for the food production system

![Diagram of a generic model for the food production system]

Source: Cousins et al. (2002:78).

There are four basic common systems used in the food production: cook-freeze, cook-chill, sous vide and cook and serve (Edwards and Nash, 1999; Cracknell et al., 2000; Edwards and Hartwell, 2006). Due to evolution in catering technology, food production systems, e.g. cook-chill, cook-freeze, sous-vide (cooked-in-a-bag) are commonly used (Cousins et al., 2010; Rodgers, 2010) in line with new cooking techniques, e.g. induction hobs, microwaving, packaging and process monitoring devices, such as steamplicity, i.e. raw or partially cooked packaged meals are stored, chilled and cooked in a microwave oven just before consumption (Edwards and Hartwell, 2006; Rodgers, 2010). Additionally, there are two new recently-developed cuisines: Asia-Pacific and Molecular Gastronomy (Cousins et al., 2010).
3.10.3.2 Quality Control through Food Production Input-Process-Output System

Wood (2004) emphasized the importance of the food production area as the most interesting part of a systems approach in the hospitality context. Amjadi and Hussain (2005) suggested the following model which highlights food flow through a food service operation (see Figure 3.12).

![Figure 3.12: Food Flow](image)

**Source:** Amjadi and Hussain (2005:175).

Food production systems can adopt one of two distinct approaches: the first approach is a process approach (i.e. the way of preparing, cooking, storing the food); the second approach is a product approach based on the type of dish being prepared (Cousins *et al.*, 2002). Cousins *et al.* (2002) recommended the use of an input-process-output model as the basis of a process approach system within the food production area (see Figure 3.13).
This study develops an input-process-output systems approach within the food production area. The input phase involves purchasing, receiving, storing and issuing food in hotel context. The process phase includes preparation, cooking, holding, and regeneration. The output phase comprises food presentation.

Both control and quality approaches contribute to the same aim, i.e. customer satisfaction (Pujo and Pillet, 2002). Control should be carried out daily to achieve consistent food quality Vrtiprah (2001). Minor and Cichy (1984) argued that quality control is concerned primarily with things rather than people, i.e. the evaluation and application of desired standards of products. According to Jones and Lockwood (2004) to appropriately manage the tangible/material component in a hotel business, it would be better to call it quality control such as the activities which occurred in back-of-house, e.g. food production area, whereas the term quality assurance would be used for managing the social/intangible component of hotel business like those activities associated with front-of-house operation. They further explained that tangibles are
more controllable other than intangibles, whereas intangibles/social aspects, e.g. face to face contact, should be handled correctly which is the main target of assurance to ensure that errors do not occur.

To achieve quality food products, it is important to purchase good products, store them properly, prepare the food according to the proper standard recipes, and control costs (Lattin, 1985). Zilliacus (1985) explained that to achieve a consistent level of food quality, it is necessary to have clear standards for implementing all activities and processes within the food production which should be in place and easily-accessible for all staff.

*Input (Purchasing; Receiving; Storing and Issuing)*

*Purchasing*

The first step in assuring food quality within the food production in hotels is food purchasing according to standard purchase specifications (Kotas and Jayawardena, 1994; Dittmer and Griffin, 1997 and Walker, 2008). According to Lattin (1985) and Cichy and Wise (1999), to ensure good purchase items it is necessary to buy the right items from the right supplier at the right time for the right price and in the right amount. Riegel and Reid (1988) conducted a study on food service purchasing and pointed out that selecting the right supplier is a fundamental requirement for providing consistent quality food and the most significant concern with suppliers is the accuracy and time of delivery. In addition, Lattin (1995) summarized four points which are taken into account by purchasers to make wise purchasing as follows:

- The property's financial goal;
• The amount of food required to prevent under and over stocking;
• The preparation and presentation of the food;
• Customer expectation of the food operations.

The raw food items purchased should be in sufficient but not excessive quantities (Dittmer and Griffin, 1997). To discuss this further, Chon and Sparrowe (2000) identified the advantages and disadvantages of purchasing too much or too little stock. Excess stock ties up large sums of money in inventory and requires needless storage space and reduced quality of perishable food. Too little stock can lead to repeated stockouts, emergency rush orders, loss of discounts from large purchases and dissatisfied customers.

To purchase food items accurately, it is important to use a standard purchase specification for the key features of each food item (Zilliacus, 1985; Dittmer and Griffin, 1997; Cichy and Wise, 1999; Medlik, 1999; Chon and Sparrowe, 2000). Purchasing specifications should be designed according to the items specified in the menu (Waller, 1999). Stefanelli (1997) listed the basic purposes and advantages of "specs" (specifications) as follows:

- They serve as quality control standards and cost control standards
- They help to avoid misunderstanding between suppliers, buyers, and users
- In buyer's absence they allow someone else to fill in temporarily
- They serve as useful training devices
- They are essential for setting down all relevant aspects of a product or service
In light of selecting food buyer and developing a purchasing system, Lattin (1985) stated that the following factors should be considered:

- The buyer should have strong experience in a food operation.
- The buyer should be well trained in the technique of market buying and should be familiar with the food distribution system and where to look for market trends.
- The buyer must be alert to new markets and products and realize the effect weather and politics can have on food supplies and prices.
- The buyer should have a good working knowledge of accounting controls and systems and understand the mechanics of purchase orders, invoices, receiving sheets, and credit memoranda.
- The buyer must be able to develop purchase specifications and work with the food service staff in performing butchering and yield tests to support the purchase specifications.
- The buyer must be able to work with chefs and to get along not only with purveyors but also with the department heads throughout the house.
- The buyer must be able to effectively interact with salespersons and recognize that they are partners rather than adversaries in the food service operations.
- The buyer must have initiatives, curiosity, and desire to be an effective performer.

It has been stated by Dittmer and Griffin (1997) that any procedures designed for food purchasing involved two different categories, i.e. perishables and non-perishables (see Table 3.12).
Table 3.12: Identifying perishable and non-perishable foods

<table>
<thead>
<tr>
<th>Type of food</th>
<th>Identification</th>
</tr>
</thead>
</table>
| Perishables  | • Food that will keep only short periods of time before beginning to lose their quality;  
  • These foods spoil and became unusable;  
  • Such foods are typically fresh foods, such as meat, fish, fruit, and vegetables;  
  • Fresh vegetables will retain sufficient freshness for several days; fresh fish by comparison, will not, and it must be used much sooner;  
  • Perishables must be ordered frequently, sometimes each day;  
  • The quantity ordered is limited to anticipated demand. |
| Non-Perishables | • Foods that will keep for extended periods before spoiling;  
  • They typically come in cans, jars, bags, bottles, and boxes;  
  • Some are dried or frozen;  
  • Non-Perishables are ordered infrequently and in larger quantities because they have longer shelf life than Perishables. |

Source: Adapted from Dittmer and Griffin (1997:207).

Receiving

Receiving is a key step of control in the catering operation (Walker, 2006). Hence, food received from a supplier should match the order (Chon and Sparrowe, 2000). According to Dittmer and Griffin (1997) the basic aims for receiving procedures are to ensure:

1. That the quantity delivered matches the quantity ordered;
2. That the quality of the items delivered conforms to the quality specified in the order placed;
3. That the price on the invoice is the same as the price quoted by the dealer when the order was placed.

According to Lattin (1985) the receiving area should be found between the receiving outlet and the storeroom so that the receiving clerk can control all food items in and out. In addition, Lattin (1995) stressed that receiving areas should be equipped with various
tools, e.g. adequate floor scales and a small table scale. He further added that all food items received should be written up on a receiving clerk’s daily report.

In the time of delivery, receiving personnel should check the incoming products against their in-house purchase order, delivery invoice, and standard product specifications (Cichy and Wise, 1999; Chon and Sparrowe, 2000). Any discrepancy between what was ordered and what actually has been received should be written in line with credits for price corrections and unacceptable products that are returned to suppliers (Cichy and Wise, 1999). The receiving clerk should quickly move all items to their proper storage areas to reduce loss of quality and to protect them from theft (Lattin, 1985). Baker (1999) listed some of the principles that should be taken into account to ensure good food receipt as follows:

- All deliveries must be associated with their invoices;
- A designated skilled person is authorized to receive goods;
- Perishable items should be labeled with the date received;
- Meat should be weighed;
- No authorized staff should inter the stores at all.

Storing and Issuing

According to Chon and Sparrowe (200, p.267) accurate storing and issuing procedures will reduce the probability of theft, spoilage and waste of food items. Considering storing, Knowles (1998) stated that food storage was mainly targeted to ensuring a sufficient supply of food for the immediate needs regularly. In detail, Dittmer and Griffin (1997) suggested that storage procedures cover four key objectives:

1. Ensuring the security of purchased materials;
2. Preserving the quality of those materials;
3. Providing ready access to available materials;
4. Facilitating the determination of quantities on hand.

To ensure food quality, the storage area should be protected with locks and unauthorized personnel should be kept out of the storeroom at all times. The area should be clean and properly lit. Merchandise should be stored off the floor and unpacked merchandise should be kept to a minimum. The food and beverage storeroom should be inspected every day by the food and beverage manager, the chef, or the general manager (Lattin, 1995). According to Dittmer and Griffin (1997) all purchases are basically stored in one of the following three places:

1. Dry storage areas for dry goods;
2. The refrigerator for chilled foods;
3. The freezer for frozen foods.

In respect to issuing, food items should only be issued from the storeroom through a properly authorised requisition (Lattin, 1985) to the authorized personnel in the correct quantities (Dittmer and Griffin, 1997) at a specific times during the day (Knowles, 1998) to ensure the flow control of inventory, giving an additional tool for checking expenses and analyzing sales (Chon and Sparrowe, 2000).

To increase the accuracy of issuing control, every item in the storeroom should be priced with a marking pencil; at the end of every month, the accounting division checks
the perpetual inventory balance against the actual stock on hand and a list of overages and shortages should be prepared for management (Lattin, 1995).

Process (Preparation; Cooking; Holding; Regeneration)

Preparation

According to Chon and Sparrowe (2000) food items can often be cleaned, processed, mixed, seasoned, and otherwise worked before the actual meal period begins. The preparation step involves variety of tasks, e.g. cleaning, peeling and chopping vegetables; thawing frozen meat and trimming it; adding liquid to dehydrated items; simmering broth; or making salad dressing (Minor and Cichy, 1984; Chon and Sparrowe, 2000).

In terms of controlling recipes, Ziliacus (1985) revealed that due to following a standardised recipe, the quality originally planned into the product should be expected through reference to the standardised recipe (Walker, 2006). According to Amjadi and Hussain (2005) a written standardized recipe constitutes an important tool for communication between employees giving them a full description and providing consistent quality food within the food production area and a way of reducing training costs as a result of thorough following of all the instructions stated in the recipe. To approve the standard recipe it should be scrutinized against its marketing potential, profitability and the ability of kitchen staff to make it (Amjadi and Hussain, 2005).

Dittmer and Griffin (1997); Chon and Sparrowe (2000); Shiring et al. (2001); Hayes and Ninemeier (2006) emphasized the importance of the availability of a written
standard recipe for each menu item as a way of ensuring consistent high quality controlled items. According to Amjadi and Hussain (2005) there are key aspects that should be taken into account when changing the procedures of the recipe, e.g. the facilities, ability of staff, type and concept of operation, type of service, food presentation, available equipment, purchasing strategy, and finally the work flow. Minor and Cichy (1984) stated that the proper standard recipe should involve the following elements:

- The name of the menu item;
- The pan size;
- The temperature;
- Yield;
- The portion size;
- The portion utensil;
- The cooking time;
- A sequential listing of ingredients;
- The quantity of each ingredient;
- The method; and
- The special equipment needed.

Cooking

According Minor and Cichy (1984) the main purpose of cooking food products is to make them more digestible, delicious and attractive to the customer. Whilst Jones et al. (1997) revealed that food items are cooked for various reasons, e.g. to add variety; to make some food more digestible, more appetizing, or easier to eat (e.g. meat); to destroy
any bacteria or natural toxins present (e.g. for kidney beans); to reduce bulk (e.g. spinach); to thicken them or to set them (e.g. egg dishes).

To ensure consistent level of food quality, maintain customer satisfaction and control food costs, it is important to use standard portion sizes (i.e. the quantity of each menu item served for the stated menu price) that may be described by count or weight through the use of standard recipes (Minor and Cichy, 1984). To ensure a standardized portion control, quality standards should be clearly defined by the management (Minor and Cichy, 1984).

To ensure consistent food quality, Minor and Cichy (1984) and Zilliacus (1985) recommended the writing, planning and following-up of a daily production by specifying what is to be cooked and who will cook the item. In addition, Bosselman (1995) proposed that all food items should be prepared and cooked in a central commissary in the hotel and then distributed to all food outlets in the same hotel or to all hotels in the same chain.

**Holding**

Ball *et al.* (2003) recognized the holding activity as a stage which separates between two closely interlinked systems or subsystems with no deterioration in quality. They added that the holding phase is divided into two major types: (1) warm or hot holding; and (2) chilled or frozen holding. According to Minor and Cichy (1984) holding is needed if food items are not cooked to order. They further emphasized the importance of temperature monitoring for products held hot on steam tables or *bain maries*, chilled
in fridges or frozen in freezers. According to Lattin (1995) the quality of food can be increased if food products are held for minimum time. Therefore, it is advisable to hold food cold or hot for the shortest possible time and to prepare small batches to increase their quality (Lattin, 1995).

Regeneration

Ball et al. (2003) explained that regeneration stage in the food production system is that stage required to process and transform the food to be ready-to-eat food usually after a long period of storage either chilled or frozen storage. According to Edwards et al. (2000) the main concern in the regeneration process is keeping the food safe and ensuring all aspects of food quality, e.g. presentation, texture and taste, without any damage.

Output (Presentation)

Presentation referred to how attractively food is presented and decorated as a tangible cue to customer perceptions of quality (Namkung and Jang, 2008). It is significant to match the appearance of the food items produced with their pictures and description on the menu (Cichy and Wise, 1999). They further added that sizes and shapes of foods are key components of the appearance. Failure to meet the product picture on the menu could lead to a quality gap which in turn affects the consistency of food quality delivered (Dillon and Griffith, 1997). Cichy and Wise proposed the following statements that should be taken into account to ensure effective food presentation:

- Broken or misshapen vegetables can destroy the appearance of an entire plate of food;
• Food items should not be crowded on the plate or hanging over the edge;
• Liquid food should not spill or run over the edges of tableware;
• Poor quality foods (e.g. dried-out bakery, broken bread sticks, lumpy gravies and runny custard) should not be served.

Figure 3.14 explains the major sections of a system implementation which based on input-process-output model of food production.

**Figure 3.14: Major sections of system implementation based on input-process-output model of food production**

3.10.4 **System Maintenance**

According to Dillon and Griffith (1997) the maintenance of a quality system consists of three key components: control of inspection; control of measuring and test equipment; control of quality records.
3.10.4.1 Control of Inspection (Quality Audit)

To guarantee continuous quality improvement (Barthelemy and Zairi, 1994) and ensure that all procedures of QMS are adopted effectively and all instructions are written down, a regular internal and external quality audit should be applied (Rose, 2001) to check that systems are implemented and working effectively (Manning, 2000) and as a part of a TQM programme (Jones and Lockwood, 2004) to monitor the success of the work and compliance with quality system and legislative requirements (Praxiom Research Group, 2005).

To define quality audit, Manning (2000:xv) stated it as: “a methodical and independent assessment to determine whether the quality management system (QMS) compiles with the QMS standard and whether the QMS elements are implemented effectively and are adequate to achieve the quality policy and quality objective”. The development and implementation of a quality system does not mean that a correct system is in place, thus there is a significant need to audit to ensure that the quality system is: complied with agreed scope, documented effectively and reviewed regularly (Manning, 2000). There are various reasons for audits, e.g. a routine or new supplier audit; a scheduled internal audit; a third-party audit; audit as a result of customer complaint or product/process non conformance (Manning, 2000).

Oakland (2003) identified three types of audits: (1) first party assessment, i.e. internal audit which is carried out to examine the QMS against a group of specified requirements; (2) second party assessment, i.e. an external customer investigates the product against its standards; (3) independent third party assessment, i.e. conducted by
an independent company to make registration for the supplier. External assessment is conducted by an outside consultant (Johns, 1992), and internal one is carried out by the organisation’s personnel (Praxiom Research Group, 2005). Manning (2000) added more types, e.g. system audit (i.e. check whether a QMS conforms to standards); compliance audit (i.e. practices comply with QMS documentation); follow-up audit (i.e. to ensure that corrective actions have been implemented and effective).

According to Blum (1997) internal quality audit represents an effective tool in hospitality operations to identify errors and their frequencies and determine the steps to rectify and prevent them in the future. It must be carried out to ensure what is supposed to happen is actually happening (Mellveen, 1994). Indirectly, the customer represents an important auditor who determines through his purchase of the product and his complaints whether the system is working effectively and delivering acceptable quality products (Mellveen, 1994). When carrying out internal audits, it is significant to identify the areas where compliance with QMS is hard to achieve and help developing preventive and correction actions (Manning, 2000).

3.10.4.2 Control of Measuring and Test Equipment

To ensure consistency of food quality, it is significant to use the portioning tools, scales and utensils that will help ensuring that the right amount of ingredients is accurate (Minor and Cichy, 1984). It is important to use test and measuring equipment to ensure compliance with the required specification and to control the critical processes within the food production (Rose, 2001). According to East (1993) and Lockwood (1996) it is very significant to control all equipment used for measuring and checking the quality of
food produced in the kitchen, e.g. temperature probes need to be regularly checked for their accuracy as a legislative requirement. Additionally, test equipment (e.g. temperature probes; timers; weighing scales; measuring tools) should be available and easily accessible for all staff in the food production areas, since they have to be encouraged to use them regularly (Manning, 2000).

3.10.4.2 Control of QMS records

These records are a source of information for identifying corrective and preventive actions and continuous improvement for quality system and as a core part of the audit and review process, since external auditors will need to review them as part of their accreditation (Manning, 2000). McEachern et al. (2001) emphasized the importance of effective record keeping of quality system as evidence of accurate system implementation for regulatory agencies, customers and internal verification. They further added that there are two main kinds of records: the record of QMS development (which involve for example corrective action and employee training) and the records of QMS implementation. In addition, although these records should be given proper attention and security for safe storage, they should be easily accessible to all staff (McEachern et al., 2001). The most significant records are those related to process control and inspection records which demonstrating that what has been specified has actually been achieved (Rose, 2001). To control these QMS records, it is important identifying: what records should be kept, the procedures to fill them, and their retention time (Lockwood, 1996; Manning, 2000; Oakland, 2003). Figure 3.15 reflects the major parts of system maintenance.
3.10.5 System Improvement

Quality system should not be seen as an inflexible standard that could not be modified, but as a system which subjects itself to continuous improvement and development with a well-defined justification through recording these changes to help reviewing the quality system and updating the earlier versions (McEachern et al., 2001). For instance, management might be willing to include new cooking techniques, equipment and procedures according to customer demand (Minor and Cichy, 1984).

Boer et al. (2000 cited Middel et al., 2007:223) defined continuous improvement (CI) as the: “planned, organized and systematic process of ongoing, incremental and company-wide change of existing work practices aimed at improving company performance”. Whilst Manning (2000:xv) defined it as: “ongoing development of the quality management system with the aim of meeting quality objectives and realizing improvements in quality performance”. CI process includes defining the QMS at a
point in time and then introducing change and after that this change should be evaluated through specific measurement (i.e. measurement trend), e.g. customers complaints or percentage of rejection figures, then the results represent inputs for management review which will lead to continuous improvement for the whole system (Manning, 2000). According to Middel et al. (2005b cited Middel et al., 2007) the main aspects of CI are, communication of CI to all employees; employees involvement; management commitment; learning from failure; team working; effective communication channels; commitment to training and personnel development.

3.10.5.1 Eliminating the Causes of Non-conformity and Preventing Recurrence

Manning (2000:xv) defined nonconformity as: “an instance where specified requirement are not met”. Nonconformity can be identified at any time not just as part of the internal audit (Manning, 2000). Rose (2001) paid attention to the reasons for non-conforming products to prevent its occurrence again. Thus, identifying what actions will be taken which might include: rejection of non-conforming product at all; correction or adjusting to meet requirements; acceptance under concession with/without correction; or reassigning for an alternative (Oakland, 2003). Non-conformity reports, quality audit, customer complaints (i.e. customer feedback), personnel feedback and management review represent significant inputs for an effective corrective action (Oakland, 2003). Corrective action procedures should be clearly defined and in place, since if errors identified during the production steps, they should be corrected and these procedures should be documented effectively (i.e. defining what is required by whom and with suitable timescale) to ensure continuous improvement (Manning, 2000). Oakland (2003) summarized the procedures for corrective action process as follows:
• Identification of non-conformities of products, the QMS and customer complaints;
• Investigation of causes of non-conformities and recording its results;
• Determination of corrective actions needed to eliminate causes of non-conformities;
• Corrective action implementation;
• Ensuring the effectiveness of corrective actions through follow-up.

3.10.5.2 Eliminating the Causes of Potential Non-conformities to Prevent their Occurrence

It is significant to identify the potential non-conformance of products during steps of production and determine the causes of not conforming to the specified standards, since Manning (2000:xv) defined preventive action as: “an action taken to prevent nonconformance”. Manning (2000) emphasized the importance of clearly-defined preventive action procedures to prevent errors identified during food production processes from reoccurring, since they should be documented effectively (i.e. defining what is required by whom and with suitable timescale) to ensure continuous improvement. To identify the process of preventive action, Oakland (2003) listed the following steps:

• Identification of potential non-conformities product;
• Investigation of the causes of such potential non-conformities products;
• Determination of preventive actions needed to eliminate the causes of such potential non-conformities products;
• Implementation of preventive actions needed;
Ensuring that preventive action taken is effective then recorded and submitted for management review through follow-up.

3.10.5.3 Reviewing the QMS

The QMS should be reviewed regularly at specified intervals (e.g. regular management meetings monthly, bi-monthly or quarterly) to determine the degree of management control and its effectiveness in ensuring that the quality policy and objectives conforming to the system and customer requirements are consistently met (Manning, 2000). Reviewing QMS is the responsibility of top management which involves properly documented records that cover actions taken based on several data, e.g. quality audits; customer feedback; training programmes and current training needs; preventive and corrective actions (Oakland, 2003). Oakland (2003) emphasized the importance of customer feedback and internal audit data which constitute the inputs to management review process.

It is very significant to review the standard at least annually to check its effectiveness and recognize employee and customer feedback regarding quality issues when making changes in standards or creating new ones to fill any gaps (Manning, 2000; Yeates and Wakefield, 2004). To ensure consistency, any change should be clearly defined and documented in the management system (Oakland, 2003). Thus, earlier versions of QMS documents should be updated and employees should be informed with that change (McEachern et al., 2001). Figure 3.16 shows major parts of system improvement.
3.11 A Conceptual Framework for a Consistent Hotel Food Production Quality Management System:

Hospitality systems, and in particular catering systems, are well-known by their cyclical nature (Edwards and Ingram, 1995). The consistent hotel food production quality system should comprise all five major interlinked areas of a system which begins with system development through system documentation, system implementation, system maintenance, and then ends with system improvement as main headings based on ISO 9001 (2008). This model reflects and integrates these major areas. A holistic and comprehensive utilization of this conceptual model will in turn achieve consistent food quality through food production processes in hotels. Figure 3.17 shows the conceptual framework for a consistent hotel food production QMS.
System development

System Identification:
- Standard identification
- Control measures identifications
- Corrective action procedures identifications

System Documentation:
- Managing and preparing QMS documents

System Implementation based on input-process-output model of food production steps
- Input: Purchasing
- Process: Preparation
- Output: Presentation

Management responsibility:
- Commitment to quality
- Focus on customers
- Supporting quality policy

Quality resources:
- Competent personnel
- Effective training
- Suitable work environment and equipment

System Improvement
- Eliminating the causes of non-conformity and preventive recurrence
- Control of the causes of potential non-conformities to prevent their occurrence

System Maintenance
- Control of inspection (quality audit)
- Control of measuring and test equipment
- Control of QMS records

3.12 Summary

Quality is a key to competitiveness and business survival and success. Definitions of quality are many and varied but focus on three key issues: the customer, the product and/or the manufacturing process. The process must fit the product and the product must meet customer requirements. Quality must be appropriate and consistent. Quality
Quality and consistency represent critical issues in hotel sector and are two sides of the same coin. Quality cannot be managed without an effective QMS and the main contribution of a good QMS is in achieving consistency. The word quality is the most commonly-used word in the food industry in relation to production and service. Food production operations can be managed through the application of a systems approach considering the input, process, and output of food. One of the QMSs used in food production to provide products of consistent quality is the ISO standard. A conceptual framework for consistent food quality within hotel food production operations has been developed based on the ISO foundations. The framework of the QMS included five key sections: system development; system documentation; system implementation; system maintenance; system improvement. This system will be used as a structure for discussing the results from the field study.
CHAPTER FOUR: RESULTS AND DATA ANALYSIS

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</thead>
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</tr>
<tr>
<td>4.4.4</td>
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</tr>
<tr>
<td>4.4.5</td>
<td>Training should be carried out mainly on the job</td>
</tr>
<tr>
<td>4.4.6</td>
<td>Training records should be kept for each staff member</td>
</tr>
<tr>
<td>4.4.7</td>
<td>Communication is critical to quality</td>
</tr>
<tr>
<td>4.4.8</td>
<td>Follow up is not critical to quality</td>
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<tr>
<td>4.4.9</td>
<td>All food production procedures should be clearly defined to all staff</td>
</tr>
<tr>
<td>4.4.10</td>
<td>Temperatures of food appliances should be monitored and recorded regularly</td>
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<tr>
<td>4.4.11</td>
<td>Temperatures of food items should be monitored at all stages of production</td>
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<td>4.4.12</td>
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</tr>
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</tr>
<tr>
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</tr>
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</tr>
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<td>Receiving</td>
</tr>
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</tr>
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<td>Preparation</td>
</tr>
<tr>
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</tr>
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<td>4.5.5</td>
<td>Holding</td>
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<tr>
<td>4.5.6</td>
<td>Regeneration</td>
</tr>
<tr>
<td>4.5.7</td>
<td>Presentation</td>
</tr>
<tr>
<td>4.5.8</td>
<td>Summary</td>
</tr>
</tbody>
</table>

Page 4 - 1
4.1 Introduction:

This chapter presents the results of a web-based questionnaire that was carried out by the author within the hotel sector in and around the Cardiff area to highlight the focus on the extension of some of the issues related to managing food quality in the food production area in hotels to obtain a consistent level of food quality in section 4.2. Then chapter analyses a multiple case study of 13 hotels located in and around the Cardiff area aiming to evaluate whether the company has developed a quality system to meet its standard's requirements in section 4.3. To obtain information regarding this context the researcher used two methods: semi-structured interviews (section 4.3.2) and a management attitude questionnaire (section 4.3.2). The chapter further presents the results of staff attitude questionnaires representing six hotels out of 13 hotels which allowed the researcher to distribute staff attitude questionnaires on the staff of food the production area within these six hotels in section 4.4. The chapter then goes into section 4.5 to explore the results of non-participant observation in case R9 to check the difference between what was said relating to consistent food quality within the hotel food production operation and what actually has been done in the food production area. The chapter finally ends with a summary and conclusions to all results of the methods used in this study in section 4.6.

4.2 Phase 1 – web-based questionnaire analysis:

For analysis purposes, the questions of the web-based questionnaire were grouped into three sections reflecting introductory questions, food outlets and their functions.
questions, and quality management questions. Additionally, at the end of the survey, respondents were asked to discuss further issues related to food quality in their hotels in an interview and then were asked to input their job title which proved that all respondents were in a position of influence regarding the production of food in their establishments (see survey link www.uwic.ac.uk/bestbet/foodsurvey). It has been noted that percentage figures in all tables were displayed with percentage mark. Analysis of quantitative data was carried out using a pre-coded structure and SPSS as a tool for analyzing quantitative data. Qualitative responses were analyzed manually.

4.2.1 Introductory questions

Questions in this section were developed to obtain general information relating to the name of hotel, which organization giving the hotel accreditation, star rating, size, and type of ownership. As a result of not matching the name of hotels in different websites, the researcher started the survey by asking the respondents to put the correct full name of the hotel as a question of the online survey. Therefore, the researcher wanted to identify the name of the hotel by asking them that question. In terms of the organization which gave these hotels the accreditation, it was found that there were three organizations gave the hotels their accreditations which were Wales Tourist Board (WTB), Royal Automobile Club (RAC), and Automobile Association (AA). Of the 20 hotels responding to the survey there were several hotels accredited by more than one organization. Eight hotels were accredited by the three organizations (WTB, RAC, and AA), four hotels were accredited by WTB, and AA, one hotel was accredited by RAC
and AA, five hotels were accredited by WTB, and finally two hotels were not accredited. See Table 4.1.

Table 4.1: Hotel accreditation and star rating as indicated by respondents

<table>
<thead>
<tr>
<th>Hotel Code</th>
<th>WTB</th>
<th>RAC</th>
<th>AA</th>
<th>Not available</th>
</tr>
</thead>
<tbody>
<tr>
<td>R1</td>
<td>****</td>
<td>_</td>
<td>****</td>
<td>_</td>
</tr>
<tr>
<td>R2</td>
<td>****</td>
<td>****</td>
<td>****</td>
<td>_</td>
</tr>
<tr>
<td>R3</td>
<td>*****</td>
<td>_</td>
<td>_</td>
<td>_</td>
</tr>
<tr>
<td>R4</td>
<td>***</td>
<td>_</td>
<td>***</td>
<td>_</td>
</tr>
<tr>
<td>R5</td>
<td>****</td>
<td>_</td>
<td>****</td>
<td>_</td>
</tr>
<tr>
<td>R6</td>
<td>**</td>
<td>_</td>
<td>_</td>
<td>_</td>
</tr>
<tr>
<td>R7</td>
<td>***</td>
<td>_</td>
<td>_</td>
<td>_</td>
</tr>
<tr>
<td>R8</td>
<td>****</td>
<td>****</td>
<td>****</td>
<td>_</td>
</tr>
<tr>
<td>R9</td>
<td>_</td>
<td>_</td>
<td>_</td>
<td>✓</td>
</tr>
<tr>
<td>R10</td>
<td>****</td>
<td>****</td>
<td>****</td>
<td>_</td>
</tr>
<tr>
<td>R11</td>
<td>****</td>
<td>****</td>
<td>****</td>
<td>_</td>
</tr>
<tr>
<td>R12</td>
<td>****</td>
<td>****</td>
<td>****</td>
<td>_</td>
</tr>
<tr>
<td>R13</td>
<td>***</td>
<td>***</td>
<td>***</td>
<td>_</td>
</tr>
<tr>
<td>R14</td>
<td>***</td>
<td>_</td>
<td>_</td>
<td>_</td>
</tr>
<tr>
<td>R15</td>
<td>****</td>
<td>****</td>
<td>****</td>
<td>_</td>
</tr>
<tr>
<td>R16</td>
<td>***</td>
<td>_</td>
<td>_</td>
<td>_</td>
</tr>
<tr>
<td>R17</td>
<td>**</td>
<td>**</td>
<td>**</td>
<td>_</td>
</tr>
<tr>
<td>R18</td>
<td>**</td>
<td>_</td>
<td>**</td>
<td>_</td>
</tr>
<tr>
<td>R19</td>
<td>_</td>
<td>***</td>
<td>***</td>
<td>_</td>
</tr>
<tr>
<td>R20</td>
<td>_</td>
<td>_</td>
<td>_</td>
<td>✓</td>
</tr>
</tbody>
</table>
Chapter Four: Results and Data Analysis

A breakdown of hotel star rating is shown in Table 4.1. Out of the 20 hotels replied to the questionnaire, there was one five star hotel, 8 four star hotels, 6 three star hotel, 3 two star hotel, and two hotels have not been classified by any organization.

In respect of the size of the hotel, there were 4 hotels <50 bedrooms, 5 hotels 51-100 bedrooms, 6 hotels 101-150 bedrooms, and 5 hotels >150 bedrooms and from these findings it was recognized that four hotels were medium-sized and 16 hotels were large-sized hotels as indicated by Odgers (1988) and Coleman (2000) that small hotels are hotels which include 10 rooms or less, medium-sized hotels are those hotels which have 11-50 rooms, and large hotels are those hotels which involve 51 or more rooms.

In terms of the type of ownership, the results from Table 4.2 shows that four hotels were single privately-owned and 16 hotels were part of group hotel and these formed the largest group. Out of these 16 hotels, three hotels were a part of privately-owned company, five hotels were a part of national hotel chain companies, and eight hotels were a part of international hotel chain companies.

Table 4.2: Hotel ownership as indicated by category

<table>
<thead>
<tr>
<th>Category</th>
<th>Number of respondents</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>A single privately-owned hotel</td>
<td>4</td>
<td>20 %</td>
</tr>
<tr>
<td>Part of privately-owned company</td>
<td>3</td>
<td>15 %</td>
</tr>
<tr>
<td>Part of national hotel chain company</td>
<td>5</td>
<td>25 %</td>
</tr>
<tr>
<td>Part of international hotel chain company</td>
<td>8</td>
<td>40 %</td>
</tr>
<tr>
<td>Total</td>
<td>20</td>
<td>100 %</td>
</tr>
</tbody>
</table>
Regarding the number of hotels which has been grouped and owned by the company, out of the 16 hotels representing part of group hotels, four were 2-10 hotels within the group, two were 11-20 hotels, two were 21-50 hotels, two were 51-100 hotels, and six >100 hotels within the group. A breakdown of hotels that were part of group ownership indicating number of hotels in each category is shown in Table 4.3.

### Table 4.3: Summary of numbers of hotels in each category

<table>
<thead>
<tr>
<th>Category</th>
<th>2-10 hotels</th>
<th>11-20 hotels</th>
<th>21-50 hotels</th>
<th>51-100 hotels</th>
<th>&gt; 100 hotels</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
<td>N</td>
<td>%</td>
<td>N</td>
<td>%</td>
</tr>
<tr>
<td>Part of privately-owned company</td>
<td>2</td>
<td>12.5%</td>
<td>1</td>
<td>6.25%</td>
<td>---</td>
<td>-----</td>
</tr>
<tr>
<td>Part of national hotel chain company</td>
<td>2</td>
<td>12.5%</td>
<td>1</td>
<td>6.25%</td>
<td>---</td>
<td>-----</td>
</tr>
<tr>
<td>Part of international hotel chain company</td>
<td>---</td>
<td>-----</td>
<td>---</td>
<td>-----</td>
<td>2</td>
<td>12.5%</td>
</tr>
<tr>
<td>Total</td>
<td>4</td>
<td>25%</td>
<td>2</td>
<td>12.5%</td>
<td>2</td>
<td>12.5%</td>
</tr>
</tbody>
</table>

### 4.2.2 Food outlets and their functions questions

Questions in this section were designed to obtain information pertaining to food and beverage outlets, number of meals served, availability of function, types of functions, number of functions, type of meal served in functions, and number of staff in the food production area. A number of different types of food and beverage outlets (restaurant, coffee shop, bar, snack bar, takeaway, room service, and restaurant serves breakfast only) were available in many of the responding hotels. All respondents had at least one food and beverage outlet. Out of the 20 hotels, 18 had more than one outlet since 13
had restaurant, bar, and room service and one hotel had a restaurant for serving breakfast only. Two respondents also indicated that they involved other types of food and beverage outlets such as lobby services, and breakfast rooms. A summary of the number of meals normally served each week in the hotel excluding functions is shown in Table 4.4. The findings from this table indicated that out of 20 hotels represented by the responses, 15 were providing more than 250 meals per week and this means that the food and beverage department is considered to be an important division in the hotel to obtain revenues. In addition, three respondents indicated that they do not just rely on hotel residents to serve food but also they rely on consumers from the external market of the lodging property. Therefore the sales of meals represented a large portion of the whole revenue of the hotel.

Table 4.4: Number of meals served in the hotel each week (excluding functions)

<table>
<thead>
<tr>
<th>Number of meals served in the hotel</th>
<th>Number of hotels</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>51-100</td>
<td>2</td>
<td>10 %</td>
</tr>
<tr>
<td>101-150</td>
<td>1</td>
<td>5 %</td>
</tr>
<tr>
<td>151-200</td>
<td>1</td>
<td>5%</td>
</tr>
<tr>
<td>201-250</td>
<td>1</td>
<td>5%</td>
</tr>
<tr>
<td>&gt;250</td>
<td>15</td>
<td>75%</td>
</tr>
<tr>
<td>Total</td>
<td>20</td>
<td>100 %</td>
</tr>
</tbody>
</table>

With regard to catering for functions, 18 out of 20 hotels were involved in function catering to some extent, with conferences, special events and private parties forming most of the business, and 14 of the respondents were involved also in catering for banquets and weddings. Two respondents also indicated that other types of functions were including residential conferences for large groups (200-300 persons), business lunch/dinner, and coach tours (dinner, bed and breakfast).
Respondents were then asked to indicate the number of functions in any given month in winter and summer. A summary of the responses is illustrated in Table 4.5. The information contained in this table indicated that 13 out of 18 hotels catered for more than 10 functions a month in winter or summer and this means that catering for functions is also considered to be a major part of the business in the hotel catering and there were few differences with the number of functions between Summer and Winter.

Table 4.5: Number of functions during winter and summer

<table>
<thead>
<tr>
<th>Number of functions</th>
<th>Summer</th>
<th></th>
<th>Winter</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
<td>N</td>
<td>%</td>
</tr>
<tr>
<td>Once a week or less</td>
<td>5</td>
<td>28%</td>
<td>4</td>
<td>22%</td>
</tr>
<tr>
<td>5-10 a month</td>
<td>0</td>
<td>0%</td>
<td>1</td>
<td>6%</td>
</tr>
<tr>
<td>More than 10 a month</td>
<td>13</td>
<td>72%</td>
<td>13</td>
<td>72%</td>
</tr>
<tr>
<td>Total</td>
<td>18</td>
<td>100%</td>
<td>18</td>
<td>100%</td>
</tr>
</tbody>
</table>

Respondents were also asked to indicate the type of meals which regularly have been served in their functions. The types of meals for these functions also varied and a summary of these meals can be shown in Table 4.6. The findings from this table showed that finger buffets were the most frequent type of meal in the majority of hotels (94%), followed by sit-down set menu meals (83%) and a la carte menu meals were the least frequent type of meal (44%) offered in functions.

Table 4.6: Types of meals served in functions

<table>
<thead>
<tr>
<th>Type of meal</th>
<th>Served</th>
<th>All hotels</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes/no</td>
<td>N</td>
</tr>
<tr>
<td>Finger buffet</td>
<td>Yes</td>
<td>17</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>1</td>
</tr>
<tr>
<td>Fork buffet</td>
<td>Yes</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>6</td>
</tr>
<tr>
<td>Hot and cold buffets</td>
<td>Yes</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>4</td>
</tr>
<tr>
<td>Sit-down set menu meals</td>
<td>Yes</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>3</td>
</tr>
<tr>
<td>Sit-down a la carte menu</td>
<td>Yes</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>10</td>
</tr>
</tbody>
</table>
In terms of the number of staff in each hotel, respondents were asked to indicate the number of staff (full time, part time and casual) involved in the food production area including functions and it has been noticed that they are varied from 2 to 19-50 (see Table 4.7). The findings from this table indicated that the majority of hotels (65%) had between 1-10 full time staff in the food production area from, and one respondent indicated 21-30 full time staff. In terms of part time staff, 40% of the respondents did not have any part-time staff and 55% had between 1-10 part-time staff. Only three respondents indicated that they require casual staff, particularly for functions.

<table>
<thead>
<tr>
<th>Number of staff</th>
<th>Full time</th>
<th></th>
<th>Part time</th>
<th></th>
<th>Casual</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
<td>N</td>
<td>%</td>
<td>N</td>
<td>%</td>
</tr>
<tr>
<td>None</td>
<td>1</td>
<td>5%</td>
<td>8</td>
<td>40%</td>
<td>17</td>
<td>85%</td>
</tr>
<tr>
<td>1-10</td>
<td>13</td>
<td>65%</td>
<td>11</td>
<td>55%</td>
<td>2</td>
<td>10%</td>
</tr>
<tr>
<td>11-20</td>
<td>5</td>
<td>25%</td>
<td>1</td>
<td>5%</td>
<td>1</td>
<td>5%</td>
</tr>
<tr>
<td>21-30</td>
<td>1</td>
<td>5%</td>
<td>0</td>
<td>0%</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>&gt;30</td>
<td>0</td>
<td>0%</td>
<td>0</td>
<td>0%</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Total</td>
<td>20</td>
<td>100%</td>
<td>20</td>
<td>100%</td>
<td>20</td>
<td>100%</td>
</tr>
</tbody>
</table>

4.2.3 Quality management questions

Questions in this section were asked to obtain information with regard to quality management systems in the food production area within the hotel, quality accreditation, food quality awards which are awarded to hotel's restaurant for its outstanding food excellence, food quality feedback from customers, and food quality manuals, practices and procedures.

Respondents were asked whether they have a quality management system in the food production area. Out of the 20 respondents, 15 had a quality management system in the
food production area and 5 respondents did not. Regarding whether the hotel is accredited within ISO 9000 series, Investor in People, or any other quality awards, 12 were accredited and eight were not. Out of the 12 hotels, there were 7 hotels accredited with ISO 9000 series and IiP, four hotels were accredited within IiP, and one hotel was accredited within ISO 9000 series. In terms of whether the respondents have been granted any quality food awards for their food excellence, 15 respondents did not have any food awards, and five hotels have been granted food awards. Out of the five respondents that had food awards, one respondent had one rosette, one respondent had Wales's restaurant of the year, two respondents had an AA rosette, and one respondent had two food awards, i.e. an RAC restaurant award and an AA rosette for restaurant service. Respondents were also asked to indicate how they obtain feedback from customers concerning the quality of food served. The replies for this question varied and it can be shown in Table 4.8.
Table 4.8: ways of obtaining feedback from customers concerning food quality

<table>
<thead>
<tr>
<th>Hotel code</th>
<th>Guest comment cards</th>
<th>Employee feedback</th>
<th>Focus groups</th>
<th>Management observation</th>
<th>Sales data</th>
<th>Formal customer interviews</th>
<th>Mail, phone, and in-person questionnaires</th>
<th>Others</th>
</tr>
</thead>
<tbody>
<tr>
<td>R1</td>
<td>✓</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>R2</td>
<td>✓ ✓</td>
<td>–</td>
<td>–</td>
<td>✓</td>
<td>–</td>
<td>✓</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>R3</td>
<td>✓ ✓</td>
<td>–</td>
<td>✓</td>
<td>✓</td>
<td>–</td>
<td>✓</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>R4</td>
<td>✓ ✓</td>
<td>–</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>R5</td>
<td>✓ ✓</td>
<td>–</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>R6</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>✓</td>
</tr>
<tr>
<td>R7</td>
<td>✓ ✓</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>R8</td>
<td>✓ ✓</td>
<td>–</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>R9</td>
<td>✓ ✓</td>
<td>–</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>R10</td>
<td>✓ ✓</td>
<td>–</td>
<td>✓</td>
<td>–</td>
<td>✓</td>
<td>✓</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>R11</td>
<td>✓ ✓</td>
<td>–</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>R12</td>
<td>✓ –</td>
<td>–</td>
<td>–</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>–</td>
<td>✓</td>
</tr>
<tr>
<td>R13</td>
<td>✓ ✓</td>
<td>–</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>–</td>
<td>✓</td>
</tr>
<tr>
<td>R14</td>
<td>✓ –</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>R15</td>
<td>✓ ✓</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>R16</td>
<td>✓ –</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>R17</td>
<td>✓ ✓</td>
<td>–</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>–</td>
<td>–</td>
<td>✓</td>
</tr>
<tr>
<td>R18</td>
<td>✓ ✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>R19</td>
<td>– –</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>✓</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>R20</td>
<td>✓ ✓</td>
<td>–</td>
<td>✓</td>
<td>–</td>
<td>–</td>
<td>✓</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>

The information from this table indicated that 15 respondents out of 20 had more than one way to obtain feedback from customers regarding the quality of food offered. It is apparent that the most frequent way of obtaining feedback from customers concerning
food quality was guest comment cards in the majority of hotels (90%) followed by employee feedback (70%), then management observation (55%). In addition, five respondents specified other ways to obtain customer feedback regarding food quality such as asking them during the meal, mystery guests, asking them when checking out, online surveys and internet feedback.

In relation to designating a member of management team or staff responsible for quality training, the findings indicated that 14 respondents had a member of their management team responsible for quality training, and six respondents did not designate any member of the staff or the management team responsible for quality training.

The respondents were then asked to indicate whether their food production areas have quality manuals or not. Out of the 20 respondents, 14 had quality manuals and six respondents did not. Respondents that had quality manuals were then asked to indicate which areas in the food production steps have been covered with quality manuals. A summary of the areas that have been covered with quality manuals can be shown in Table 4.9. The findings in this table represented the replies from 14 respondents who had quality manuals. These findings illustrated that all 14 hotels had quality manuals for preparation and cooking. Out of 14 respondents, 13 had quality manuals for purchasing, storing and presentation. In terms of receiving, 12 out of 14 had a quality manual for receiving. Concerning issuing, 10 out of 14 had quality manuals for issuing. Additionally, there were two respondents had other manuals such as HACCP, legislation and health and safety.
Table 4.9: the fourteen hotels that have quality manuals as indicated by areas

<table>
<thead>
<tr>
<th>Hotel code</th>
<th>Purchasing</th>
<th>Receiving</th>
<th>Storing</th>
<th>Issuing</th>
<th>Preparation</th>
<th>Cooking</th>
<th>Presentation</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>R1</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>_</td>
</tr>
<tr>
<td>R2</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>_</td>
</tr>
<tr>
<td>R3</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>_</td>
</tr>
<tr>
<td>R4</td>
<td>_</td>
<td>_</td>
<td>✓</td>
<td>_</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>_</td>
</tr>
<tr>
<td>R7</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>_</td>
</tr>
<tr>
<td>R8</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>_</td>
</tr>
<tr>
<td>R9</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>_</td>
</tr>
<tr>
<td>R10</td>
<td>✓</td>
<td>_</td>
<td>_</td>
<td>_</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>R11</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>_</td>
</tr>
<tr>
<td>R12</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>_</td>
</tr>
<tr>
<td>R13</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>_</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>_</td>
</tr>
<tr>
<td>R17</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>_</td>
</tr>
<tr>
<td>R18</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>_</td>
</tr>
<tr>
<td>R20</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>_</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>_</td>
</tr>
</tbody>
</table>

For this survey, respondents were asked whether they would be prepared to discuss with the researcher in a predetermined semi-structured interview further issues relating to managing food quality in the food production area within their hotels and how can they obtain a consistent level of that food quality. Out of the 20 respondents represented the responding hotels, 13 hotels agreed to conduct a semi-structured interview with the researcher.

At the end of this survey, respondents were asked to state their jobs and this resulted in that three respondents were general managers (R14, R17, R18), one respondent was an executive assistant manager (R2), two respondents were operations managers (R9,
R10), four respondents were food and beverage managers (R1, R3, R4, R5), five respondents were executive/head chefs (R7, R8, R11, R12, R13), two respondents were duty managers (R6, R16), and three respondents were partners of management (R15, R19, R20).

4.2.4 Summary

Section 4.2 presented preliminary information about the hotels approached as results of the web-based survey. Since the results of the web-based questionnaire helped to identify some of the issues related to managing food quality in the food production area in hotels to obtain a consistent level of food quality.

4.3 Phase 2–Semi-structured interviews and management questionnaire analysis:

4.3.1 Semi-structured interview analysis

After analyzing the web-based questionnaire in phase 1, all respondents who agreed to conduct an interview were contacted by telephone and e-mail communication to ascertain whether they were willing to be interviewed to give further information relating to food quality within hotel food production operations. Seven respondents out of 20 declined to be involved, and after contacting them, reasons varied which included that they did not want to help at all, they only offered breakfast, lack of time because they were busy, or they would fear that the information gained may be used for official purposes. As such 13 (65%) hotels were identified as the sample of this study, all of
which were located in the Cardiff area. The first interview was conducted on 23/10/2006 and the last one on 7/12/2006. Each interview lasted between one and two hours.

4.3.1.1 Profiles of the thirteen cases

Relating to hotel grading, out of 13 hotels one was a five star hotel, seven were four star hotels, three were three star hotels, one was a two star hotel, and one was not classified. In terms of the organization that accredited these hotels, six hotels were accredited by WTB, RAC, and AA; three hotels were accredited by WTB and AA; three hotels were accredited by WTB; and one hotel was not classified.

In relation to the size of hotels, two were 51-100 bedrooms; six were 101-150 and five more than 150. The type of ownerships varied, since two were part of privately owned company, four were part of national chain company, and seven were part of international chain company. The number of hotels in each group varied, since two were part of 1-5 hotel groups, one was a part of 6-10, two were part of 11-20, two were part of 21-50, one was a part of 51-100, and five were part of more than 100 hotels.

Concerning food and beverage outlets within each hotel, 12 out of 13 had a restaurant, all hotels had a bar, 11 offered room service, and three had a coffee shop. With regard to functions, all hotels had the facility of catering for functions such as conferences, special events, banquets, private parties, and weddings. Number of functions varied, since 11 hotels were providing catering for more that 10 functions a month in Winter or
Summer, and two were providing catering for functions one or less a week in Winter or Summer. All hotels were providing different types of meals in functions, since all of them were offering finger buffets, majority of them (11) were serving hot & cold buffets, and sit down set menu meals.

In terms of using quality management systems in the food production area, 11 out of 13 had quality management systems in the food production area. Of the 13 hotels, 10 were accredited with ISO or LiP. In terms of food awards, four hotels were awarded food awards such as one rosette, Wales's restaurant of the year, and two AA rosettes. In terms of quality training, 11 designated a member of the management team for quality training, and 11 out of the 13 had quality manuals for food production steps. All of them had manuals for preparation, cooking and presentation. Most of them had manuals for purchasing, receiving, storing, and issuing.

For analysis purposes, interview questions were grouped into 10 parts including food quality strategy, quality manuals, training, staff recruiting, specifications, receipt and storage, temperature monitory, standard recipes, evaluating food presentation, and quality audit. All interviews were transcribed verbatim and analyzed manually. A summary of respondents interviewed, can be shown in Table 4.10.
Table 4.10: Interviews respondents

<table>
<thead>
<tr>
<th>Code</th>
<th>Grading</th>
<th>Size</th>
<th>Type of ownership</th>
<th>Number of hotels in each group</th>
<th>Person/s interviewed</th>
</tr>
</thead>
<tbody>
<tr>
<td>R 1</td>
<td>4 star</td>
<td>138 bedrooms</td>
<td>Part of International hotel chain company</td>
<td>More than 100 hotels</td>
<td>Food and Beverage Manager</td>
</tr>
<tr>
<td>R 2</td>
<td>4 star</td>
<td>135 bedrooms</td>
<td>Part of International hotel chain company</td>
<td>21-50 hotels</td>
<td>Executive Assistant Manager</td>
</tr>
<tr>
<td>R 3</td>
<td>5 star</td>
<td>197 bedrooms</td>
<td>Part of International hotel chain company</td>
<td>More than 100 hotels</td>
<td>Food and Beverage Manager</td>
</tr>
<tr>
<td>R 4</td>
<td>3 star</td>
<td>157 bedrooms</td>
<td>Part of International hotel chain company</td>
<td>More than 100 hotels</td>
<td>Food and Beverage Manager</td>
</tr>
<tr>
<td>R 5</td>
<td>4 star</td>
<td>129 bedrooms</td>
<td>Part of National hotel chain company (Unique independently)</td>
<td>6-10 hotels</td>
<td>Food and Beverage Manager</td>
</tr>
<tr>
<td>R 6</td>
<td>2 star</td>
<td>81 bedrooms</td>
<td>Part of privately owned company</td>
<td>1-5 hotels</td>
<td>Duty Manager and Executive Housekeeper</td>
</tr>
<tr>
<td>R 7</td>
<td>3 star</td>
<td>197 bedrooms</td>
<td>Part of National hotel chain company</td>
<td>1-5 hotels</td>
<td>Head Chef</td>
</tr>
<tr>
<td>R 8</td>
<td>4 star</td>
<td>184 bedrooms</td>
<td>Part of International hotel chain company</td>
<td>More than 100 hotels</td>
<td>Executive Chef</td>
</tr>
<tr>
<td>R 9</td>
<td>Not classified</td>
<td>118 bedrooms</td>
<td>Part of privately owned company</td>
<td>11-20 hotels</td>
<td>Operations Manager</td>
</tr>
<tr>
<td>R 10</td>
<td>4 star</td>
<td>165 bedrooms</td>
<td>Part of National hotel chain company (Joint venture)</td>
<td>51-100 hotels</td>
<td>Operations Manager</td>
</tr>
<tr>
<td>R 11</td>
<td>4 star</td>
<td>147 bedrooms</td>
<td>Part of International hotel chain company</td>
<td>21-50 hotels</td>
<td>Head Chef</td>
</tr>
<tr>
<td>R 12</td>
<td>4 star</td>
<td>103 bedrooms</td>
<td>Part of National hotel chain company</td>
<td>11-20 hotels</td>
<td>Head Chef</td>
</tr>
<tr>
<td>R 13</td>
<td>3 star</td>
<td>95 bedrooms</td>
<td>Part of International hotel chain company</td>
<td>More than 100 hotels</td>
<td>Head Chef</td>
</tr>
</tbody>
</table>

The coding of the respondents was decided according to date and time of conducting the interviews (i.e. R1 was the first interview, and R13 was the last interview).

For this study, accuracy was taken to ensure that the appropriate manager was available to be interviewed and all interviewees were notified by telephone contact in advance of the nature and type of the questions that would be asked. As a result, two respondents
recommended the right person to be approached to conduct the interview to give the researcher more accurate information. Respondents were also asked for recording permission during the interview and all of them agreed to this.

4.3.1.2 Quality strategy

The initial goal of the interview was to identify the food quality strategy applied in the food production areas to obtain a final product with a consistent level of quality. Therefore, a series of questions were asked in that area. The interview was started through asking the respondents based on their experience a general question regarding whether they had a quality strategy and its main aim. All respondents had a quality strategy in place, but one of them (R10) was not satisfied with their strategy because he indicated that the executive chef did not utilize the whole quality system in the food production area.

Respondents were then asked to define their quality strategy. The responses relating to three key areas: input, process and output. Four respondents focused on input, six on process, and two on output. None of the respondents looked at the system holistically considering input, process and output as illustrated in Table 4.11.
Out of the respondents focused on the input phase there was one emphasized that the quality strategy started with delivery by designating well-qualified people to check all deliveries. In addition another respondent added that their quality strategy was coming from the relationship with suppliers who had good standards. Another respondent added that they used specifications for the food they purchase:

*We start with the delivery, delivery time. We have got special people downstairs in the kitchen are taking the food of delivery, checking its temperatures, and weighing merchandises before putting it in the different stores.*

(R3)
Process

In terms of *process* phase there was one respondent defined the strategy as a process of production which follows food production legislation; another one (R2) confirmed that the quality strategy was like a "standard of performance" not only for food production but also for service as well, whereas another respondent (R9) indicated that the quality strategy was like the "operational procedures" which were followed during the process of production. One respondent (R6), although they were providing just breakfast within their hotel, they had a quality strategy that focuses particularly on process as highlighted in the following quote:

*To be honest with you, because it is so simple as it is just a continental breakfast, obviously, we don't like to keep leftovers. We just make sure that all food is cooked properly and the croissants are kept warm, fresh, freshly cooked.*

(R6)

Output

With regard to *output* phase there were two respondents emphasized it as a main step in their food quality strategy. One respondent defined the quality strategy as it was the way of well-presenting the food. Another one confirmed they worked with a final product with excellent presentation.

*The quality strategy is centralized, so their head office implements everything for how it is well-presented.*

(R4)

The respondents were then asked to indicate the main aim of their quality strategy. Most of the respondents confirmed that the standard came from the company that owned the hotel and the products need to be the same in every hotel.
On the other hand, only one respondent was not satisfied with the quality strategy in the hotel, because they had a software programme by the company owning the hotel for recipes and menu items called Star Chef, but it was not utilized by the head chef completely. When asking the respondent why they don't utilize all the system, the response was as the following:

*Because individuals within the hotel found that doing the production without using Star Chef Manual would be better, but personally I like to utilize the Star chef and I will be looking for our chef to build up the banquet menus in the Star Chef and implement it.*

(R10)

When respondents were then asked to what extent they would like their quality strategy to be matched with, e.g. ISO standards or HACCP, etc. The responses were to HACCP system, ISO standards and the legislation which was laid by the government. In terms of implementing this strategy, some respondents confirmed that the most important issue in implementing the quality strategy was through good training.

When asked whether the management stresses the quality of food products, twelve respondents answered positively and they emphasized that the main objectives for the management to stress quality were the competition with other types of hotels, achieving consistency in food quality, building confidence, and offering the best food in Cardiff:

*Yes, as a management team, we stress on quality food, because we need to be competitive, we need to achieve consistency in the products we present, we need to stress on standard to be more confident*

(R1)

Two respondents added that the management stresses on quality by trying to obtain feedback about the quality of food offered from customers through guest comment cards and guest satisfaction surveys. In addition, one respondent indicated that the
management was auditing the quality of food during every shift through spot checks in all areas of food production.

On the other hand, one respondent (R10) declared that the management did not have a clear target or mission, did not have quality manuals and they only were relying on individuals to provide quality food and this influence the quality of food offered:

When asked about quality control practices, respondents gave several responses. Overall the majority of respondents indicated that these practices were including quality checks with delivery, temperature, weight, correct storage, proper cooking and portion control, and food presentation. One of them reflected that quality control practices have to be followed on a daily basis, and quality has to be checked during three stages—after delivery, during production and through presenting food on buffets. In addition, another one confirmed that the Standard Operating Procedures (SOP) which has been developed by the head office is like the bible. Therefore, everything has to be followed in that manual.

In discussing how to ensure food products were right first time, respondents revealed various opinions such as obtaining feedback from staff through a taste panel, choosing suppliers very carefully from the listed suppliers, checking deliveries according to their specification list, portion control, training, and supervision:

*We ensure that our food items are right first time by letting the staff and the managers to eat first, so we try each item in the menu and consider all comments regarding the quality of food, then if it's good, we use it and if not we take their comments to into account to improve the quality of food.*

(R2)
Additionally, respondents who were emphasizing the quality of deliveries, they indicated that if the quality of any food received was not corresponding with what was requested, they would return the food back to the supplier and if this problem occurred many times they would inform the director of purchasing and the head office to stop dealing again with that supplier.

Respondents were also asked to identify their mission statement and whether quality is an explicit part of that mission. They confirmed that they had a mission statement involving the whole operational procedures of food quality by getting the right product which is prepared in the best environment by the most qualified chefs which would achieve the maximum customer satisfaction:

\[\text{Our mission statement is to get the right product, to prepare it in the best environment, to present it consistently or with a consistent level of quality.} \]

(R1)

When asked about what is affecting to produce a consistent food quality, respondents gave several reasons based on their experience. These reasons were mainly connected to manpower, training, communication, suppliers, specifications, customer expectation, management supervision and how busy the hotel was but the most significant reason was the quality of manpower.

Respondents then were asked whether they have a proper prepared answer if customers enquire about quality of food. Most of respondents replied that they let the customers come and judge the quality of food themselves and take their comments into consideration.
Summary

In summary, in relation to the quality strategy it was interesting that none of the respondents adopted a holistic overview of quality. Four respondents (R3, R5, R8, and R13) focused on input, six respondents (R1, R2, R6, R9, R11, and R12) on process, and two (R4, and R7) on output. Key comments relating to input were supplier issues, designating well-qualified people for deliveries, and the use of specifications for food purchases. Another highlighted the importance of supplier relationships in assuring food quality purchases. Key themes relating to process were the importance of the quality strategy in ensuring legislative compliance and in defining standard operating procedures and standards of performance. In relation to output respondents emphasized the quality strategy with regard to issues of presentation of the food. Respondents highlighted that the quality of the food was coming from an excellent presentation of the food. Concerning the main aim of the quality strategy respondents confirmed the importance of offering safe food, adherence to food legislation, maximizing customer expectations, and providing local fresh produced food with good cost control which conforms with Esteves et al. (2005) who stated that buying local fresh produce in its turn contribute to cheaper products with good quality and sustainable economy through allowing farmers keep producing and also offering job opportunities to local people.

In contrast, it has been found that there was one respondent (hotel’ operations manager) not satisfied with their food quality strategy because the head chef did not utilize the whole quality system which was coming from the company owning the hotel. In defining what systems respondents stressed to be matched with their quality strategy
they indicated HACCP, ISO, and government legislation. In addition, they argued that good training was the most important issue to implement the quality system.

Key themes relating to management emphasizing the quality food were competitiveness, consistency, and confidence through taking into account customer feedback and auditing in a daily basis. On the other hand one respondent negatively commented that their management did not have a clear target or mission, quality manuals, and they were much more reliant on individual which directly influence the quality of food offered. In relation to issues which affecting to ensure consistency in food quality respondents highlighted that the most important issue was the quality of manpower besides training, communication, suppliers, specifications, customer expectation, management supervision, and how busy the hotel was.

4.3.1.3 Quality manuals

In response of whether they have quality manuals detailing all steps of food production, ten respondents out of 13 had quality manuals. Additionally, one respondent (R1) argued that it was not a quality manual but it was more about food hygiene & safety and risk assessment manuals. Another one (R8) added that it was just like the "specifications book" which they had.

Respondents additionally indicated that they had manuals for all food production steps from receiving to presentation in the food production area and they added that these manuals need to be in place, accessible, checked and updated.
In contrast, the three respondents (R5, R10, R12) who did not have manuals explaining every single step or just some steps in the food production process indicated that they had manuals just for things like risk assessment and cleaning procedures but in terms of recipes and presentation they indicated that they did not believe in manuals related to recipes and they only relied on the job training and individuals which would lead to an issue that if the chef left the hotel the quality of food would be different as mentioned in the following comment:

No we do not have quality manuals like recipes or whatever, and I do not believe in manuals, just the job and experience of the chef only.

(R12)

One respondent (R5) said that because they are a unique hotel or independent hotel, they did not have manuals because he thought that the manuals should be available if the hotel was a part of hotel chain. He also surprisingly added that because they were changing the menu many times a year they could not have recipe manuals for these items. Additionally, he stated that they were much more dependent on the head chef and his team in the kitchen and if the head chef was sick or left the hotel it would be an issue regarding the quality of food:

If the owner of the hotel said we would open a second hotel, we would probably sit down with the head chef and develop the manuals for menu items to ensure that the next hotel conforms to these standards.

(R5)

If the chef left the hotel, it would be an issue. The quality of our food is very dependent on one team. The critical thing is if they had to have a new chef which would cause a problem for the hotel.

(R5)
Another respondent (R11) in terms of recipe manuals stated that they had recipe manuals but not for all dishes they produced. They had them only for a la carte menus but set menus and specials of the day they did not, because they change it everyday.

In discussing the effectiveness of these manuals, all respondents positively replied that these manuals were more effective and it achieved the consistency. Additionally, they stated some requirements should be available to get effective manuals such as auditing by outside company, accessibility, consistency, applicability.

Respondents were also asked to indicate who is responsible for developing these manuals. Respondents mainly from international companies replied that their headquarters or head office is in charge of developing them. They involve a committee consisting of chefs and food and beverage managers of these hotels to give their experiences and to check whether these manuals were up to date and had been followed by all hotels. In terms of how respondents ensure that such quality manuals achieve consistency, opinions varied. Respondents indicated that they ensure that target through obtaining feedback from customers, seeing volume of sales in the food and beverage outlets, updating them, auditing, training, and supervision.

Summary
In relation to quality manuals, respondents highlighted the importance of them in producing quality food since they involve food hygiene and safety, risk assessment, food specifications, recipes, cleaning procedures and everything should be used in the kitchen. These manuals should be in place, applicable, checked, easily accessible,
updated, and audited by an outside company to be more effective. In contrast, respondents who did not believe in manuals commented that they did not believe in written recipes and they just rely on their experience and on the job training to produce the food. To ensure that such quality manuals achieve consistency, respondents indicated that they could know that these manuals achieve the consistency through customer feedback, volume of sales, auditing, updating, training and supervision.

4.3.1.4 Training

Respondents were asked to indicate whether staff were well-trained to produce a consistent level of quality. Almost all respondents positively replied that they offer training programmes for staff related to food quality.

In discussing the types of training offered, responses yielded a variety of opinions that could be broadly classified into: induction training, basic food hygiene, on job training, health & safety, regulations, legislation, personal hygiene training, and training to use chemicals:

> Every member or who handles food goes through beginning health and safety training, basic food hygiene, handling with equipment by the law.

(R2)

One of the respondents indicated that this training depending on the level of employee to be trained, for example if they are new employees, they are just trained to know the basics:

> If you get new employees, you work with them to present all the standards used. They are just trained to know how to make the plate, just the basic task. Actually we have training programmes for each employee not just new employees.

(R1)
One respondent (R9) indicated that they send their staff to outside training companies to get trained or they just send the managers and after that the trained managers then carry out the training to all staff. They send them to outside organizations to get NVQs (National Vocational Qualifications). In addition, the same respondent (R9) indicated that it is better to send them to get courses in university but they could not because the cost for these courses was too expensive and they could not afford to pay for these courses. On the other hand, five respondents identified that they relied only on-job-training by letting new staff see what the head chef is doing and they then practice to develop their skills.

In discussing whether staff members had an opportunity to request a special quality assurance training, respondents indicated that staff had got a chance to obtain a special training:

*If they need special training, they will find suitable courses for them. If someone needs extra training, he will come to the manager with the type of course they want, for example NVQs (National Vocational Qualification).*

(R2)

In addition, one respondent focused on the follow up of training as highlighted in the following quote:

*If someone fails to keep the standards, he will get trained to develop his skills. Ongoing training is given to them; they discuss where the weaknesses are.*

(R11)

Respondents were then asked whether there were well-maintained records for staff training. Most respondents replied positively and they assured that there were maintained records for each member in the area of food production with regard to their
training. To ensure keeping that training records, responses yielded various opinions, e.g. one on one meeting with the manager, regular assessment, and each member of staff has to sign off after getting be trained.

When asked about how respondents could improve training procedures, respondents gave several comments based on what they actually practiced: getting more training sessions, getting regular training, keep on training, keep on updating each month, and getting support from qualified persons.

Summary
Considering training, it was found as the most important issue for ensuring a consistent level of food quality product. It involved induction training, basic food hygiene, on the job training, health & safety, and personal hygiene training. According to the level of employee the type of training will be changed. In terms of implementing training, respondents highlighted the importance of sending their staff or just managers outside training companies, or outside organizations to obtain NVQs. Another respondent although she indicated the importance of sending staff to get courses in university, they could not afford to pay for these courses because they were very expensive.

Key themes relating to maintaining training records were one on one meeting with manager, regular assessment, follow up, and staff should be signing off after getting trained. In relation to improving training procedures respondents emphasized the importance of getting more training sessions, getting regular training, keeping on training, keeping on updating, and getting support from qualified persons.
4.3.1.5 Staff recruitment

In discussing recruiting issues, respondents were asked whether it was easy to recruit staff for food production roles. Almost all respondents pointed out that there was a shortage in the human resources therefore it was very difficult to recruit qualified personnel in the food production area which needs special people. However, entry level or commis chefs are quite easy to recruit. Responses related to shortage of human resources yielded a variety of reasons: this job requires special passion not found with applicants, it needs special qualifications rarely found, the industry is changed so much over the years, British people are not interested in this job and they interested in working in banks or shops, most of people working in this job are school level with low skills, shortage in well-qualified chef, and the salary required is so high so money was considered a big issue as commented by some respondents below:

To be a chef, you need to have a passion for this job; you need to like food processing; you need to check flavour, colour, and to be as an artist to play with spices to produce a tasty plate to get something like magic with food.

(R1)

It is difficult to recruit staff in food production area because chefs are specialized people. You have to either be a good chef or not, so they have agencies when recruiting chefs. Most of chefs are from abroad (Germany, few from India) not from the UK.

(R2)

There is a lack of chefs in Cardiff. I think that the problem that we have is so many restaurants and bars all are distributed on all of the Cardiff area. It is a supply and demand problem really. In addition, things obviously like when we set a budget, we have certain amount of money that we can spend on the food production per year for quality of chefs, and unfortunately chefs in Cardiff at the moment do not accept any price because they know that there is a shortage in good quality chef.

(R9)
Strangely, there were found two cases (R7 and R12) in which their kitchen team has been renewed completely, since the new hired head chef prefers to work with his team. In addition, the head chef in case R12 indicated that he has been working in the hotel just three weeks before conducting the interview and the head chef of case R7 reported that his length of stay in the hotel was three months, since his team length of stay varied between three weeks and three months in this hotel.

Respondents were then asked whether they prefer to recruit trained staff or prefer to train them in-house. One respondent stated that it depends on the budget.

Some respondents preferred to recruit skilled staff or at least with minimum knowledge:

If food production, I think you have to be with minimum knowledge. You are talking about chefs, you have to be qualified.

(R3)

To be trained little bit, like they just know all the basics, so when they come in I will teach them more and they will learn more in house.

(R7)

Four respondents preferred to recruit trained staff and also untrained staff:

We do both, I prefer trained staff and train them in house again, so we train in house.

(R2)

You have to have mix of staff in your kitchen. You cannot have all young boys and you cannot have all experienced. You got to have a mixed, you have some experienced and some non-experienced, and that is the mix that we have.

(R8)

On the other hand, one respondent (R6) whom their hotel offered only breakfast, they engage housekeeping staff who were supervised by the executive housekeeper in the kitchen and they did not have designated personnel for kitchen work.
When asked about the expected requirements of recruiting staff. Respondents indicated that the expectations based on the position required, if they were entry level or experienced people. The responses resulted in a variety of requirements that can be broadly classified into: personality requirements, skills & experience requirements, and qualification requirements like NVQs or City and Guilds.

Summary

Relating to staff recruitment, it was interesting that all respondents agreed that it was very difficult to find qualified personnel for the food production area. Reasons varied and they involved: shortage of qualified applicants, change in industry over the years, low interest of British people in that job, and the high salary required. In terms of preference of recruiting trained staff or train them in house, respondents revealed that it depends on the budget and the level of the job required if it was entry level or experienced people. Key themes with regard to expectations required of applicants were personality requirements, skills & experience requirements, and qualification requirements.

4.3.1.6 Raw material specifications

Respondents were asked whether they have a specifications list for all food items purchased. Nine respondents out of 13 had a specification list which was developed by the head office to order merchandise. Of the respondents that had specifications list, they confirmed that they deal with certain suppliers particularly are specified for their hotels so each hotel had the same suppliers everywhere in the UK to ensure the consistency with food quality:
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We work with national suppliers. Suppliers are on national level and these suppliers are specified only for us, so each hotel in the chain works with the same suppliers everywhere to achieve consistency.

(R1)

In terms of adherence to the specification list, most of the respondents indicated that they could not purchase any product not on the specification list and if they were looking for a new food items not on the specifications list, they would contact the head office to obtain permission to use that item and the head office had the responsibility to get that item from the nominated suppliers.

In contrast, respondents who did not have a specifications list for their food purchasing, thought that it was quicker to order what they wanted without any specifications list.

Respondents were then asked about the effectiveness of specifications lists. The responses pointed out that the specifications list was very effective to ensure consistency especially in chain hotels that use the same items with the same quality.

Interestingly, one of the respondents (R1) indicated that they developed their menu items according to the availability and quality of products with suppliers and this suggested a good action to ensure consistent quality products:

We make the final products according to the specs of raw materials of suppliers so we design menu according to what is available with suppliers.

(R1)

When asked one respondent, whether they were looking for quality products or for cheapest priced products. The respondent indicated that their company was looking for profits so they were seeking lower priced products and this may affect the quality of food as:
In this company, we are looking for lower price, the lowest price is best. In this company it is all about making profit. We can sell this product because it will make more money for the company. Our director and shareholders are looking for best profit and best money back.

(R4)

Summary

In terms of specifications, respondents emphasized the importance of them to achieve a consistent level of quality food products. Key issues relating to specifications were dealing with the same nominated suppliers, adherence to the items listed in the specification sheet, and designing the menu according to the availability and quality of food in the specifications list.

In a contrary manner, respondents who did not use specifications list for ordering food purchases, they justified that it was quicker to order what they requested without referring to the specifications list.

4.3.1.7 Receipt and storage

In this part of interview respondents were asked to reveal their procedures in receiving and storage. In terms of receiving procedures, the responses were varied but generally confirmed that 12 out of 13 respondents had receiving procedures clearly defined for all staff and this area is well-equipped with scales, probes, etc. These procedures has to be defined in detail like checking the vans, checking delivery with specification list for its quality, probing temperatures, weighing, decanting, checking shelf life, labels and dates, and ensuring that all products were in good quality and signed off before storing.
One respondent (R1) indicated that this type of procedure was considered as a part of auditing and a part of training which would be given to staff in their hotel:

*It is clearly defined; it is part of auditing; all goods when received should be checked; and it is a basic knowledge of chef to know these issues therefore it is part of training which is given to staff in the food production area.*

(R1)

In addition, one respondent indicated that their receipt and storage procedures are all in risk assessment. Another one added that to ensure the quality and consistency of the food received all invoices of deliveries needs to be checked and signed off by the head chef.

In terms of storage, respondents were also asked whether storing procedures are also clearly defined for all staff. Responses confirmed that storage procedures in place and accessible to all staff for all types of storage whether in freezer, refrigerator or dry storage. In addition, the time between receiving and storage should be short to not affect negatively the quality of the food and stock rotation should be followed.

Respondents then were asked if there are designated people for receiving and storage. Seven respondents replied positively and they had designated chefs or porters to conduct receiving and storing:

*Yes, only the kitchen porter. He deals with these issues and if he is not around, the other kitchen porters are involved but normally under his kind of guidance, and he is responsible for storing as well.*

(R5)

On the other hand, five respondents (R1, R6, R10, R11, and R12) declared that they did not have designated persons for this type of work for some reasons such as the structure of the company; however they prefer to designate people for this job:
All staff can receive. We have not a particular person for receiving; because of the structure of our hotel company did not assign people responsible for receiving or storing.

(R1)

In terms of the time and frequency of delivery, respondents indicated that there was a determined time for delivery i.e. at early morning and most of them said that it was three days a week and they chose those days with low occupancy in the week.

Interestingly, one of the respondents (R8) added that they did not purchase huge amount of products to ensure the quality of the food items received and to save space:

We make deliveries six days a week here in our hotel. We keep low level stock to ensure quality. Everything is fresh everyday. We get fresh vegetables, meat, and fish six days a week.

(R8)

Respondents were then asked whether documentations related to receipt and storage were well-maintained. Most of responses confirmed that all documentation is well-kept since they complete it on a weekly basis and sign off the invoices daily.

In terms of issuing, almost all respondents indicated that they did not have designated people for issuing from store, so all staff could enter the storage area and take whatever they want for food production and based on that there were no requisitions for what had been issued.

Summary

Regarding receipt and storage procedures respondents highlighted the importance of clearly defining of these procedures. They involved checking the vans, checking
deliveries according to specifications, probing temperatures, weighing, decanting, etc. Another respondent emphasized that these procedures were considered as a part of auditing and training which would be given to staff in the food production area.

Key issues relating to receipt and storage procedures were, availability, accessibility, designating qualified people to accomplish this role, determining a limited time for delivery, reducing the amount of delivery, reducing the time between receipt and storage, ensuring stock rotation, and maintaining documentation for recipe, storage and issuing of all food items.

4.3.1.8 Temperature monitoring

Respondents were also asked whether they had well-maintained documentations for checking and recording temperatures of food during all steps of food production. All respondents indicated that they had a temperature monitoring system during the food production steps and they had well-maintained documentations for that on a daily basis during different times at the day.

In terms of discovering whether any type of food was held in the temperature danger zone, all respondents replied that they would throw it away and would not send it out to customers in the service area.

Respondents then were asked about monitoring the temperature of food appliances such as refrigerator, freezers, etc. Most of respondents confirmed the importance of monitoring the temperature of appliances in the food production area and they indicated
that their temperatures were checked and recorded at different times during the shifts. When discovering a problem with the temperature they directly inform the head chef who would report directly to the maintenance department to repair the equipment. If the repairing was likely to take a long time they would move the food to another fridge or freezer in order to maintain the quality of food stored. The same will be occurred in the equipment of cooking.

Summary

Regarding to temperature monitoring respondents confirmed the importance of keeping well-maintained documentations to check and record temperatures of food during all steps of food production and to check the temperatures of kitchen equipments and appliances as well on a daily basis at different times during the shift. If any food has been held in the temperature danger zone, respondents would have agreed to throw it away without taking any risk. Therefore they highlighted the importance of keeping checking the temperature of food frequently and regularly during the steps of food production.

4.3.1.9 Standard recipes

In discussing issues related to standard recipes, respondents were asked about the availability of standard recipes for all food items produced within the food production areas in the hotel. Ten respondents confirmed that standard recipes play a significant role in producing consistent quality food. Seven out of that 10 hotels indicated that they
had standard recipes easily accessible which detailed everything from preparation to
service for all food items produced in the hotel:

There are standard recipes for everything we produce in the kitchen.
(R2)

Yes, standard recipes are available for everything. We have a big book
which got every single thing for the menu.
(R7)

All the food has standard recipes, even for the banquet menus, all the specs
(specifications) in the kitchen.
(R13)

In addition, three respondents (R8, R9, and R11) declared that they had standard recipes
but not for all the items they produce, especially buffet menus, set menus, the
specialities of the day. Reasons varied and involved that the executive chef gave his
team a little bit freedom to do whatever they want in the buffet menu. In addition,
because of the buffet menu was not a printed or written menu, it was a black board
menu therefore they did not have a standard recipes for that items. Furthermore,
because they much more reliant on the experience and skills of individuals:

All the dishes for room service, restaurant and bar are all the same, no
difference goes on because it is a recipe card. For buffets, it is different
because it is not a standard in a recipe. It is the chef de-partie in the
morning, he creates what he likes, that set, and he will do it, that’s his job in
the morning. We don’t have absolutely a standard recipe for everything we
are doing in the building, we are people not robot.
(R9)

Another two respondents because one of them (R4) were offering only pre-made
products from the suppliers which maintained a consistent food quality products and the
other one (R6) was offering just breakfast, they indicated that they did not have recipes
per se but it was just the way of heating the item in microwave or oven.

On the other hand, three respondents (R5, R10, and R12) declared that they did not have
standard recipes for their food product; they just rely on the experience of their chefs:
No we do not have standard recipes as you would expect, but the chefs obviously use the same way of producing the food everyday.

(R5)

No recipes at all, I do not believe in recipe, I just believe in the experience of my team in the kitchen.

(R12)

In discussing whether the recipes were easily accessible to all staff members in the food production area, all respondents that had standard recipes indicated that all the recipes were easily accessible to all staff members whether in a recipe book, software, or hanging on the walls.

Respondents were then asked about the frequency of reviewing the recipes. Seven respondents answered that they review the recipes when changing the menu and after permission from the head office. The period for changing the menu ranged from every week to every six months. They change the menu depending on some reasons such as seasonal trends, feedback from customers, feedback from employees, the degree of demand and let the customer see difference.

In addition, one respondent indicated that they could not modify or change the recipe and if there any item was not demanded, they took it off without changing the recipe because they were not allowed to change or modify the standard recipe from the recipe software bank which was coming from the head office:

I cannot change the recipe for that dish; I just take the dish off and change it by another dish from the menu bank.

(R13)

Respondents were then asked whether quality issues such as ingredients, way of cooking, cooking time, shelf life, portion size, texture, appearance, etc. were considered
when developing the recipes. Respondents indicated that each recipe had its quality issues that should be followed to obtain a consistent level of food products.

In contrast, one respondent (R7) indicated that the recipe did not have quality issues which was written and detailed in the recipe because he teaches the staff this quality issues on the job training when developing a new recipe for a new product.

In discussing whether all staff follow these standard recipes during the production. Nine respondents indicated that they used the recipe but not all times and it was dependent on the item, if it was a new item they would use it until knowing it, or they only used it as a guideline in training.

Summary
As recipes were recognized one of the issues relating to achieving a consistent level of food quality, respondents emphasized the importance of these standard recipes and commented that they should be available for all food items produced, should be easily accessible to all staff members in the food production area, should involve the quality issues (e.g. quantity and quality of ingredients, way of cooking, cooking time, shelf life, portion size, appearance etc.). In terms of achieving a consistent level of quality, one respondent highlighted the significance of using pre-made or convenience food.

Changing, modifying and reviewing the recipe based on changing the menu. Reasons to change the menu were seasonal trends, customers’ feedback, employees’ feedback, and developing new items.
In contrast, respondents who had standard recipes food items produced except for buffet menus, set menus, and specialities of the day, they justified reasons for this such as giving freedom to the kitchen team to do whatever they want in buffet menus, and they only relied on the experience and skills of individuals. Additionally, respondents who did not believe in using recipes they just relied on the experience of the individuals to get a quality food.

In relation to following and using the recipe during food production, respondents highlighted the importance of this to obtain food quality consistently although none of the respondents use them during food production all the time and they just used their memory. In addition, they would use it merely in case of training, if there was a new item, and as a guideline.

4.3.1.10 Evaluating food presentation

In this part of the interview, respondents were asked to indicate how they judged the appearance of the final product in terms of its quality. Six respondents answered that they had pictures for most of dishes they produce as it is difficult to get consistent food without picture presenting the appearance of the final product. In addition, they took into consideration feedback from customers, employees, and managers concerning the quality of food produced, or they judge the appearance by experience. Furthermore, five respondents were conducting taste panels involving employees and managers to give comments about the quality of food produced.
Moreover, one respondent (R7) added as a head chef, he sits down at a table in the restaurant and orders any food item from the menu without telling the kitchen staff that he ordered the food, so as to look at the food and judge it:

> What I am doing is to send a ticket through to make a dish and then the chef makes the food and I will eat the food to make sure my chefs are doing the food right.

(R7)

Contrary, one respondent (R12) declared that he did not believe in pictures and he just judges the appearance of the food by looking at it and tasting it:

> I don’t believe in pictures at all, so there is no pictures for the items produced, we look to it and its taste only.

(R12)

Summary

In terms of judging the appearance of the final product, although respondents stressed the importance of having pictures for all items produced, none of them had pictures for all items produced and they just had pictures for some of the items. In addition, they based on the experience and skills of individuals to judge the appearance of the food produced.

**4.3.1.11 Quality audit**

In discussing issues related to quality audit, respondents were asked whether there was a regular quality audit conducted. Most of the respondents saw quality audits as being very important to ensure quality assurance during food production and they indicated that they were conducting regular internal and external quality audits.
The interval periods to conduct these audits were varied and ranged between every month to two times a year and it would take two or three days to conduct the quality audit. People involved in the quality audit varied according to the type of audit.

In terms of internal audit, they conducted it with a team involving two or more from the following: the head chef, the sous chef, the food and beverage manager, and the operations manager. They checked everything in the production area from receiving to presentation, health & safety, and training records.

In terms of external audits, most respondents indicated that they conduct external quality audits with all or some of the following: visits from the EHO (Environmental Health Officer), visits from the head office or headquarter, visits by mystery shopper, or they pay for an outside company to conduct the quality audit for them.

In discussing the implementation of quality audits, respondents indicated that there was a full checklist detailed with everything needs to be checked in the food production area. They confirmed that all issues related to food quality had to be checked from receiving the food to serving it to the customer. Then after conducting the audit, a full report would be send to the specified area in food production detailing of what points should be improved until the next audit. Additionally, they all stated that they had well-maintained records for these quality audits.

Respondents were then asked how they review, monitor and action any change after conducting the quality audit. Most respondents indicated that they would check the
report and see which areas got shortage. Then they would have a meeting with all staff to inform them about the result of the quality audit. If there was something that needs to be improved they would inform the heads of departments to take action immediately. After that they would score these issues into levels to take action, and then they made sure that these issues were sorted out by the next audit.

At the end of the discussions, respondents were asked to indicate some recommendations to be taken into consideration in achieving a consistent level of quality food products. The responses highlighted a variety of recommendations that could be broadly classified into: getting a good team to work, investing in staff, ongoing training, using accredited suppliers, following up and continually monitoring the staff, good communication, updating with regulation and legislation, daily checking, and getting written manuals and standards in place.

Summary

Relating to the quality audit, respondents emphasized the importance of conducting regular internal and external quality audits to ensure quality assurance during food production steps. With regard to internal audits, a team consisting of the head chef, sous chef, food and beverage manager, and operations manager would conduct the quality audit to check every single step in food production. In terms of external audit, external visits would come from EHO (Environmental Health Officer), the head office, or a mystery shopper to check the quality of the food. Concerning implementing audits, there was a detailed checklist should be checked and a full report would be prepared to
identify which areas need to be improved before the next time of quality audit. As a result a meeting with food production staff would be held to take action immediately.

4.3.1.12 Summary of semi-structured interviews

The results from analyzing the semi-structured interviews (13 case studies) revealed some issues that need to be improved to achieve a consistent level of quality food product within the hotel sector.

In terms of quality strategy that they apply, the findings revealed that the management did not consider the whole system of input-process-output so there was a reductionist not a holistic reliance on the whole system. Since four respondents focused on input, six respondents focused on process, and two respondents focused on output. This would lead to deficiency in the application of an integrated quality system.

It was noted from the results that communication represented a critical issue between managerial levels which is affecting the quality of food products because the communication structure was not clear and this was coming from the behavior of the executive who was doing whatever he wants without discussing the job with other managerial levels.

The results identified human resources issues such as over relying on the technical experience of the head chef rather than managerial experience which will lead to reliance on individuals, since if the head chef was not around or off, the quality would
be different. In addition there was another critical issue which is the labour market since they were facing difficulties in finding a quality chef. In addition, the budget was representing an issue which was coming from high demand and short supply in the labour market because British people were not interested in food production work in hotels.

With regard to documentation, the results confirmed that some cases were found that they did not have written manuals for some steps in the food production process and most of the written manuals are only used in training not during the work.

In respect of training, the findings discovered that training was not sufficient and the budget for training was not adequate to train all staff, since the consistent quality level of food products are ensured through training all staff constantly and regularly. Additionally, most of the hotels were relying only on job training with ignorance to off job training especially food quality training.

Basically emphasizing exact and accurate food specifications was most important to obtain consistent food product but the results from most of case studies interviewed revealed that specifications list for purchases was not available and this would affect negatively on the quality of ingredients used in production.

Regarding the availability of recipes for all items produced, the findings identified that all cases did not have standardized recipes for all dishes produced in particular buffet menus, set menus and specialities of the day. This would affect the quality of food
negatively. Moreover, they were using the recipe only when there was a new product or during training but during the production they indicated that there was no need for recipe. Additionally it was found that most of the cases did not have full pictures for all items produced and some of them did not believe in pictures.

With regard to receiving and storage procedures, the findings identified critical issues. One of these issues that there was no designated persons for receiving and storing food products which would lead to improper handling for food products. Additionally, it was found that there were no requisitions for issuing raw materials from stores or at least they used it when transferring raw materials from kitchen to bar.

Finally, it was found that temperature monitoring representing a critical issue in some case studies, since results revealed that there was no constant temperature monitoring through all steps of production. As a result of all issues which were previously indicated, there was a shortage in applying the quality system holistically.

4.3.2 Management questionnaire analysis

At the end of each interview, the same respondents (13) were then asked to rate their agreement of 11 questions as a data collection instrument. The main purpose of this questionnaire is to investigate the attitudes of management towards aspects relating to ensuring consistent level of food quality during the steps of food production and to consolidate the qualitative data analyzed from interviews with statistical data analyzed from this questionnaire to strengthen the overall analysis.
4.3.2.1 How often do you refer to quality manuals?

Responses to Q1 are shown in Table 4.12. Nine of the thirteen respondents referred to quality manuals often or very often. Four referred to them rarely or sometimes. None of the respondents never referred to quality manuals.

Table 4.12: How often do you refer to quality manuals?

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Percent</th>
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</thead>
<tbody>
<tr>
<td>Rarely</td>
<td>1</td>
</tr>
<tr>
<td>Sometimes</td>
<td>3</td>
</tr>
<tr>
<td>Often</td>
<td>5</td>
</tr>
<tr>
<td>Very Often</td>
<td>4</td>
</tr>
<tr>
<td>Total</td>
<td>13</td>
</tr>
</tbody>
</table>

4.3.2.2 How often does management stress quality food product?

Responses to Q2 are shown in Table 4.13. Nine of respondents stressed quality food products often or very often, three sometimes and one rarely stressed it. None of the respondents never stressed quality food products.

Table 4.13: How often does management stress quality food product?

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rarely</td>
<td>1</td>
</tr>
<tr>
<td>Sometimes</td>
<td>3</td>
</tr>
<tr>
<td>Often</td>
<td>2</td>
</tr>
<tr>
<td>Very Often</td>
<td>7</td>
</tr>
<tr>
<td>Total</td>
<td>13</td>
</tr>
</tbody>
</table>

The correlation between frequency of referring to quality manuals and the extent to which management stressed food quality did not show any significance (Spearman rho; $r = 0.255; p = 0.401$) (see Table 1 in appendix 6). This suggests that in many operations
although management stresses food quality they do not see quality manuals as the way to achieve this.

4.3.2.3  How often do quality manuals achieve consistent levels of quality?

Of the thirteen respondents and relating to the question of how often do quality manuals achieve consistent levels of quality, ten said often or very often, two said sometimes and one said never (see Table 4.14).

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Percent</th>
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</thead>
<tbody>
<tr>
<td>Never</td>
<td>1</td>
</tr>
<tr>
<td>Sometimes</td>
<td>2</td>
</tr>
<tr>
<td>Often</td>
<td>7</td>
</tr>
<tr>
<td>Very Often</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>13</td>
</tr>
</tbody>
</table>

There was a significant positive correlation between how often quality manuals were referred to and the frequency that quality manuals achieve consistent levels of quality (Spearman rho; $r = 0.721; p = 0.005$) (see Table 2 in appendix6). This suggests that where quality is felt to promote food product quality that they are referred to frequently and conversely where they are not felt to promote food product quality they are not referred to frequently.
4.3.2.4 How often does food production staff training involve issues related to food quality?

Ten out of thirteen respondents indicated that their food production staff training involved issues related to food quality often or very often. The other three said their food production staff training rarely or only sometimes involved issues relating to food quality (see Table 4.15).

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rarely</td>
<td>1</td>
</tr>
<tr>
<td>Sometimes</td>
<td>2</td>
</tr>
<tr>
<td>Often</td>
<td>7</td>
</tr>
<tr>
<td>Very Often</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>13</td>
</tr>
</tbody>
</table>

There was no significant correlation between questions 1 to 3 and the frequency of management stressing food quality products and the frequency of food production staff training involving issues related to food quality (see Table 3 in appendix6).

4.3.2.5 How often should staff be involved in developing quality systems/manuals?

Nine respondents thought that staff should be involved in developing quality systems/manuals often or very often and four thought they should be involved sometimes (see Table 4.16).
Chapter Four: Results and Data Analysis

Table 4.16: How often should staff be involved in developing quality systems/manuals?

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sometimes</td>
<td>4</td>
<td>30.8</td>
</tr>
<tr>
<td>Often</td>
<td>3</td>
<td>23.1</td>
</tr>
<tr>
<td>Very Often</td>
<td>6</td>
<td>46.2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>13</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

There was no significant correlation between questions 1 to 4 and how often staff should be involved in the development of quality systems/manuals (see Table 4 in appendix 6).

4.3.2.6 How often do staff use standard recipes when producing food items?

In relation to the frequency of the use of standard recipes when producing food products ten respondents used them often or very often, two used them sometimes and one rarely. This suggests that in some operations there are no standard recipes for the food products they produce which will lead directly to inconsistent food quality products (see Table 4.17). Not using standard recipes can also lead to lack of financial cost control in food production areas.

Table 4.17: How often do staff use standard recipes when producing food items?

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rarely</td>
<td>1</td>
<td>7.7</td>
</tr>
<tr>
<td>Sometimes</td>
<td>2</td>
<td>15.4</td>
</tr>
<tr>
<td>Often</td>
<td>5</td>
<td>38.5</td>
</tr>
<tr>
<td>Very Often</td>
<td>5</td>
<td>38.5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>13</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

There was a significant positive correlation between the use of standard recipes and the frequency of referring to quality manuals and this suggests that the more referring
quality manuals, the more use of standard recipes during food production (Spearman; rho; $r = 0.570; p = 0.042$). Additionally, there was a significant positive correlation between the frequency of the management stressing food quality products and the frequency of the use of standard recipes when producing food products (Spearman; rho; $r = 0.563; p = 0.045$) and this means that the more the management stress of food quality products, the more the use of standard recipes when producing food products as illustrated in Table 5 in appendix 6.

4.3.2.7 How often do you review standard recipes?

Eight respondents reviewed their standard recipes often or very often. Two reviewed them sometimes, two rarely and one never (see Table 4.18). Unsurprisingly, the respondent who did not review the standard recipes was the one whose staff rarely used standard recipes when producing food items.

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never</td>
<td>1</td>
</tr>
<tr>
<td>Rarely</td>
<td>2</td>
</tr>
<tr>
<td>Sometimes</td>
<td>2</td>
</tr>
<tr>
<td>Often</td>
<td>4</td>
</tr>
<tr>
<td>Very Often</td>
<td>4</td>
</tr>
<tr>
<td>Total</td>
<td>13</td>
</tr>
</tbody>
</table>

There was a significant positive correlation between reviewing standard recipes and the frequency of referring to quality manuals (Spearman rho; $r = 0.738; p = 0.004$). This suggests that the more the reviewing of standard recipes the more the referring to quality manuals. Additionally, there was a positive significant correlation between the
frequency of the use of standard recipes and the frequency of reviewing them (Spearman rho; \( r = 0.674; p = 0.012 \)). This suggests that the more the use of standard recipes, the more that management reviewing them as illustrated in Table 6 in appendix 6.

4.3.2.8 How often do you use a specification list for all items purchased?

Of the thirteen hotels ten used a specification list for all items purchased very often or often. One used it sometimes, one rarely, and one never (see Table 4.19).

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never</td>
<td>1</td>
<td>7.7</td>
</tr>
<tr>
<td>Rarely</td>
<td>1</td>
<td>7.7</td>
</tr>
<tr>
<td>Sometimes</td>
<td>1</td>
<td>7.7</td>
</tr>
<tr>
<td>Often</td>
<td>4</td>
<td>30.8</td>
</tr>
<tr>
<td>Very Often</td>
<td>6</td>
<td>46.2</td>
</tr>
<tr>
<td>Total</td>
<td>13</td>
<td>100.0</td>
</tr>
</tbody>
</table>

The significant correlation between the frequency of involving quality issues in the food production staff training and the frequency of the use of a specification list for all items purchased was positive (Spearman rho; \( r = 0.613; p = 0.026 \)) as illustrated in Table 7 in appendix 6. This suggests that the more use of a specification list for all items purchased is a result of the more involving issues related to quality through training offered to food production staff as emphasizing the use of a specification list considered one of quality issues in the training.
There was a positive significant correlation between the frequency of the use of standard recipes when producing food items and the frequency of the use of a specification list for all food items purchased (Spearman rho; $r = 0.632; p = 0.020$) as illustrated in Table 7 in appendix 6. This means that the use of specification list for all items purchased considered an important pre-requisite for the use of standard recipes to achieve consistent level of quality. This suggests the more the use of standard recipes, the more the use of specification list for all items purchased.

The correlation between the frequency of reviewing standard recipes and the frequency of the use of specification list for all items purchased was a positive significant correlation (Spearman rho; $r = 0.619; p = 0.024$) as illustrated in Table 7 in appendix 6. This suggests that the more the reviewing standard recipes, the more the use of specification list for all food items.

4.3.2.9 **How often is a special training for quality needed?**

In relation to special training needed for quality within the food production areas in hotels ten respondents were offering special training for quality very often or often, two offered it sometimes, and one never offered special training for quality (see Table 4.20).

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rarely</td>
<td>1</td>
</tr>
<tr>
<td>Sometimes</td>
<td>2</td>
</tr>
<tr>
<td>Often</td>
<td>5</td>
</tr>
<tr>
<td>Very Often</td>
<td>5</td>
</tr>
<tr>
<td>Total</td>
<td>13</td>
</tr>
</tbody>
</table>
There was no significant correlation between questions 1 to 8 and the frequency of offering special training for quality (see Table 8 in appendix 6).

4.3.2.10 *how often should accurate records of food received, stored and issued items be kept?*

In relation to the frequency of keeping of accurate records for all received, stored and issued items twelve respondents kept them very often and one respondent kept them often (see Table 4.21).

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Often</td>
<td>1</td>
</tr>
<tr>
<td>Very Often</td>
<td>12</td>
</tr>
<tr>
<td>Total</td>
<td>13</td>
</tr>
</tbody>
</table>

There was no significant correlation between questions 1 to 9 and the frequency of keeping accurate records for received, stored, and issued food items (see Table 9 in appendix 6).

4.3.2.11 *How often should the appearance of food items match the picture and description on the menu?*

Of the thirteen respondents ten thought that that appearance of food items should coincide with the picture and the description on the menu very often or often, two thought sometimes and one thought rarely (see Table 4.22). The one who never and sometimes stressed on this issue was the respondent whose staff rarely used standard recipes when producing food products.
Table 4.22: How often should the appearance of food items match the picture and description on the menu?

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never</td>
<td>1</td>
</tr>
<tr>
<td>Sometimes</td>
<td>2</td>
</tr>
<tr>
<td>Often</td>
<td>1</td>
</tr>
<tr>
<td>Very Often</td>
<td>9</td>
</tr>
<tr>
<td>Total</td>
<td>13</td>
</tr>
</tbody>
</table>

There was a significant positive correlation between how often the appearance of food items should match the picture and description on the menu and the frequency of referring to quality manuals (Spearman rho; r = 0.706; p = 0.007). This suggests that the more of the referring to quality manuals, the more of the matching of food appearance with its description and picture on the menu (see Table 10 in appendix 6).

The correlation between the frequency of the quality manuals achieving consistent levels of quality food products and the frequency of matching the food appearance with its description and picture in the menu was positively significant (Spearman rho; r = 0.788; p = 0.002). This suggests that the more the quality manuals achieving consistent levels of quality food products, the more food appearance matching with its description and picture on the menu (see Table 10 in appendix 6).

There was a significant positive correlation between the frequency of using standard recipes when producing food items and the frequency of matching food appearance with its description and picture on the menu (Spearman rho; r = 0.580; p = 0.038). This means that the more the use of standard recipes when producing food, the more the
matching the appearance of food items with their picture and description on the menu (see Table 10 in appendix 6).

The significant correlation between the frequency of reviewing of the standard recipes and the frequency of matching food appearance with its description and picture on the menu was positive (Spearman rho; $r = 0.567; p = 0.043$). This suggests that the more the reviewing of standard recipes, the more the matching of food appearance with its description and picture on the menu (see Table 10 in appendix 6).

### 4.3.2.12 Summary of management questionnaire

The overall results of the management attitude questionnaire are summarized in Table 4.23. There are strong positive correlations between:

1. **The frequency of referring to quality manuals (Q1) and:**
   
   a. The frequency of quality manuals achieving consistent level of quality (Q3).

<table>
<thead>
<tr>
<th>Q1</th>
<th>Q2</th>
<th>Q3</th>
<th>Q4</th>
<th>Q5</th>
<th>Q6</th>
<th>Q7</th>
<th>Q8</th>
<th>Q9</th>
<th>Q10</th>
<th>Q11</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q2</td>
<td>No</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q3</td>
<td>++cor.</td>
<td>No</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q4</td>
<td>No</td>
<td>No</td>
<td></td>
<td>No</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q5</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q6</td>
<td>+cor.</td>
<td>+cor.</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q7</td>
<td>++cor.</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>+cor.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q8</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>+cor.</td>
<td>No</td>
<td>+cor.</td>
<td>+cor.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q9</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q10</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q11</td>
<td>++cor.</td>
<td>No</td>
<td>+cor.</td>
<td>No</td>
<td>No</td>
<td>+cor.</td>
<td>+cor.</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

++ cor. means strong positive correlation; +cor. means positive correlation; No means no correlation.
b. The frequency of review of standard recipes (Q7).

c. The frequency of matching the appearance of food with its description and picture on the menu (Q11).

ii. The frequency of that quality manuals achieve consistent levels of quality food (Q3) and:

   a. The frequency of matching the appearance of food with its description and picture on the menu (Q11).

In addition, there are positive correlations between:

iii. The frequency of referring to quality manuals (Q1) and:

   a. The frequency of staff using standard recipes when producing food items (Q6).

iv. The frequency that management stress quality food products (Q2) and:

   a. The frequency of staff using standard recipes when producing food items (Q6).

v. The frequency of that food production staff training involves issues related to food quality (Q4) and:

   a. The frequency of using a specification list for all food items purchased (Q8).

vi. The frequency of that staff using standard recipes when producing food items (Q6).

   a. The frequency of review of standard recipes (Q7).
b. The frequency of using a specification list for all food items purchased (Q8).

c. The frequency of matching the appearance of food with its description and picture on the menu (Q11).

vii. The frequency of reviewing standard recipes (Q7) and:

a. The frequency of using a specification list for all food items purchased (Q8).

b. The frequency of matching the appearance of food with its description and picture on the menu (Q11).

4.4 Phase 3 - Staff attitude questionnaire analysis:

Out of 65 questionnaires distributed over the six hotels, 54 questionnaires were valid for analysis: R4 (11) questionnaires, R5 (7) questionnaires, R6 (2) questionnaires, R7 (8) questionnaires, R9 (13) questionnaires and R12 (4) questionnaires. Staff attitude questionnaires were considered to ascertain the attitudes of food production staff towards aspects relating to ensuring consistent level of food quality during the steps of food production.

4.4.1 All staff should be committed to quality

Data from Table 4.24 showed responses to statement 1. 53 (98%) out of 54 staff members representing seven hotels strongly agreed or agreed that all staff should be committed to quality. One respondent was undecided.
4.4.2 All staff should be involved in the development of quality systems/manuals

Responses to statement two are shown in Table 4.25. 47 out of 54 respondents strongly agreed or agreed that all staff should be involved in the development of quality system/manuals. Two respondents disagreed and five were undecided that all staff should be involved in the development of quality systems/manuals.

Table 4.25: All staff should be involved in the development of quality systems/manuals.

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disagree</td>
<td>2</td>
<td>3.7</td>
</tr>
<tr>
<td>Undecided</td>
<td>5</td>
<td>9.3</td>
</tr>
<tr>
<td>Agree</td>
<td>35</td>
<td>64.8</td>
</tr>
<tr>
<td>Strongly agree</td>
<td>12</td>
<td>22.2</td>
</tr>
<tr>
<td>Total</td>
<td>54</td>
<td>100.0</td>
</tr>
</tbody>
</table>

The relationship between 'all staff should be committed to quality' and 'all staff should be involved in the development of quality systems/manuals' was investigated using Spearman's rank order correlation. Results in Table 1 in appendix 7 showed that there was a strong positive correlation between the two variables (Spearman rho; $r = 0.436; p = 0.001$). This suggests that the more the level of involving staff in the development of quality system the more commitment to quality.
4.4.3 Training is not critical to quality

Of the 54 respondents to the negative statement that training is not critical to quality, 43 strongly disagreed or disagreed, one respondent was undecided, and 10 respondents agreed or strongly agreed (see Table 4.26). Additionally, the results in Table 2 in appendix 7 showed that there was no significant correlation between them.

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly agree</td>
<td>6</td>
</tr>
<tr>
<td>Agree</td>
<td>4</td>
</tr>
<tr>
<td>Undecided</td>
<td>1</td>
</tr>
<tr>
<td>Disagree</td>
<td>20</td>
</tr>
<tr>
<td>Strongly disagree</td>
<td>23</td>
</tr>
<tr>
<td>Total</td>
<td>54</td>
</tr>
</tbody>
</table>

4.4.4 All staff should not be trained

47 of the respondents strongly disagreed or disagreed that all staff should not be trained, one respondent was undecided, and five respondents agreed or strongly agreed as shown in Table 4.27. This suggests that hotel food production staff consider training as an important thing for producing consistent level of quality.

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly agree</td>
<td>4</td>
</tr>
<tr>
<td>Agree</td>
<td>1</td>
</tr>
<tr>
<td>Undecided</td>
<td>2</td>
</tr>
<tr>
<td>Disagree</td>
<td>9</td>
</tr>
<tr>
<td>Strongly disagree</td>
<td>38</td>
</tr>
<tr>
<td>Total</td>
<td>54</td>
</tr>
</tbody>
</table>
Results in Table 3 in appendix 7 illustrated that there was a strong positive correlation between the two variables that training is not critical to quality and all staff should not be trained (Spearman rho; r = 0.443; p = 0.001). This suggests that training is considered as a critical issue to quality therefore all staff should be trained.

4.4.5 Training should be carried out mainly on the job

Five respondents strongly disagreed or disagreed that training should be carried mainly on the job, four were undecided, and 45 (83%) agreed or strongly agreed (see Table 4.28). This suggests that almost all staff in hotels are relying only on the job training which may affect the quality of food produced while there is an off job training should be involved as well with training programmes.

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly agree</td>
<td>14</td>
<td>25.9</td>
</tr>
<tr>
<td>Agree</td>
<td>31</td>
<td>57.4</td>
</tr>
<tr>
<td>Undecided</td>
<td>4</td>
<td>7.4</td>
</tr>
<tr>
<td>Disagree</td>
<td>4</td>
<td>7.4</td>
</tr>
<tr>
<td>Strongly disagree</td>
<td>1</td>
<td>1.9</td>
</tr>
<tr>
<td>Total</td>
<td>54</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Results in Table 4 in appendix 7 revealed that there was a negative correlation between the two variables that all staff should not be trained and training should be carried only on the job (Spearman rho; r = -0.341; p = 0.012). This suggests that the more the level of carrying out only on job training the less level of not training all staff which means that most of the cases are relying only on the job training ignoring the off job training.
4.4.6  Training records should be kept for each staff member

In relation to the statement that training records should be kept for each member 50 (93%) respondents strongly agreed or agreed, three were undecided, and one respondent disagreed (see Table 4.29).

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disagree</td>
<td>1</td>
<td>1.9</td>
</tr>
<tr>
<td>Undecided</td>
<td>3</td>
<td>5.6</td>
</tr>
<tr>
<td>Agree</td>
<td>21</td>
<td>38.9</td>
</tr>
<tr>
<td>Strongly agree</td>
<td>29</td>
<td>53.7</td>
</tr>
<tr>
<td>Total</td>
<td>54</td>
<td>100.0</td>
</tr>
</tbody>
</table>

From the results presented here in Table 5 in appendix 7, it is apparent that there was a strong positive correlation between the two variables that all staff should be committed to quality and training records should be kept for each staff member (Spearman rho; r = 0.425; p = 0.001). There was also a positive correlation between the two variables that all staff should be involved in the development of quality systems/manuals and training records should be kept for each staff member (Spearman rho; r = 0.322; p = 0.018). Additionally, it has been noticed also that there was a positive correlation between that all staff should not be trained and that training records should be kept for each staff member (Spearman rho; r = 0.311; p = 0.022). In terms of correlation between the two variables that training should carried out mainly on the job and training records should be kept for each staff member there was a strong significant negative correlation (Spearman rho; r = -0.354; p = 0.009).
4.4.7 *Communication is critical to quality*

45 respondents out of 54 strongly agreed or agreed that communication representing as a critical issue for producing quality food and nine were undecided as illustrated in Table 4.30.

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Undecided</td>
<td>9</td>
</tr>
<tr>
<td>Agree</td>
<td>16</td>
</tr>
<tr>
<td>Strongly agree</td>
<td>29</td>
</tr>
<tr>
<td>Total</td>
<td>54</td>
</tr>
</tbody>
</table>

From the results presented in Table 6 in appendix 7, it is apparent that there were strong positive correlations between the three statements that all staff should be committed to quality (Spearman rho; \( r = 0.399; \ p = 0.003 \)), training is not critical to quality (Spearman rho; \( r = 0.400; \ p = 0.003 \)), and training records should be kept for each staff member (Spearman rho; \( r = 0.517; \ p = 0.000 \)) and the statement that Communication is critical to quality. In addition there was a significant positive correlation between that all staff should not be trained (Spearman rho; \( r = 0.327; \ p = 0.016 \)) and 'Communication is critical to quality'.

4.4.8 *Follow up is not critical to quality*

Of the 45 respondents 37 strongly disagreed or disagreed that follow up is not critical to quality. While 17 were undecided, agreed, or strongly agreed that follow up is not critical issue for quality (see Table 4.31). This suggests that one third of hotels food
production staff members approached thought that follow up is not critical issue while it is a crucial issue for quality.

Table 4.31: Follow up is not critical to quality

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly agree</td>
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</tr>
<tr>
<td>Agree</td>
<td>4</td>
<td>7.4</td>
</tr>
<tr>
<td>Undecided</td>
<td>11</td>
<td>20.4</td>
</tr>
<tr>
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<td>38.9</td>
</tr>
<tr>
<td>Strongly disagree</td>
<td>16</td>
<td>29.6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>54</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

Results from Table 7 in appendix 7 revealed that there were positive significant correlations between the three statements that training is not critical to quality (Spearman rho; \( r = 0.295; p = 0.031 \)), all staff should not be trained (Spearman rho; \( r = 0.294; p = 0.031 \)), and communication is critical to quality (Spearman rho; \( r = 0.334; p = 0.014 \)), and the statement that follow up is not critical to quality.

4.4.9 **All food production procedures should be clearly defined and documented to all staff**

In relation to that all food production procedures should be clearly defined to all staff 47 out of 54 strongly agreed or agreed. Seven respondents were undecided (see Table 4.32).

Table 4.32: All food production procedures should be clearly defined and documented to all staff.

<table>
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<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
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<td>13.0</td>
</tr>
<tr>
<td>Agree</td>
<td>15</td>
<td>27.8</td>
</tr>
<tr>
<td>Strongly agree</td>
<td>32</td>
<td>59.3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>54</strong></td>
<td><strong>100.0</strong></td>
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</tbody>
</table>
The results presented here in Table 8 in appendix 7 illustrated that there were strong positive significant correlations between the four statements that all staff should be committed to quality (Spearman rho; r = 0.498; p = 0.000), all staff should not be trained (Spearman rho; r = 0.422; p = 0.001), training records should be kept for each staff member (Spearman rho; r = 0.439; p = 0.001), and communication is critical to quality (Spearman rho; r = 0.657; p = 0.000) and the statement that all food production procedures should be clearly defined to all staff. In addition there were positive significant correlations between the two statements that training is not critical to quality (Spearman rho; r = 0.341; p = 0.012), and follow up is not critical to quality (Spearman rho; r = 0.341; p = 0.012) and the statement that all food production procedures should be clearly defined to all staff.

### 4.4.10 Temperatures of food appliances should be monitored and recorded regularly

In terms of temperatures of food appliances should be monitored and recorded regularly 52 respondents strongly agreed or agreed. One respondent was undecided, and one strongly disagreed as show in Table 4.33.

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
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<td>1.9</td>
</tr>
<tr>
<td>Agree</td>
<td>10</td>
<td>18.5</td>
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<tr>
<td>Strongly agree</td>
<td>42</td>
<td>77.8</td>
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<tr>
<td>Total</td>
<td>54</td>
<td>100.0</td>
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</tbody>
</table>

As shown in Table 9 in appendix 7 there were strong positive significant correlations between the two statements communication is critical to quality (Spearman rho; r =
0.432; p = 0.001), and all food production procedures should be clearly defined to all staff (Spearman rho; r = 0.493; p = 0.000), and the statement that temperatures of food appliances should be monitored and recorded regularly. In addition there was a positive significant correlation between the two variables all staff should be committed to quality (Spearman rho; r = 0.293; p = 0.032), and temperatures of food appliances should be monitored and recorded regularly. Moreover, there was a negative significant correlation between the two variables training should be carried out mainly on the job (Spearman rho; r = -0.274; p = 0.045), and temperatures of food appliances should be monitored and recorded regularly.

4.4.11 Temperatures of food items should be monitored at all stages of production

Out of 54 respondents 52 strongly agreed or agreed that temperatures of food items should be monitored at all stages of production. Two respondents were undecided (see Table 4.34).

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
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<tbody>
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<td>3.7</td>
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<tr>
<td>Agree</td>
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<td>40.7</td>
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<tr>
<td>Strongly agree</td>
<td>30</td>
<td>55.6</td>
</tr>
<tr>
<td>Total</td>
<td>54</td>
<td>100.0</td>
</tr>
</tbody>
</table>

The results presented here in Table 10 in appendix 7 apparently revealed that there were strong positive correlations between the two statements all staff should be involved in the development of quality systems/manuals (Spearman rho; r = 0.382; p = 0.004), and follow up is not critical to quality (Spearman rho; r = 0.398; p = 0.003), and the statement that temperatures of food items should be monitored at all stages of
production. In addition, there were positive correlations between the six statements all staff should be committed to quality (Spearman rho; \( r = 0.315; p = 0.020 \)), training is not critical to quality (Spearman rho; \( r = 0.278; p = 0.042 \)), training records should be kept for each staff member (Spearman rho; \( r = 0.290; p = 0.034 \)), communication is critical to quality (Spearman rho; \( r = 0.337; p = 0.013 \)), all food production procedures should be clearly defined to all staff (Spearman rho; \( r = 0.345; p = 0.011 \)), and temperatures of food appliances should be monitored and recorded regularly (Spearman rho; \( r = 0.320; p = 0.018 \)) and the statement that temperatures of food items should be monitored at all stages of production. Moreover, there was a negative significant correlation between the two variables training should be carried out mainly on the job (Spearman rho; \( r = -0.300; p = 0.028 \)) and temperatures of food items should be monitored at all stages of production.

4.4.12 Accurate records of received, stored and issued items should be kept

Responses to statement 12 are illustrated in Table 4.35. 50 respondents strongly agreed or agreed that accurate records of received, stored, and issued food items should be kept especially this action leads directly to an accurate food cost control and quality food as well. Four respondents were undecided or disagreed at all.

Table 4.35: Accurate records of received, stored and issued items should be kept.

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disagree</td>
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</tr>
<tr>
<td>Undecided</td>
<td>2</td>
<td>3.7</td>
</tr>
<tr>
<td>Agree</td>
<td>17</td>
<td>31.5</td>
</tr>
<tr>
<td>Strongly agree</td>
<td>33</td>
<td>61.1</td>
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<tr>
<td>Total</td>
<td>54</td>
<td>100.0</td>
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</table>
As noticed in Table 11 in appendix 7 that there were strong positive significant correlations between the four statements that all staff should be committed to quality (Spearman rho; r = 0.488; p = 0.000), training records should be kept for each staff member (Spearman rho; r = 0.478; p = 0.000), all food production procedures should be clearly defined to all staff (Spearman rho; r = 0.367; p = 0.006), and temperatures of food items should be monitored at all stages of production (Spearman rho; r = 0.749; p = 0.000) and the statement that accurate records of received, stored and issued items should be kept. In addition, there were positive significant correlations between the three statements that all staff should be involved in the development of quality systems/manuals (Spearman rho; r = 0.334; p = 0.014), communication is critical to quality (Spearman rho; r = 0.291; p = 0.033), and follow up is not critical to quality (Spearman rho; r = 0.305; p = 0.025), and accurate records of received, stored and issued items should be kept. Moreover, there was a negative significant correlation between the two variables training should be carried out mainly on the job (Spearman rho; r = -0.330; p = 0.015) and accurate records of received, stored and issued items should be kept.

4.4.13 The appearance of food items should be confirmed with the picture and description of the menu

Of the 54 respondents to that the appearance of the food items should coincide with its pictures and descriptions on the menu, 47 strongly agreed or agreed. Six respondents were undecided and one disagreed (see Table 4.36).
Table 4.36: The appearance of food items should be confirmed with the pictures and descriptions on the menu.

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
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<td>Disagree</td>
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<td>1.9</td>
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<tr>
<td>Undecided</td>
<td>6</td>
<td>11.1</td>
</tr>
<tr>
<td>Agree</td>
<td>24</td>
<td>44.4</td>
</tr>
<tr>
<td>Strongly agree</td>
<td>23</td>
<td>42.6</td>
</tr>
<tr>
<td>Total</td>
<td>54</td>
<td>100.0</td>
</tr>
</tbody>
</table>

From the results revealed in Table 12 in appendix 7, it is apparent that there were strong positive correlations between the six statements that all staff should be committed to quality (Spearman rho; \( r = 0.385; \ p = 0.004 \)), training records should be kept for each staff member (Spearman rho; \( r = 0.547; \ p = 0.000 \)), communication is critical to quality (Spearman rho; \( r = 0.593; \ p = 0.000 \)), all food production procedures should be clearly defined to all staff (Spearman rho; \( r = 0.413; \ p = 0.002 \)), temperatures of food items should be monitored at all stages of production (Spearman rho; \( r = 0.468; \ p = 0.000 \)), and accurate records of received, stored and issued items should be kept (Spearman rho; \( r = 0.427; \ p = 0.001 \)) and the statement that the appearance of food items should match the pictures and descriptions on the menu. In addition, there were positive significant correlations between the three statements that all staff should be involved in the development of quality systems/manuals (Spearman rho; \( r = 0.319; \ p = 0.019 \)), training is not critical to quality (Spearman rho; \( r = 0.323; \ p = 0.017 \)), and all staff should not be trained (Spearman rho; \( r = 0.342; \ p = 0.011 \)) and the statement that the appearance of food items should match the pictures and descriptions on the menu.
4.4.14 A standard format of presentation of different dishes should be available

45 respondents strongly agreed or agreed that a standard format of presentation for different dishes should be available in the food production area to be followed for ensuring a consistent level of food quality products. Nine respondents were undecided or disagreed as shown in Table 4.37.

Table 4.37: A standard format of presentation of different dishes should be available.

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disagree</td>
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</tr>
<tr>
<td>Undecided</td>
<td>5</td>
<td>9.3</td>
</tr>
<tr>
<td>Agree</td>
<td>24</td>
<td>44.4</td>
</tr>
<tr>
<td>Strongly agree</td>
<td>21</td>
<td>38.9</td>
</tr>
<tr>
<td>Total</td>
<td>54</td>
<td>100.0</td>
</tr>
</tbody>
</table>

As presented in Table 13 in appendix 7, it has been noticed that there were strong positive significant correlations between the four statements that training records should be kept for each staff member (Spearman rho; r = 0.389; p = 0.004), temperatures of food items should be monitored at all stages of production (Spearman rho; r = 0.441; p = 0.001), accurate records of received, stored and issued items should be kept (Spearman rho; r = 0.552; p = 0.000), and the appearance of food items should match the pictures and descriptions on the menu (Spearman rho; r = 0.453; p = 0.001) and the statement that a standard format of presentation of different dishes should be available. In addition there were positive significant correlations between the three statements that all staff should be committed to quality (Spearman rho; r = 0.343; p = 0.011), all staff should be involved in the development of quality systems/manuals (Spearman rho; r = 0.296; p = 0.030), and communication is critical to quality (Spearman rho; r = 0.277; p
= 0.043) and the statement that a standard format of presentation of different dishes should be available.

4.4.15 A regular quality audit should be undertaken

Of the 54 respondents 45 strongly agreed or agreed that a regular quality audit should be undertaken to ensure that they match the targeted level of quality. While six respondents were undecided and three disagreed. This suggests that around 17% of respondents didn't believe in quality audits as noticed in Table 4.38.

Table 4.38: A regular quality audit should be undertaken.

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disagree</td>
<td>3</td>
<td>5.6</td>
</tr>
<tr>
<td>Undecided</td>
<td>6</td>
<td>11.1</td>
</tr>
<tr>
<td>Agree</td>
<td>18</td>
<td>33.3</td>
</tr>
<tr>
<td>Strongly agree</td>
<td>27</td>
<td>50.0</td>
</tr>
<tr>
<td>Total</td>
<td>54</td>
<td>100.0</td>
</tr>
</tbody>
</table>

From the results appeared in Table 14 in appendix 7, it was revealed obviously that there were strong positive significant correlations between the nine statements that training is not critical to quality (Spearman rho; r = 0.359; p = 0.008), all staff should not be trained (Spearman rho; r = 0.359; p = 0.009), training records should be kept for each staff member (Spearman rho; r = 0.390; p = 0.004), communication is critical to quality (Spearman rho; r = 0.475; p = 0.000), all food production procedures should be clearly defined to all staff (Spearman rho; r = 0.470; p = 0.000), temperatures of food items should be monitored at all stages of production (Spearman rho; r = 0.412; p = 0.002), accurate records of received, stored and issued items should be kept (Spearman rho; r = 0.426; p = 0.001), the appearance of food items should match the pictures and
descriptions on the menu (Spearman rho; \( r = 0.663; p = 0.000 \)), and a standard format of presentation of different dishes should be available (Spearman rho; \( r = 0.389; p = 0.004 \)) and the statement that a regular quality audit should be undertaken. In addition there were positive significant correlations between the two statements that all staff should be committed to quality (Spearman rho; \( r = 0.299; p = 0.028 \)), and follow up is not critical to quality (Spearman rho; \( r = 0.284; p = 0.037 \)) and the statement that a regular quality audit should be undertaken. Moreover, there was a negative significant correlation between the two variables training should be carried out mainly on the job (Spearman rho; \( r = -0.344; p = 0.011 \)) and a regular quality audit should be undertaken.

### 4.4.16 Each month a different member of staff should take responsibility for undertaking quality audits

In relation to that each month a different member of staff should take responsibility of undertaking quality audits 32 respondents out of 54 strongly agreed or agreed. While 22 respondents (41%) were undecided, disagreed, or strongly disagreed to do a quality audit as seen in Table 4.39.

<table>
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</thead>
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<tr>
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<td>5.6</td>
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<td>Disagree</td>
<td>7</td>
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<td>Undecided</td>
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<td>22.2</td>
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<tr>
<td>Agree</td>
<td>21</td>
<td>38.9</td>
</tr>
<tr>
<td>Strongly agree</td>
<td>11</td>
<td>20.4</td>
</tr>
<tr>
<td>Total</td>
<td>54</td>
<td>100.0</td>
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</tbody>
</table>
The results presented from Table 15 in appendix 7 revealed that there were strong positive significant correlations between the four statements that all staff should be involved in the development of quality systems/manuals (Spearman rho; r = 0.404; p = 0.002), temperatures of food items should be monitored at all stages of production (Spearman rho; r = 0.365; p = 0.007), the appearance of food items should match the pictures and descriptions on the menu (Spearman rho; r = 0.466; p = 0.000), and a regular quality audit should be undertaken (Spearman rho; r = 0.494; p = 0.000) and the statement that each month a different member of staff should take responsibility for undertaking quality audits. In addition, there was a positive significant correlation between the two variables a standard format of presentation of different dishes should be available and each month a different member of staff should take responsibility for undertaking quality audits (Spearman rho; r = 0.302; p = 0.026).
4.4.3 Summary

Table 4.40: Exploring correlations significance between all statements of staff attitude questionnaires

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<th>St. 2</th>
<th>St. 3</th>
<th>St. 4</th>
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<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>+ cor</td>
<td>+ cor</td>
</tr>
</tbody>
</table>

++ cor. means strong positive correlation; +cor. means positive correlation; -- cor. strong means negative correlation; - cor. means negative correlation; No means no correlation.

The overall results of the staff attitude questionnaires are summarised in Table 4.40.

There are strong positive correlations between:

i. All staff should be committed to quality (statement 1) and:
   a. All staff should be involved in the development of quality systems/manuals.
   b. Training records should be kept for each staff member.
c. Communication is critical to quality.

d. All food production procedures should be clearly defined to all staff.

e. Accurate records of received, stored, and issued food items should be kept.

f. The appearance of the food items should match the pictures and descriptions on the menu.

ii. All staff should be involved in the development of quality systems/manuals (statement 2) and:

a. Temperatures of food items should be monitored at all stages of production.

b. Each month a different member of staff should take responsibility for undertaking quality audits.

iii. Training is not critical to quality (statement 3) and:

a. All staff should not be trained.

b. Communication is critical to quality.

c. A regular quality audit should be undertaken.

iv. All staff should not be trained (statement 4) and:

a. All food production procedures should be clearly defined to all staff.

b. A regular quality audit should be undertaken.

v. Training records should be kept for each staff member (statement 6) and:

a. Communication is critical to quality.

b. All food production procedures should be clearly defined to all staff.

c. Accurate records of received, stored, and issued food items should be kept.
d. The appearance of the food items should match the pictures and descriptions on the menu.

e. A standard format of presentation of different dishes should be available.

f. A regular quality audit should be undertaken.

vi. **Communication is critical to quality (statement 7) and:**

a. All food production procedures should be clearly defined to all staff.

b. Temperatures of food appliances should be monitored and recorded regularly.

c. The appearance of the food items should match the pictures and descriptions on the menu.

d. A regular quality audit should be undertaken.

vii. **Follow up is not critical to quality (statement 8) and:**

a. Temperatures of food items should be monitored at all stages of production.

viii. **All food production procedures should be clearly defined to all staff (statement 9) and:**

a. Temperatures of food appliances should be monitored and recorded regularly.

b. Accurate records of received, stored, and issued food items should be kept.

c. The appearance of the food items should match the pictures and descriptions on the menu.

d. A regular quality audit should be undertaken.
ix. Temperatures of food items should be monitored at all stages of production (statement 11) and:
   a. Accurate records of received, stored, and issued food items should be kept.
   b. The appearance of the food items should match the pictures and descriptions on the menu.
   c. A standard format of presentation of different dishes should be available.
   d. A regular quality audit should be undertaken.
   e. A standard format of presentation of different dishes should be available.

x. Accurate records of received, stored, and issued food items should be kept (statement 12) and:
   a. The appearance of the food items should match the pictures and descriptions on the menu.
   b. A standard format of presentation of different dishes should be available.
   c. A regular quality audit should be undertaken.

xi. The appearance of the food items should match the pictures and descriptions on the menu (statement 13) and:
   a. A standard format of presentation of different dishes should be available.
   b. A regular quality audit should be undertaken.
   c. A standard format of presentation of different dishes should be available.

xii. A standard format of presentation of different dishes should be available (statement 14) and:
   a. A regular quality audit should be undertaken.
   b. A standard format of presentation of different dishes should be available.
xiii. A regular quality audit should be undertaken (statement 15) and:

   a. A standard format of presentation of different dishes should be available.

Additionally, there are positive correlations between:

   i. All staff should be committed to quality (statement 1) and:

      a. Temperatures of food appliances should be monitored and recorded regularly.

      b. Temperatures of food items should be monitored at all stages of production.

      c. A standard format of presentation of different dishes should be available.

      d. A regular quality audit should be undertaken.

   ii. All staff should be involved in the development of quality systems/manuals (statement 2) and:

      a. Training records should be kept for each staff member.

      b. Accurate records of received, stored, and issued food items should be kept.

      c. The appearance of the food items should match the pictures and descriptions on the menu.

      d. A standard format of presentation of different dishes should be available.

   iii. Training is not critical to quality (statement 3) and:

      a. Follow up is not critical to quality.

      b. All food production procedures should be clearly defined to all staff.

      c. Temperatures of food items should be monitored at all stages of production.
d. The appearance of the food items should match the pictures and descriptions on the menu.

iv. All staff should not be trained (statement 4) and:
   a. Training records should be kept for each staff member.
   b. Communication is critical to quality.
   c. Follow up is not critical to quality.
   d. The appearance of the food items should match the pictures and descriptions on the menu.

v. Training records should be kept for each staff member (statement 6) and:
   a. Temperatures of food items should be monitored at all stages of production.

vi. Communication is critical to quality (statement 7) and:
   a. Follow up is not critical to quality.
   b. Temperatures of food items should be monitored at all stages of production.
   c. Accurate records of received, stored, and issued food items should be kept.
   d. A standard format of presentation of different dishes should be available.

vii. Follow up is not critical to quality (statement 8) and:
   a. All food production procedures should be clearly defined to all staff.
   b. Accurate records of received, stored, and issued food items should be kept.
   c. A regular quality audit should be undertaken.
viii. All food production procedures should be clearly defined to all staff (statement 9) and:
   a. Temperatures of food items should be monitored at all stages of production.

ix. Temperatures of food appliances should be monitored and recorded regularly (statement 10) and:
   a. Temperatures of food items should be monitored at all stages of production.

On the other hand there are strong negative correlations between:

i. Training should be carried out mainly on the job (statement 5) and:
   a. Training records should be kept for each staff member.

In addition, there are negative correlations between:

ii. All staff should not be trained (statement 4) and:
   a. Training should be carried out mainly on the job.

iii. Training should be carried out mainly on the job (statement 5) and:
   a. Temperatures of food appliances should be monitored and recorded regularly.
   b. Temperatures of food items should be monitored at all stages of production.
   c. Accurate records of received, stored, and issued food items should be kept.
   d. A regular quality audit should be undertaken.
Of interest is the difference in attitudes between the hotels (group two) which the head chef did not use or utilize quality manuals and there was high reliance on individuals rather than a system while others which did use quality manuals and there was a strong reliance on system.

These were analysed using Mann-Whitney U test. The results are shown in Table 4.41. Only one test was statistically significant in the statement that the appearance of food items should match the pictures and descriptions on the menu ($u = 147.000$, $p = 0.035$) across two groups of hotels staff members. An inspection of the mean ranks for the groups suggest that group one (which represents hotels that have systems in place) had the highest scores with regard to the statement that the appearance of food items should match the pictures and descriptions on the menu. On the other hand there was no any statistically significant difference in the rest of statements across the two groups of hotel staff members.
Table 4.41: exploring the difference between two groups of hotels via Mann-Whitney U test

<table>
<thead>
<tr>
<th>Statements</th>
<th>Group 1 mean rank</th>
<th>Group 2 mean rank</th>
<th>Mann-Whitney U</th>
<th>Z</th>
<th>Asymp. Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>All staff should be committed to quality.</td>
<td>28.15</td>
<td>24.95</td>
<td>208.500</td>
<td>-.723</td>
<td>.469</td>
</tr>
<tr>
<td>All staff should be involved in the development of quality systems/manuals.</td>
<td>27.98</td>
<td>25.46</td>
<td>216.000</td>
<td>-.520</td>
<td>.603</td>
</tr>
<tr>
<td>Training is not critical to quality.</td>
<td>26.45</td>
<td>31.59</td>
<td>191.500</td>
<td>-1.036</td>
<td>.300</td>
</tr>
<tr>
<td>All staff should not be trained.</td>
<td>27.09</td>
<td>29.09</td>
<td>219.000</td>
<td>-.467</td>
<td>.640</td>
</tr>
<tr>
<td>Training should be carried out mainly on the job.</td>
<td>28.95</td>
<td>21.82</td>
<td>174.000</td>
<td>-1.508</td>
<td>.132</td>
</tr>
<tr>
<td>Training records should be kept for each staff member.</td>
<td>27.49</td>
<td>27.55</td>
<td>236.000</td>
<td>-.012</td>
<td>.990</td>
</tr>
<tr>
<td>Communication is critical to quality</td>
<td>28.02</td>
<td>25.45</td>
<td>214.000</td>
<td>-.535</td>
<td>.592</td>
</tr>
<tr>
<td>Follow up is not critical to quality.</td>
<td>27.99</td>
<td>25.59</td>
<td>215.500</td>
<td>-.474</td>
<td>.636</td>
</tr>
<tr>
<td>All food production procedures should be clearly defined to all staff.</td>
<td>28.48</td>
<td>23.68</td>
<td>194.500</td>
<td>-1.029</td>
<td>.304</td>
</tr>
<tr>
<td>Temperatures of food appliances should be monitored and recorded regularly</td>
<td>27.93</td>
<td>25.82</td>
<td>218.000</td>
<td>-.549</td>
<td>.583</td>
</tr>
<tr>
<td>Temperatures of food items should be monitored at all stages of production.</td>
<td>26.85</td>
<td>30.05</td>
<td>208.500</td>
<td>-.689</td>
<td>.491</td>
</tr>
<tr>
<td>Accurate records of received, stored and issued items should be kept.</td>
<td>25.98</td>
<td>33.45</td>
<td>171.000</td>
<td>-1.635</td>
<td>.102</td>
</tr>
<tr>
<td>The appearance of food items should match the pictures and descriptions on the menu.</td>
<td>29.58</td>
<td>19.36</td>
<td>147.000</td>
<td>-2.105</td>
<td>.035</td>
</tr>
<tr>
<td>A standard format of presentation of different dishes should be available.</td>
<td>28.92</td>
<td>21.95</td>
<td>175.500</td>
<td>-1.419</td>
<td>.156</td>
</tr>
<tr>
<td>A regular quality audit should be undertaken.</td>
<td>28.79</td>
<td>22.45</td>
<td>181.000</td>
<td>-1.303</td>
<td>.193</td>
</tr>
<tr>
<td>Each month a different member of staff should take responsibility for undertaking quality audits.</td>
<td>28.70</td>
<td>22.82</td>
<td>185.000</td>
<td>-1.153</td>
<td>.249</td>
</tr>
</tbody>
</table>

a Grouping Variable: identification number
This probably suggests that there is a virtuous circle in which all staff should be committed to quality, all staff should be involved in the development of quality systems/manuals, training is critical to quality, all staff should be trained, training should not be carried out mainly on the job, training records should be kept for each staff member, communication is critical to quality, follow up is not critical to quality, all food production procedures should be clearly defined to all staff, temperatures of food appliances should be monitored and recorded, temperatures of food items should be monitored at all stages of production, accurate records of received, stored and issued items should be kept, the appearance of food items should match the pictures and descriptions on the menu, a standard format of presentation of different dishes should be available, a regular quality audit should be undertaken, and each month a different member of staff should take responsibility for undertaking quality audits.

For those hotels in which leadership (head chef) was not committed to quality manuals there were no significant differences (p>0.05) demonstrated between the two groups concerning their attitudes for any of the statements apart from the matching of the appearance of the food to the pictures and descriptions on the menu (P=0.035) but because they do not use quality manuals their food produced does not match the descriptions and pictures on the menu.

4.5 Phase 4 – non-participant observation analysis:

The main purpose of the non-participant observation is to audit food handlers in the within the food production areas to verify whether the given system is being adhered to.
All respondents (13 hotels) were asked for a permission to conduct a compliance audit checklist within the food production area in their hotels. Only one hotel allowed the researcher to conduct the compliance audit. The other 12 hotels refused to allow the researcher to conduct the auditing method for various reasons which have been stated in methodology chapter. Results of compliance audit are shown in Tables 8.34 to 8.40. Figure 4.1 illustrates the food productions processes that have been observed during the observation.

4.5.1 Receiving

In terms of receiving practices, the receiving area in the food production area of the hotel has been approached especially when there were deliveries came in and received. It has been noticed that there is a designated person for receiving food stuffs in the days of delivery which were three days a week and the rest of the week this person is working in the dishwashing and cleanliness in the food production area. The receiving
area was very small and was not equipped very well with different tools to check the quality of the food received. In addition it has been noticed that the receiving area was not clean or organized.

Concerning the availability of specification list for all items purchased it has been observed that there was no detailed specification list for food received and there was only the order sheet with the name and amount of the requested food.

It has been noticed that all the received food was sealed and packed appropriately but the person who received it did not check the temperature of the food at all (see Table 4.42).

Table 4.42: Non-participant observation checklist through food receiving practices

<table>
<thead>
<tr>
<th>Observation questions</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is there a designated person responsible for receiving all commodities?</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Is the receiving area well equipped with different kinds of scales?</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Does the receiving area have different types of thermometers?</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Is the receiving area well organized?</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Is the receiving area clean?</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Is the receiving area sanitized?</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Is a detailed specification list of each item received available?</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Are all received items checked immediately against its specification list?</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Are all received items appropriately sealed / packed?</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Are the temperature for all received food checked regularly</td>
<td>✓</td>
<td></td>
</tr>
</tbody>
</table>

4.5.2 Storage

With regard to storage practices, it has been noticed that the storage area was very small and not equipped with appropriate tools. All frozen and chilled food stuffs were stored immediately, but dry food has been kept on the trolley and left in the food production area for long time without storing.
In terms of frozen foodstuffs, most of them were stored with their packages and have not been unpacked. Surprisingly, it was found that there were boxes which have been stored on the floor in the freezer room, and all shelves were very close to the walls in the freezer room. No log book has been kept closer to the freezer room to monitor the temperature of the freezer regularly.

In the refrigerator room, it has been observed that there were foodstuffs have been kept unwrapped with no label or day dot. The food was stored inappropriately since there was cooked food stored closer to raw food. While as in the dry store area, it has been noticed that it is very small so some of the dry storage ingredients were stored on the trolley in the kitchen area for long time which might be susceptible to be damaged. In addition, the shelves in the dry storage were very close to the walls and there were some boxes were put on the floor in the dry storage area and it has been noticed that the dry storage area has not been ventilated appropriately and the ceiling was found damaged which will affect directly on the quality of food items stored as seen in Table 4.43.
### Table 4.43: Non-participant observation checklist through food storage practices

<table>
<thead>
<tr>
<th>Observation question</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is the storage area equipped with mobile racks?</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Is the storage area equipped with slotted trays?</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Is the storage area equipped with bins?</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Are all accepted foodstuffs stored immediately?</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Is external packaging removed once food stuffs have been delivered?</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Are foodstuffs stored in properly containers?</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Is received food correctly stored and rotated?</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Are all frozen foodstuffs transferred immediately to freezer storage?</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Are chilled foodstuffs placed into chilled storage without delay?</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Are all fruits and Vegetables removed from packing cases before storing?</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Are all fruits and Vegetables placed in clean, hygienic storage containers?</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Are all fruits and Vegetables placed in a chilled storage with adequate ventilation?</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Are dry goods placed off the floor?</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Are dry foods placed away from walls?</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Are dry foods placed into clean, dry and well ventilated storage immediately?</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Are perishable foodstuffs stored in small quantities and for short periods of time?</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Are foodstuffs wrapped or covered before storage?</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Are all produced items in the premises individually labeled and day dotted?</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Is refrigerator cabinet positioned near to heating units or high intensity lights?</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Are the frequency and the length of time the refrigerator door is open minimized?</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Are hot foods placed directly into the refrigerator?</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Are cooked items stored away from raw materials or above raw food on separate,</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>marked shelving to avoid cross contamination?</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Are chill room doors self-closing and protected by locks or air curtains?</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Is a record kept for monitoring temperatures of storage rooms?</td>
<td>✓</td>
<td></td>
</tr>
</tbody>
</table>

### 4.5.3 Preparation

Concerning the preparation process it has been noticed that the overall preparation area was not appropriately clean and organized so there some food items are kept in the temperature of the kitchen without putting in the fridge after preparation. In addition, it has been noticed that the temperatures of food prepared has not been checked during the reparation and the preparation people did not wear gloves or use tongs when preparing food as shown in Table 4.44.
Table 4.44: Non-participant observation checklist through food preparation practices

<table>
<thead>
<tr>
<th>Observation question</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Are the food preparation areas generally clean and in good state of repair?</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Are firm’s standards formalized in writing?</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Are all fresh fruit and vegetables washed thoroughly?</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Is there a designated sink used only for washing fruits and vegetables?</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Are fruit and vegetables ever washed in the wash-hand basin?</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Are frozen foods thoroughly defrosted prior to cooking by placing in the refrigerator overnight?</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Are dried foods checked for any kind of insect infestation?</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Is the date code on the top of all packets checked to ensure that any product has not exceeded its shelf life?</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Are all waste food and packaging arising from the preparation process properly disposed off?</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Are temperature checks made on the food during the course of preparation stages?</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Are prepared food awaiting cooking stored under refrigeration?</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Are hot foods cooled before placing in the refrigerator?</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Are foods handled as little as possible?</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Are tongs used in preference to hands when preparing foods?</td>
<td>✓</td>
<td></td>
</tr>
</tbody>
</table>

4.5.4 Cooking

Regarding the cooking process, it has been observed that all production people were not referring to standard recipes during cooking and all of them were using their minds and experience when cooking food items which might affect the consistency of the food quality. In addition, it has been remarked that all people were not wearing gloves when cooking foods and some of them were not organized when cooking so there were some waste not disposed off from the table of preparation and left for long time till fishing the cooking (see Table 4.45).
Table 4.45: Non-participant observation checklist through food cooking practices

<table>
<thead>
<tr>
<th>Observation question</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Are standardized recipes written and followed for cooking directions?</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Is consistent portion control applied?</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Is the size of food suitable for the cooking method?</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Is overcooking avoided for all food items?</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Are the cooked items that will not be served immediately cooked to less than well done?</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Are the degrees of meat doneness followed accurately?</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Is undercooking avoided for food items?</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Is the right method of cooking chosen to suit the type and size of food?</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Are the right tools and equipment used for cooking the right items?</td>
<td>✓</td>
<td></td>
</tr>
</tbody>
</table>

4.5.5 Holding

As part of the compliance audit the holding process, it has been observed and noticed that there were many food items left on the hold table long time before serving so some of the fried items were becoming soggy and tender not crispy, and sautéed vegetables were tender not crunchy because of long time of holding. In addition the temperatures during hold time have not been checked and the leftover in the fridge has been found not wrapped tightly and labeled appropriately as seen in Table 4.46.

Table 4.46: Non-participant observation checklist through food holding practices

<table>
<thead>
<tr>
<th>Observation question</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Are food products held for a minimal amount of time?</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Is too much food being produced and held?</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Are hot items cooked to order whenever possibly?</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Are held hot items’ internal temperature checked regularly?</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Are held hot liquid items stirred frequently?</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Are leftover foods stored in the refrigerator, covered tightly, labeled and dated?</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Are leftover foods stored in the refrigerator, used within 24 hours?</td>
<td>✓</td>
<td></td>
</tr>
</tbody>
</table>
4.5.6 Regeneration

In terms of regeneration it has been noticed that there were no temperatures checks during regeneration process and almost all people in the food production area did not have any thermometer to check the temperatures (see Table 4.47).

Table 4.47: Non-participant observation checklist through food regeneration practices

<table>
<thead>
<tr>
<th>Observation question</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Are hot food items regenerated to reach the temperature of 75°C?</td>
<td>✔</td>
<td></td>
</tr>
<tr>
<td>Are food items handled to be in good presentation?</td>
<td>✔</td>
<td></td>
</tr>
<tr>
<td>Are held hot items’ internal temperature checked?</td>
<td>✔</td>
<td></td>
</tr>
<tr>
<td>Are hot food items reheated in hot-holding equipment?</td>
<td>✔</td>
<td></td>
</tr>
<tr>
<td>Is leftover batch mixed with fresh batch of food?</td>
<td>✔</td>
<td></td>
</tr>
<tr>
<td>Are hot food items reheated more than once?</td>
<td>✔</td>
<td></td>
</tr>
</tbody>
</table>

4.5.7 Presentation

At the end of compliance audit the process of presentation has been observed and it has been noticed that there were some food items because of long hold under hot area especially the fried items has been soggy and tender which supposed to be crispy, and the vegetables which supposed to be crunchy were found tender. In addition the hot items were not served on hot plates which will affect the quality of the food and also the cold items were not served on col plates. Moreover there were not any pictures for the food produced to be matched as illustrated in Table 4.48.
Table 4.48: Non-participant observation checklist through food presentation

<table>
<thead>
<tr>
<th>Observation question</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Are hot food items served hot?</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Are hot food items served on hot plates?</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Are cold food items served cold?</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Are cold food items served on cold plates?</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Does plate size suit the portion size of food served?</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Are food items overcrowded on the plate?</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Are food items hanging over the edge of plate?</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Do liquid foods run over the edge of plate?</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Is there any broken and misshapen vegetables?</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Are fried items soggy?</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Is there any obvious oil / grease on plate?</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Is the plate garnish fresh and does it suit the food served?</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Does the appearance of food always match the pictures and descriptions of the items on the menu?</td>
<td>✓</td>
<td></td>
</tr>
</tbody>
</table>

4.5.8 Summary

The results from the non-participant observation that has been conducted in the hotel food production area proved that they have a quality system which should be followed and they said that they follow it accurately but in fact they did not apply it precisely since when conducting a semi-structured interview with the operations manager of that hotel, the operations manager confirmed that they have a quality system and all staff in the food production area should apply it but in fact when conducting the compliance audit it has been noticed that there was a gap between what in the quality system an should be followed and what was applied in fact.
CHAPTER FIVE: DISCUSSION – AN OPERATIONAL MODEL FOR CONSISTENT QUALITY IN HOTEL FOOD PRODUCTION

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9.1 Introduction:

As mentioned previously the main aim of this study is to develop a quality management system in hotel food production to ensure a consistent level of product quality through the food production process. In this chapter I will discuss the evolution of a quality management system for hotel food production through reviewing practice against the conceptual framework based on the literature in chapter three and the findings from chapter four.

5.2 Elements of a consistent quality management system:

High turnover is a big challenge facing hospitality businesses and retaining the same managers in an operation for a long time is difficult (Taylor, 2008b). Frequent changes in management and staff represent one of the key reasons for a restaurant business failure (Parsa et al., 2005). Therefore, there is a strong need for a system for maintaining the quality features of food products and achieving a consistently high quality (Munoz et al., 1992). Moreover, the existence of a formal system within an organization leads to a recognized respect from departments’ heads, since operatives cannot change their operation standards unless these changes have been documented and approved (Vritiprah, 2001).

The proposed model includes five key elements (see Figure 3.17): system development; system documentation; system implementation; system maintenance; system improvement. In each element there are sub-sections, for example, system development
comprises three key sections: system identification, management responsibility and quality resources. Each of these sub-sections involves sub-sub-sections. For instance, system identification includes three sub-sub-sections: standard identification, control measures identification, and corrective action procedures identification. Each element with its sections and sub-sections will be discussed in detail in the following pages.

5.3 System development:

The first step in creating a quality management system is to establish and develop the system which will be used (Sanderson, 1995). System development covers three major areas: (1) system identification; (2) management responsibility; (3) quality resources.

5.3.1 System identification

System identification includes three key issues: standard identification, control measures identification, and corrective action procedures identification.

Standard identification

Vtiprah (2001:121) stated that: “The standard sets out how to establish, document and maintain an effective quality system that will prove to customers that the company is committed to quality and has the necessary systems and procedures in place to achieve it”. The main aim of standard identification is to help people do their job right first time as a means of communication to work together to achieve a consistent level of quality products (Zilliacus, 1985 and Yeates and Wakefield, 2004). To save time and cost, it is
important to produce a quality product the first time rather than to return it for correction and repair (Gendron and Burlingham, 1989 cited Munoz et al., 1992). Since, the cost of having the product wrong and doing it again or correcting it is about 20% of revenue for manufacturing companies and up to 35% for service companies (Crosby cited Yeates and Wakefield, 2004).

In the interviews most participants, if not all, agreed that a clearly-identified standard should be in place to ensure a consistent level of quality. These standards have got different names, e.g. R9 indicated that their quality standard is called the Fresh Manual which is mainly used as a guide for food safety practices through all steps of food production. A copy of that manual was given to me by the operations manager of that hotel. The contents of that manual will be discussed later in the documentation section of this chapter.

Two (R2 and R9) out of 13 respondents stressed the integration of food quality with service quality, since it is better to have a balance between the food quality and service quality. This is consistent with O'Neill and Black (1996) that hospitality operations must attain and maintain a consistent level of product and service quality as a competitive advantage to survive, through the adherence to quality standards and manuals (Ottenbacher and Harrington, 2007). The identification of standards varies amongst hotels as quoted below:

> It is just a process of production, and it is a process I think that every hotel uses. it has to be normal and identified......gives you all the details of how to prepare dishes, it means from which products, how long it would take to cook and prepare the dish, how to present and display it, then how serve it to the guest...

(R1)
Another issue which was raised was that most of independent hotels (e.g. R5) had got their own standards. In contrast, all chain hotels (R1, R3, R4, R8, R9, R11) stressed the consistency of standards within all hotels in the same chain and indicated that standards should be centralized, branded, and consistent as depicted below:

Standards should be identified to achieve a constant level of quality among all R8 hotels.

(R8)

It is basically a brand; it is called a brand, isn’t it! So basically if you get a customer that comes on regular visits to Cardiff, it is the regular restaurant to have lamb shank, they should be able to go to Bournemouth and the challenges, the spec quality, the quality of cooking, and the dish itself should be identical because basically that’s the power or strength for the brand standard.

(R9)

In respect of the aim of a quality standard, respondents reported several responses which involve providing best quality food, providing fresh produce, discarding leftovers, achieving good cost control, good waste control; ensuring quality food products right the first time; adherence to standards; and maximum customer satisfaction as evidenced below:

To ensure that what we provide to our customers is the best quality food and safest quality of food.

(R2)

In a way, we tend to try fresh produce, we don't buy a lot of pre-made items like sauces, soups, but we produce these items fresh and homemade from scratch so we make our own sauces, so all food products are homemade, fresh.

(R5)

Either we will do the food fresh and nice or we will do it twice, so when we are cooking the food, either we get it right or it goes in the bin.

(R7)
Quality strategy is going to be good food, good waste control, and cost reduction.

(R9)

Our aim obviously is to have happy customers, happy with food and happy with the service at all times.

(R13)

Following quality standards leads to the success for both organisations and their employees (Lockyer et al., 1991). This echoed what has been interestingly indicted by one respondent (R11) who declared that adhering to standards is not just beneficial for hotels but it is also beneficial for people working in the kitchen as quoted below.

The main aim is to keep the standard high and trying to maintain standard, not just for the company but for individuals working in kitchen, and then we pass on the best quality we possibly can offer to the customer.

(R11)

Quality is a significant advantage for hotels, especially conventional hotels, since providing consistent quality food helps to attract new customers (Bosselman, 2007). However, one respondent (R10) suggested that although there is a standard that is clearly-identified he is not satisfied, since this standard is not utilized effectively by their kitchen personnel in the food production area. In other words, the standard has been identified but is actually not used for various reasons as he said: miscommunication, unstructured hierarchy, culture, and full reliance on individuals not on the standard which will be discussed later in this chapter. This issue will affect directly the quality of their food items, especially that this hotel appears to be a conventional hotel and food constitute a major issue for attracting new customers to the conventional hotels:

There is a standard within the company, but in this hotel, they (head chef and his team) don’t utilize all the system...... individuals should maintain the standards......here nothing is right......The chef could have a week off and the consistency of that food completely could be different definitely..... It is not just the chef, you know key people within the kitchen, if one of them
left, then the next day it is not good. Chefs don't look at systems, their passion about the food and products; if you put them in a system they will struggle.

(R10)

One respondent (R2) stressed the full respect and adherence to the standard as way of achieving consistent quality food products:

…… S.O.P, it is like the bible. The head office makes the S.O.P and then passes it down to every hotel and then the chef will play with it. For Wales they do with different stuff, and in England different stuff, so it's strong head office and then they take it as a bible.

(R2)

Another one (R9) stressed the previous idea that the standard manuals are like a bible but they cannot follow every single thing in it:

The standard manual is a good starting point, it is a good point of reference, and it is like a bible. You would put it in and train the staff to do it. It is basically up to the manager and the head of departments to ensure it. Our head chef started with the bible, every single part in his kitchen should be done with it, but they cannot follow absolutely everything, and all you can show is as much Due Diligence as you possibly can.

(R9)

To maintain standards most of hotels' respondents declared the importance of training, qualified personnel, follow-up, and continuous improvement as key issues in this matter. In conclusion, standard identification and adherence to standard represent a fundamental element to provide a consistent level of quality food products in hotels.

Control measures identification

It is important to have a clear standard which enables managers to measure the quality of their products (Glover, 1995). Quality control measures should be identified to know how standards will be met through products and production processes on a regular basis to recognize and identify problems through food production processes, thus they are fundamentals to satisfy standard requirements (East, 1993 and McEachern et al., 2001).
The findings coming out from the interviews with 13 respondents indicating their emphasis on identifying the control measures (quality control practices) to make sure that the requirements of the standard are met or not. Most respondents, if not all, linked the aim of the control measures to ensuring only food safety perspective which is part of food quality as stated by Dillon and Griffith (1997) and McEachern et al. (2001), since quality and safety are not interchangeable (Manning, 2007). For example, the *Fresh Manual* of R9 defined all control measures through all food production processes with a main focus on food safety issues. Considering legislation, Coleman et al. (2000) indicated that full adherence to it will increase both the confidence of catering managers about their food quality and the need for training of catering managers and staff. Respondents indicated that they ensure food safety during the steps of food production as a way of process control through adherence to HACCP, legislation led by the UK government, and due diligence and risk assessment practices:

*The only thing that follows is HACCP for food production…… it is most important thing in the kitchen……We have Hazard Analysis Critical Control Point from delivery to serve on the plates. The correct flow charts for it are in place.*

(R12)

There was one respondent (R10) although he was not satisfied with quality of their food in his hotel, he declared that it is important to adhere to legislation but you do not have to be involved in details in them, since it has excessive paperwork, thus he proposed to take from these legislations what is applicable to your food items:

*...You have to be aware of legislation, if you have a problem, you can’t say I wasn’t aware of that, you have to be up to date and aware of what kind legislation is……You don’t have to know every bit, you have to break it down……you don’t have to be familiar what the legislation says, but you have to be familiar with the items you are handling.*

(R10)
Three respondents (R3, R8, R11 and R13) reported that they are usually conducting due diligence practices through taking food samples to be tested in case of banqueting for large groups of people to ensure that the food is safe for catering. This is consistent with Zilliacus (1985) that taking periodic samples to test critical elements represent one of the key methods for achieving consistent quality food:

*If you got functions booked actually or anything over 30 people or more you have actually to take samples and they have to send them off twice a week, you also have to keep them just in case you get feedback regarding an ill or special care on people you cater for.*

(R3)

*We can take samples in banquets of over 40 people as well*

(R8)

*What we do also is we take samples of one or two dishes a day, so where serving chicken, a tiny piece would be cut off, put in a sample bag, the sample bag is dated……If somebody, in a case of food poisoning……We can take a look; you've got samples of this*

(R11)

*Samples are taken for functions and buffets for quality reasons.*

(R13)

Another issue was raised in respect of control measures was that three respondents (R3, R9 and R11) revealed that they have nominated suppliers which have been verified for the quality of their food carefully before dealing with them:

*We for sure, choose our suppliers very carefully in Britain, also local suppliers of course, we check them actually before going to their files to actually buying things from them.*

(R3)

*We purchase our food centrally through reputable suppliers who are audited periodically as part of our due diligence practices.*

(R9)

*……We have nominated suppliers, so everybody who we buy goods from has been verified to have the ISO as a way of our control measures.*

(R11)
In respect of the control measures/quality control practices applied in the food production area to ensure consistent quality food, all interviewees emphasized the importance of these practices through a daily planning of production to ensure the consistency of quality food and most of them stressed on assigning special people caring for the quality of food. They also reported that these practices should be conducted on a daily basis with a consistent follow-up and a sufficient practical training for staff to adhere to the standard. These practices cover all food production procedures from delivery to storing, preparation and cooking, holding, regeneration, and presentation on plates or buffet through, e.g. quality and temperature checks, delivery checks, following recipes, cost control. Additionally, they shed light on customers’ feedback regarding the quality of their food to improve their quality practices. Moreover, they indicated that quality control practices differ according to the quantity and the type of food production if it is cooked to order or it is mass production like in functions and banqueting.

Considering the findings coming out from the 54 usable staff attitude questionnaires out of 65 questionnaires distributed over six hotels (R4, R5, R6, R7, R9, and R12) and relating to control measures statements (i.e. follow up is not critical to quality; temperature of food appliances should be monitored and recorded regularly; temperatures of food items should be monitored at all stages of production), it was found:

- Follow up is critical to quality as it has an impact on training, staff who will be trained and communication;
• Regular monitoring and recording for temperatures of food appliances represents evidence of staff commitment to quality, effective communication, carrying out on-job and off-job training, and clearly defined food production procedures;

• Monitoring food temperatures through production processes is an indicator for: staff commitment to quality, staff involvement in quality manuals development, effective training covering both on-job and off-job, keeping training records, effective communication, follow-up, clearly defined food production procedures.

To conclude, it is very important to have a clearly-identified standard. To ensure that the requirements for this standard are consistently and regularly met, there is a need for identified control measures which incorporate simple and practical steps to be undertaken to make sure that the quality standards are fully respected and adhered to.

Corrective action procedures identification

To achieve a consistent level of quality in hotels, the managers of departments should identify corrective action procedures and measures which involve deadlines to rectify the situation, and assigning responsibility for completion (Vritiprah, 2001). The cost of attracting new customer is greater than the cost of correcting errors (Wildes and Seo, 2001 cited Edwards and Meiselman, 2005). The earlier an error is discovered, the cheaper is to correct (Skidmore and Eva, 2004).

In the interview most of respondents agreed that corrective action procedures should be identified and should be in place to ensure the consistency of food quality. They indicated that these procedures involve, e.g. when they do not accept some food
delivery because of low quality, damaged, not conforming to specification; the procedures of returning back these items is clearly identified:

We are not taking delivery that is not good; we return it back to the company; we have a contract with them to get food up to the standard. If food is not up to standard, it has to be replaced in eight hours time. We will call them, would asking what is happened, why it's happened, why it is not up to the standard. They call us (Hilton Hotel) back with the answer and of course merchandise replaced to food up to standard. If we need it urgently, we can get it from different suppliers within the listed suppliers only.

(R3)

In case of delivery deviation, e.g. unacceptable temperature or damaged food, the receiving man should inform the in charge chef who will request credit note to return rejected food, inform the supplier, and notifying the purchasing department, then the head chef and F&B manager must sign the records weekly.

(R9)

In addition they also added that these procedures might involve identifying their corrective actions when customers complain about the quality of food:

If a problem with the customer, we rectify it through the way, we of course apologize; see if they wanna anything else, then we discount the food.

(R2)

I first would believe that the customer is always right, and if the customer has any problem, we apologize, and we offer them another fresh meal, then if they don’t want then we give them a complementary like to come back gain free.

(R7)

In conclusion, corrective action procedures should be clearly identified to obtain quality management systems ensuring the consistency of quality food products. Since in case of problem or deviation has been found, it is important to correct it straight away before the product reaching the customer.
5.3.2 **Management responsibility**

It covers three major components: commitment to quality; focus on customer; supporting quality policy.

**Commitment to quality**

Commitment to quality has a substantial impact on staff attitude, empowerment and productivity towards their jobs and organizations (Peters, 1994 and Kondo, 1997). Sharing staff in management decisions will increase their commitment and efficiency to their jobs (Matin, 1986 and Orly, 1988). Additionally, involving and empowering employees within the hotel operation in quality issues appears to be a good solution to ensure a consistent quality product/service (Vrtiprah, 2001). For instance, any staff member within food production area can report nonconformance within specific activities or processes (Manning, 2000). Thus, lack of management commitment to quality and employee involvement represents one of the key reasons for restaurant business failure (Parsa *et al*., 2005).

The results of the interviews revealed that almost all respondents shed light on commitment to quality as a key issue for achieving a consistent level of food quality during food production steps:

*We focus on quality commitment, because we need to be competitive, we need to get and achieve a consistency of the product we present, therefore we stress on standard to be more confident.*

(R1)

*Well, our goal is to offer the best food and service within Cardiff, so it's a big point for the management to be committed to quality of food.*

(R2)
Additionally, they indicated that they carried out several practices illustrating their commitment to quality, e.g. recognizing personnel feedback and suggestion regarding quality issues through conducting taste panels; considering customers feedback and requirements; choosing suppliers very carefully and restricting with that nominated suppliers; following specification list for all food received; conducting due diligence practices; focusing on effective training and supervision:

*We also do lots of taste panels. A taste panel is whereby 5 O’clock every day, every single day, then we (The sous chef, the chef who cooked the food, the restaurant supervisors, and sometimes the operations manager) taste with a restaurant staff.....so basically the food prepared for it, we all sit in the restaurant, we do a pre-brief for the dinner shift and the same time do a taste panel. The food is cooked and it is tasted to let the server knows what the taste likes (nice) to recommend, and also check it against specs for quality to make sure it will not overproducing as there is no too much food on the plate.*

(R8)

According to Zilliacus (1985) conducting taste panels daily between kitchen and service staff represents a key method of achieving consistent quality food products through involving employees in quality issues.

Additionally, one respondent (R11) indicated that he had daily meetings with his team in the kitchen as evidence of his commitment to quality to discuss issues related to the standard of food they produce:

*I sit down with my team, we have a kitchen meeting here every day before service.....we discuss if there is anything off the menu usually we have got. And then the standard, we discuss, if there has been any problem during service that we need to highlight, that we need to do as a team to work out. And that's why we strive for standards ad also we do training seminars each day on the standards and we bring every department involved.*

(R11)

Hart and Casserly (1985) contended that cost reduction is not a suitable way to sustain competitive advantage in hotel food service businesses because customers are less
worried about prices, but they are concerned with the quality of food. Therefore, hotel food service operations looking for more customers by decreasing prices of their food without improving their food quality will not likely to be succeeded since they just gain lower revenues because of their price reductions (Bosselman, 1995). Thus, low prices will not lead to high quality or differentiation (Ottenbacher and Harrington, 2007) as quoted below:

*Our meals in this hotel are quite expensive, so to get away of being expensive, we would have to give the customer the best and highest quality we can.*

(R11)

The findings indicated that there was one respondent (R5) although his hotel appears to be a big hotel committed to quality, he stressed the idea that they do not see themselves as a hotel restaurant, thus their prices are very cheap with a comparison to other hotel restaurant as evidenced in the following two quotes accordingly:

*We are committed to quality, it is collectively between the owner, the general manager, I (F&B manager) and the Head Chef; we lead in terms of standards; obviously the chef has feedback of himself and of his team to make sure products have been well received......We make sure that customers are happy, so we need satisfaction; we do guest satisfaction cards, and comment cards so customers can tick the boxes to make sure they are happy with the quality of the food and we hand it out with every meal, so we can get three pack and liaise with the chef to make sure the quality is there. So there is a very management team to get products with high quality.*

(R5)

*We don't want to portrait ourselves as a typical hotel restaurant which would be possibly full service, full quality food and very expensive. Our prices are very cheap; we also don't look for the industry standard gross profit as a lot of hotels would look for a return of 75% gross profit on the cost of sales (sales against the cost). Our owner is set 65% gross profit (35%cost) for our restaurant, so we don't operate even in terms of profits like a normal hotel. The owner wants more people to come in and try the restaurant, so people come 2-3 times a week rather than 2-3 times a year. We are a standalone operation, which doesn't rely on the residents for our business.*

(R5)
Additionally, it was found in this hotel (R5) that there is excessive interference from the owner of the hotel in the standard and operation issues:

*The owner likes pickles, with the burger, so we give pickles on the burgers now, then the owner likes to sell it with yellow mustard, and then we put yellow mustard with burgers then.*

(R5)

This is consistent with Zetie et al. (1994) that in an unstructured organization, such as the owner-manager pattern of many hospitality SMEs, the owner is totally involved in the day-to-day operation of the business and has no time for the more reflective approach that TQM requires. Therefore, it is important to have a clear structure as a substantial issue for quality commitment.

Another problem related to the lack of a clear structure in hotel operations was that the operations manager (R10) said that the head chef did not report to him but he reported only to the general manager while he was supposed to report normally to the operations manager, so there is gap between the head chef and the operations manager in delivering information that will in its turn affect negatively the consistency of food quality. This is because there was no a clear job description which supposed to be followed:

*The executive chef doesn't report to me (operations manager), he (chef) reports to the General Manager......it is unusual here, normally, the chef reports to myself but in a sense may be changed......Every operational department in this hotel reports to me, e.g. service areas, housekeeping, front office, concierge......But the chef doesn't report to me, it is a problem of hierarchy.*

(R10)

This also echoes the notion of Roth (1998) that unclearly-defined responsibility and authority for middle managers (e.g. their supposedly decisions are given by their heads) will breakdown the efforts of quality improvements.
In relation to the outcomes from the management questionnaires, it was found a positive correlation between management commitment to quality and using stated recipe when producing food. Thus, adherence to standard recipes represents a key issue of management commitment to quality.

Concerning the findings from the staff attitude questionnaires, it was noticed that staff commitment to quality would be improved through: staff involvement in quality manuals development; keeping training records for each member; effective communication; clearly defined food production procedures; regular monitoring and recording of food and appliances temperatures; keeping accurate records of receive, stored, and issued items; conformance with specification manuals; undertaking regular quality audits.

To summarize, all the previously-mentioned issues should be taken into account to achieve management commitment to quality.

Focus on customers

Defining customers’ needs represent a key issue for achieving consistent quality food products (Zilliacus, 1985). To measure the quality of the food products, it is important recognizing customers’ feedback (Glover, 1995). The successful chef is much more focused on customer satisfaction to obtain happy customers and guest retention as a result of delivering consistently quality foods through experiencing good practices and knowledge in food production (Kang et al., 2010).
According to Bouranta et al. (2009) if restaurant customers are more satisfied by providing them a consistent quality product/service; they will repeat their visit or recommend the restaurant to other people through positive word-of-mouth. The latter is called a viral marketing (Longart, 2010). This is what has been indicated by most of respondents:

*If you get consistency in your quality this means high restaurant revenues because people come back, the same people come back tasting your menu and enjoying your food, this is the guest satisfaction. If the guest is happy with the menu, this means that your product is good, it means bringing quality on your food.*

(R1)

Most respondents emphasized the significance of customer requirements as a determinant for the level of quality of their food. Also they stressed recognizing frequently their customers’ feedback that relates to the quality of the food produced and the delivery a consistent level of quality food to keep them revisiting the hotel restaurant regularly:

*If you got a consistent level of food and service, people come back, people know you are good, people know you are consistent; people know what they expect when they come back to hotel. For example, it would be soup on the buffet, fish options, meat options, smoked fish, it is there and they know it is there, so next time when they come, nothing is changed......Quality is always what the customer dictates and what the customer's expectations that is quality.*

(R3)

*We are tracking to all what our customers think of us. It is important, so we use a tool called GSS (Guest Satisfaction Survey) which is in every guest bedroom so basically that guest can write what he thinks about the quality of the food. There is also another survey which is for banquets, conferences etc, so anyone is dealing conference can tell them what he thinks, so it is different ways to check what the customers think about the quality of our food.*

(R8)

The actual successful and more profitable hotel food operations achieve more than 50% of their food sales from non-resident customers (Bosselman, 2007). Therefore, two
respondents (R5) were trying to increase their food sales by focusing on non-resident customers:

……..a guest who is staying here in weekends and hasn't booked a table, the chance is he wouldn't get a table…….So we are full with non residents. This is standalone restaurants……..

(R5)

On the other hand, there was another respondent (R4) who rejected offering their food for non-residents:

Here, we do few outside guests in our restaurants. We only are depending on the residents (hotel guests). We will never have those outside guests, because of our menu, because we are known for being hotel restaurants not the one for outside guests.

(R4)

Respondents also shed light on these customers needs to see what they expect to repeat their visits to their hotel restaurants. This can be done through the offering a consistent level of quality foods.

In conclusion, to be a successful and more profitable hotel restaurant you need to focus more on your customers and identify their needs and what they expect from your food quality. Customers’ satisfaction represents a critical issue for hotel restaurants survival. Offering food service for non-residents represents a good method to enhance the food sales of the hotel besides offering it to hotel residents. Delivering a consistent level of quality food products has fundamental impact on customers’ returns to the hotel restaurants. When customers inquire about the quality of food, hotel food operators should have a well-prepared answer.
Supporting quality policy

Waller (1999) shed light on the existence of a clear mission statement addressing the quality policy as a core step for quality management in food operations. Lack of a written mission and vision and integrating them into operation represents one of the key reasons for restaurant business failure (Parsa et al., 2005). Quality policy constitutes a statement describing a commitment to quality (Praxiom Research Group, 2005). The typical mission of hotel food service operations is to provide the appropriate level of quality food to their guests consistently (Bosselman, 2007).

Generally, all respondents emphasized the importance of supporting their quality policy through their full commitment to quality. They that their quality policy should be clearly identified and in place. They have different visions for quality policy, since it is for example: a whole package (R2, R4 and R9); offering quality food consistently (R1, R13); maximizing customer satisfaction and adherence to legislation (R3); fresh food (R7); controlling (R8); reliance on the experience of chefs (R5, R7, R10 and R12) as quoted below:

- *We have a target to meet and it is 85% customer satisfaction in the F&B outlets, we have achieved customer satisfaction through different points: 1) value for money 2) speed of service 3) quality of food…. In addition, the policy of course you have to follow legislations quit a lot from UK and put policy on place.*
  
  (R3)

- *I would say no food leaves the kitchen unchecked and all food must be seasonally and safe to eat.*
  
  (R8)

On the other hand one respondent (R10) reported that they do not have a clear policy in place since everything related to quality is down to the chef and his experience and they
do not have clear mission or vision for their quality policy. He (operations manager) indicated that because the chef is a famous chef, he can do whatever he can without any communication with the operations manager. This echoed with Zetie et al. (1994) and Horng and Lee (2009) that this kind of chef is a reluctant trainer. Since the hotel could be dominated by his fancies, personality and attitude (Rutherford and O’Fallon, 2007).

To conclude, all hotel food operators should support their quality policies through full commitment to quality to achieve consistent quality food products.

5.3.3 Quality resources

This reflects three major areas: competent personnel, effective training and suitable work environment and equipment.

Competent personnel

Chefs represent an important core element, if not the key element, in the success and survival of food service operations (Cullen, 2001 cited Kang et al., 2010). There is always excessive demanding for skilled professionals, e.g. cooks and chefs (Muller et al., 2009 and Robinson et al., 2010) who retain and sustain a high and consistent quality food in the hotel and restaurant operations (Chuang et al., 2009).

Food production converted from an art and improved to be as a science (Paulus, 1985 and Reed, 1995). The core responsibility of the chef is organization and administration not purely cooking (Kotas and Jayawardena, 1994; Reed, 1995; Pratten, 2003a, b; Stutts
and Wortman; 2006; Bosselman, 2007; Rutherford and O’Fallon, 2007). However, chefs should have both culinary experience and food knowledge, since their job exceeds the job of cooks as they should: have planning and management skills; perform training programmes and supervision responsibilities; coordinate food outlets for the hotel food production (Career as a Chef, 2007 cited Chuang et al., 2009). Yet, vacancy advertisements use the terms of chef and cook interchangeably which in turn lead to a confused and inaccurate matching of skills and jobs (Robinson et al., 2010). Since Cousins et al. (2010) indicated that a great chef should: be a master technician; have good knowledge and experience, have desire to do things well, and want to continuously improve.

There is a shortage of experienced chefs in the UK (Pratten, 2003a; b), this is because people in the UK are less interested with culinary knowledge and skills (Baker et al., 1995) and because of the rationing during and after the Second World War which leaded to a shortage in culinary experience and ultimately a low reputation for British food (Pratten, 2003a; b). In addition, the severe nature of the chef profession (i.e. long hours work in a hot area; unsociable work hours; split shifts; violence in the work place; dissatisfied income, stress through the work; insufficient training, motivation and job satisfaction; burnout; long time of working and learning to be promoted as a head chef) represents a key reason for high turnover (Scott, 1998; Pratten, 2003a, b; Gibson and Gibson, 2007; Kang et al., 2010).

The findings of the interviews indicated that all respondents agreed that competent personnel represent a major issue to provide a consistent level of food quality. Also,
they all stressed that it is very difficult to find a well-qualified chef in Cardiff. Their responses varied and included, e.g. the nature of skills and knowledge requirements of the chef profession; the severe nature of chef profession; changes of the industry; high increase of restaurant businesses in Cardiff; financial and budget issues.

*It is very hard in Cardiff to find a good chef, because the industry is changed so much over the years, it is hard working profession with severe nature. Nowadays people would love a work in a shop and work Monday – Friday, 9 till 5 o'clock and then go out at night, they don't want work split shifts, they don't work weekends so that the majority of our staff are European.*

(R4)

*It is difficult to recruit a good chef, because you set a budget, you have certain amount of money that the can spend on the food production per a year for quality of chefs, and unfortunately chefs in Cardiff at the moment don’t demand any price at the moment because they know that there is a shortage in good quality chef (head chef).*

(R9)

Chef should have both technical and managerial skills. However, one respondent (R1) stressed only the technical skills of the chef:

*It is difficult to find a good chef, in the kitchen nobody can be chef. To be a chef, you need to have a passion for this job, you need to like food processing, you need to check flavour, colour and to be as an artist to play by spices to produce a tasty plate to get something like magic with food.*

(R1)

Since their job should exceed the technical skills as quoted by two respondents (R10 and R11):

*We don’t need to change our head chef, we just need to work with him to implement the systems we want to, his ability and his competency fairly can produce around standard but he needs to understand the management side of the chef, it is not just about cooking, it is lots about leading team, it is about the management, the systems you achieve.*

(R10)

*Executive chefs are moving almost from the stove to concentrate on the training manuals and much more academic things like menu planning...*
Due to the high increase in hospitality businesses including restaurants, recruiting and retaining employees in hospitality operations represent a big challenge, especially in restaurant operations (Kang et al., 2010). This echoed what has been indicated by R9:

...There was lack incorporated with chefs in Cardiff. This is because there are so many restaurants and bars all are conducted on all of the Cardiff and it is supply and demand problem really.

(R9)

To overcome the problem of shortage of qualified chefs, one respondent (R9) proposed to work hard on training young people to be a qualified chef, since he rejected the idea of tyrannical chef who is reluctant trainer and not willing to share his skills with other people:

It is not easy to find a qualified chef, but the answer is getting youngsters straight form schools and training them up. Yea, getting someone in your role, and then picking a knife and happy in a life in training them up, that’s the right success.

(R9)

On the other hand, one respondent (R3) indicated that they do not rely on young people in their hotel as it represents a key issue for high turnover:

In this company, we are afraid to employ new young employee because of turnover issues.

(R3)

This is consistent with the notion that the higher the percentage of younger staff in food production area, the higher proportion of employee turnover, since they are taking this job temporarily in the beginning of their career while they are studying or travelling and this affects the quality of food produced (Pratten, 2003b).

One respondent (R10) revealed that although they have a celebrity chef in their hotel which represents a competitive advantage, he declared that there is no communication
between him as an operations manager and the chef, since he feels difficulty with
dealing with the chef regarding food quality issues. This supports the idea that there is a
new trend towards the use of famous chefs in marketing hotel food service as a
competitive advantage (Bosselman, 2007). But this hotel also could be dominated by
his fancies, personality, and attitude, e.g. reluctant trainer (Rutherford and O’Fallon,
2007). Since one of the misconceptions about food service in hotels was hiring a good
chef and leaving the operation to him without focusing on the team approach in hotel
food and beverage operations to get consistent quality food (Lattin (1995) as quoted
below:

*Our executive chef is a famous member of Welsh culinary team. He has
awarded AA rosettes and has got lots of experience. He probably knows
what to do to reach those two rosettes, but the rest of his team wouldn't
know that. Nothing is written down to say this is what they must do to be
awarded these two rosettes......it is difficult to say I want to see that dish to
that quality......The chef could have a week off and the consistency of that
food completely could be different definitely.*

(R10)

One of the main issues to ensure a consistent level of quality food is through paying
attention to how can prospective employees correspond to the entire standard (Zilliacus,
1985). In respect of expectations to recruit new staff, a number of major findings have
been emerged from the interviews, e.g. respecting the entire standard; having ability and
adaptability to learn, good personality, and passion for food; being hard worker, team
worker, and good communicator; improving their jobs. These expectations differ
according to the level of job or post required.

In summary, competent personnel represents a key issue to consistently achieve quality
food products within hotel food production areas. Both technical and managerial skills
are important for a successful chef. The successful chef should share his experiences
and skills with his team in the kitchen. Communication is very important to share these skills. Chefs should work hard on writing down all things they do in the food production to ensure consistency.

Effective training

Marshall (1992 cited Barrows and Hobson, 1993:34) pointed out that: “if hospitality employees do not receive training emphasizing service, how can they be expected to provide it?” Similarly, I can say that if the staff in hotel food production area does not receive training emphasizing quality issues, how can they be expected to provide a quality food? In addition Hart and Casserly (1985) found that insufficient quality-related training represents one of the key factors leading to inconsistent food quality. Therefore it is important to give all employees in the hotel food production area sufficient training with a main focus on quality issues. Thus, personnel development through continuous training is an effective driver for achieving a consistent level of quality (Zilliacus, 1985; Mathews et al., 2001; Vrtiprah, 2001; Taormina, 2002; Bosselman, 2007).

High turnover is a big challenge facing hospitality businesses and retaining the same managers in an operation for a long time is difficult (Taylor, 2008b). Since paying attention to training provided to hotel employees and managers will lead to increase their satisfaction and reduce their turnover which in its turn reduce hotel costs and improve labour productivity, thus providing quality products (Poulston, 2008; Davidson et al., 2010; Gallardo et al., 2010).
Nobis (1993) stated that training is a significant aspect for food production staff, since they have to be aware of food quality and safety issues. Therefore practical training and managerial skills training should involve quality issues and conform to the mission statement of the catering company (Hawkes, 1992). Thus, training of chefs which focused only on developing culinary skills and techniques has been dated since now where culinary became a global art and food cultures varied, training should incorporate: knowledge of food science, food preparation, nutrition, cultural and artistic training alongside with cooking techniques and skills (Horng and Lee, 2009).

The findings of the interviews revealed that all respondents emphasized the importance of ongoing training for each member in food production staff to achieve consistency of food quality. Frequencies of training differs between respondents, e.g. when introducing new food items; when launching new procedures; daily; weekly; monthly; quarterly. The types of training was relatively similar as indicated by all respondents, e.g. induction training, health and safety; personal hygiene; on job training for new food items; chemical training; training related to equipment using. The respondents revealed that much of this training would be conducted in-house or outside; but it depends on the potential need from training. This is consistent with East (1993):

*Every member or who handles food goes through beginning health and safety training, basic food hygiene, basic health and safety, handling with equipment by the law, handling of chemicals (that is another training) so that is to do with the food. We provide training related to food quality for all staff, a lot of this training will do on the job so the head chef is walking around and see someone telling him how he can do it correctly. So, on job training will be every day plus all basic training previously mentioned.*

(R2)

*Food handlers are trained in food hygiene matters depends upon the type of work, since employees who handle high risk foods will need more training*
than those that handle low risk foods. Also all staff should receive training in the contents of Fresh Manual (our food safety guide manual).

(R9)

Obviously, we do training every day yea, and then I signed off the sheet to say this one has been trained. If a new dish comes in, all the chefs come around, they start the dish from scratch from when the goods come in, and they follow the dish right away through and everyone gets trained. If someone is not sure, they get training again on it to make sure they all know the way of new dish.

(R13)

In terms of training related to food quality, one respondent indicated that they give their staff in the kitchen training when they introduce a new menu:

All of the staff have been trained to produce quality food products. Every time they got new menu they got training for this menu, then all staff will taste the food so they know that they are selling to the customers. The chef will cook every course and tells everybody how it is cooked, how it looks like when it goes out, so every time with new menu they have the same training.

(R2)

Another issue was raised by R9 that they conduct level-one formal training for all staff (i.e. all chefs and kitchen assistants) who handle high risk food, since all staff should pass a recognized formal training course outside the hotel within the time scale planned (i.e. three months) and a higher level of that formal training (i.e. level two and three) to supervisory employees (i.e. head chef and sous chef) as a way of enhancing their practices within food production area. This is consistent with Coleman et al. (2000); Bolton et al. (2008); Tews and Tracy (2009) that providing formal training for catering employees will lead to improve their catering practices and increase their positive interactions.
On the other hand, one respondent (R10) declared that they just give general training for all staff, but there is no clear policy for the training related to food quality since it is much related to the experience of the chef:

_There is generic training within the hotel, so every employee is given the generic induction program, but individual skills training for chefs; there is nothing in this establishment that explains to the chef how to make julienne vegetables for example, that purely comes down from the experience of senior chefs to junior chefs. I have never seen a record of any training except obviously the mandatory training legislation, health and safety, risk assessments, all that is done, but when comes to food production; nothing documented._

(R5)

Considering if it is possible for food production employees to request any special training regarding food quality, nine out of thirteen responded positively and four responded negatively as they give them mandatory training:

_Usually, lots of the staff members can highlight that they need special training through their consistent monitoring of the standard. If somebody fails to keep through those standards, they will do train, Ongoing training is given to them, they discuss where the weaknesses are. Sometimes a problem is highlighted through a staff member, may be in over-promoted, not be able to do that position. In that way is then, more training could be offered or if new procedures are in place._

(R11)

Horng and Lee (2009) indicated that traditional mentors (i.e. qualified chefs) often keep specialized skills and knowledge (i.e. tricks of the trade), since they do not have the desire to convey these skills and knowledge to apprentices in hotel food production. This supports what has been reported by Zetie _et al._ (1994) stated that the tyrannical chef appears to be an experienced chef but a reluctant trainer as he concerned with developing his skills than sharing those skills with others. It is significant for chefs to not have this dominant role which is supposed to be dated (Rutherford and O’Fallon, 2007):
Our executive chef is a member of the Welsh culinary team, has got lots of experience and he probably knows what he needs to reach two rosettes award, but the rest of his team wouldn't know that......Nothing is written down to say this is what they must to do to get two rosettes. (R10)

Large hospitality operations prefer to train their employees inside their own school, since they feel unconfident with training conducted by public institutions like universities (Chapman and Lovell, 2006). Moreover, in-house training and education represents a key issue to improve the qualifications of hotel food production employees (Horng and Lee, 2009) and it should be checked for its effectiveness through tests and exams and should be remained in the company (Zilliacus, 1985). This is consistent with what has been reported by R3 that they have their own school to train their staff:

Staff also got opportunity to go to R3 University via a computer. They have to get number of staff and a password to log on. You got courses on that and it is worldwide but you got access form every single hotel. If you are normal user you can't log because you are not a member of Hilton Hotel. So every member of staff has to complete four courses a year. You can make cross-training in another department, it is quite difficult. Some courses are just for 6 hours, some are for three months. Because you have to log on, log off, recognize date, time, you have to achieve. What needs to be achieved, 80% to pass the course. If it under 80% you failed, you have to do it again. (R3)

Vocational training which involve practical food training is much more costly (Baker et al., 1995). Hospitality operations which complain of high costs associated with training, do not take into account that the cost of not conducting training exceeds the cost of conducting training, thus hospitality operations are extremely in need for structured training to improve their profitability through achieving consistency of quality products (Clements and Josiam, 1995). One of the key issues indicated by R9 that the cost of training is very expensive which affecting conducting the training. Therefore, this hotel should invest in training to increase their profitability while not
con ducting training will decrease their profitability. To overcome this problem, they
train out only their support team (two of their managers) who then train the rest of their
food production staff in the hotel.

Taylor and Taylor (2008) stated that both types of training, i.e. on-the-job and off-the-
job training which is given to employees and focusing on food safety and quality issues,
represent a core issue in kitchens. However, food service employees do not receive
enough training in respect of food safety and quality (Worsfold and Griffith, 2003; Green and Selman, 2005; Howells et al., 2008 cited York et al., 2009). There are
various reasons for ineffective training, e.g. Lack of: time, follow-up, incentives, and
management support through training (Taylor et al., 2005 cited Tews and Tracy, 2009).
This is matching what has been indicated by respondents that they just concentrate on
the on-job training for quality issue neglected the off-side one. Therefore, they have to
utilize both approaches to ensure a consistent level of food quality products.

Training (i.e. a college course in food hygiene and preparation) plays an important role
to obtain well-qualified chefs, since awareness of all details in food production leads to
provide a consistent level of food quality (Pratten, 2003 and Walker, 2008). This issue
was raised by most of respondents; since they emphasized to give their personnel
opportunities to get trained in colleges specialized in food production.

Conducting National Vocational Qualifications (NVQs) in hospitality operations
represent a fundamental aspect in training and operational performance (Hales et al.,
1996). Since it represents a key element of system compliance (Manning, 2000).
Therefore all respondents emphasized the importance of conduction this type of training to achieve a consistent level of quality foods. This is what has been indicated by R7:

> Well, every chef has done the NVQ stage one till three and kitchen porters and staff have done the NVQ one and two. What we do then is trying to train our kitchen staff about every 3-4 months for a fresh course.

(R7)

Cross-training is a method of cost reduction through using multi-tasks personnel (Bosselman, 2007) and a way of increasing employees’ job satisfaction (Gibson and Gibson, 2007). However, one respondent (R3) only addressed cross-training as a way for improve the skills of their food production staff and their job satisfaction:

> You can make cross-training in another department to get improved their skills.

(R3)

Cheng and Brown (1998) found that customers and employees’ feedback has been considered when developing training programmes in hotels, since these training programmes should include, e.g. quality issues and job-related skills as key components of the training. Respondents also reported that employees’ feedback represents a major issue taken into account when improving and updating training programmes besides current law, issue and trends related to food production:

> Training program would be updated every month because people would put some different ideas and make sure that all people attend that course because their company target to training and develop every staff member not just managers.

(R3)

In relation to the results from the management questionnaires and regarding training issues, it has been found that training involving quality issues in food production has an impact on the use of specifications list for all food items purchased. In addition, although ten out of thirteen respondents reported the need for special training for quality issues, no significant correlation has been found between that issue and the other issues
in the management questionnaires. This suggests that they still do not pay attention to that type of training.

Considering the results of the staff attitude questionnaires and concerning training issues, it was noticed the following:

- Training is critical to quality, since all staff should be trained. Effective training has an impact on: communication; follow-up; awareness of food production procedures; food temperatures monitoring through production processes; conformance of food presentation to its pictures in the menu; regularity of quality audits.

- Ensuring that all staff has been trained will lead to: effective training; accurate keeping training records for each staff member; good communication; effective follow-up for quality; awareness of food production procedures; conformance of food presentation to its pictures in the menu; regularity of quality audits. On the other hand, the results of staff questionnaires revealed also that the more that all staff to be trained, the more the staff training to be carried out mainly on the job. This suggests that staff paying attention and interest for the on-job training as a way of developing their qualifications. This conflicts with Taylor and Taylor (2008) that both types of training (i.e. on-the-job and off-the-job) are important for effective training for food production staff.

- Training which is carried out mainly on the job according to the results of staff attitude questionnaires, has negative correlations with the following issues: ensuring that all staff has been trained; keeping training records for each staff member; regular monitoring and recording of food and appliances temperatures
through food production steps; accurate keeping for food receipt, storage and issuing records; regularity of quality audits. This suggests although food production staff concentrates on on-the-job training, their responses indicated that this type of training only is not sufficient and effective to enhance their qualifications regarding food quality. Therefore approaching both types of training is effective way to satisfy their training needs.

In conclusion, effective and ongoing systematic approach of training addressing food quality issues has been recognized as one of the key issues by which hotel food operators achieve a consistent level of quality. Training should involve both types of training, i.e. on-the-job and off-the-job and could be conducted in-house or outside. Hotel chefs should share their experiences, skills and knowledge with their team in the kitchen. Hotel managers should ensure participation of their food production staff in training programmes. Keeping training records is an effective way to monitor the training. Training programmes should be improved and updated according to employees’ feedback and comments; current quality trends and issues. Cross-training is an effective way to reduce labour cost and increase employees’ satisfaction. The training cost appears to be like an investment which increases the profitability of hotels’ food sales.

Suitable work environment and equipment

The work environment whether physical (e.g. equipments; light; temperature) or managerial (e.g. communication; access to documentation), has a fundamental impact on the ability of employees to carry out tasks required of them (Manning, 2000).
The equipment which meets new technology represents a key component in the operation of the food production area to achieve consistent food quality (Bosselman, 2007; Ottenbacher and Harrington, 2009; Rodgers, 2010). There are modern appliances and equipment used to extend the shelf life of food products like appliances used in modern food production techniques such as cook-chill system, since it was found that this system is featured, e.g. by better planning of daily production, effective storage, and involving employees in product quality issues which in their turn lead to a consistent level of quality products (Rodgers, 2010). Therefore most hotel kitchens are equipped with blast chillers as a safe method of cooling hot food before storage (Adams, 2001).

The findings coming out from the interviews revealed all respondents emphasized the significant impact of good physical (e.g. light, ventilation, work space, equipment, and noise) environment on the delivery of a consistent level of food quality. A regular maintenance and follow-up for the effectiveness of these issues represent a key element to ensure consistent food quality. All respondents shed light on the importance of using modern equipment to ensure a consistent level of food quality, e.g. blast chilling and blast freezing:

*When it is cooked, and then blast freezing again to ensure that there is no problem with bacteria and whatever.*

(R2)

*We do cook-chill for some buffets, so obviously, say for (fragmented chickens), chickens come up to 75 C degrees, and they are going in the chillers, blast chillers, and they have to be chilled within 90 minutes.*

(R8)

*We have got blast chillers, obviously you know for sauces, soups and things like that, for mass production you can use it with blast chillers, cool it down, and freeze it.*

(R9)
Managers are responsible to provide food production staff with necessary tools in a convenient location in the kitchen to help the production of quality food (York et al., 2009). In terms of tools available, respondents revealed that it is very important to have specific tools to check the quality of food regularly and stressed using of these tools through food production steps, e.g. temperature probes to monitor food items through food production processes.

The finding coming out from the staff attitude questionnaires and in relation to monitoring food temperatures during food production steps indicated that monitoring food temperatures through production processes is an indicator for: staff commitment to quality, staff involvement in quality manuals development, effective training covering both on-job and off-job, keeping training records, effective communication, follow-up, clearly defined food production procedures.

In terms of managerial factors, Chuang et al. (2009) and Horng and Lee (2009) asserted creating of suitable workforce environment through organizational atmosphere as a major component affecting the job satisfaction of culinary staff. Organizational structure represents a key issue to evaluate the system used within the organization through a clear documentation for job description, hierarchy and procedures (Manning et al., 2006). Lack of clear structure and job description has been indicated by one respondent (R10) as a key barrier for ensuring a consistent level of food quality. The operations manager (R10) declared that the head chef did not report to him but he reported only to the general manager while he was supposed to report normally to the operations manager, so there is gap between the head chef and the operations manager.
in delivering information. This is because there was no clear job description which
supposed to be followed:

*Normally, the chef supposed to report to myself (operations manager) but it
is unusual here, this should be changed. Every operational department in
this hotel reports to me, e.g. service areas, housekeeping, front office, and
concierge. But the chef doesn't report to me. In terms of hierarchy, yes I
can work and say to head chef that I need that chef to do that, but these
chefs are not reporting to me.*

(R10)

It is important to encourage all employees to be involved in quality issues and
recognizing their contribution, feedback and suggestions regularly (Zilliacus, 1985;
MacVicar and Brown, 1994; Lashly, 1995; Yeates and Wakefield, 2004). For instance,
a small daily changing taste panel among kitchen personnel represents a key method to
achieve a consistent level of food quality (Zilliacus, 1985). Additionally, in food
production area, chefs and cooks should be given opportunities to express the creativity
in culinary art through experiencing craftsmanship skills to achieve professional
recognition and personal growth (Chuang et al., 2009). The main focus and concern
with creativity and innovation in culinary is the consistency of product quality
(Ottenbacher and Harrington, 2009). This result is also consistent with Kondo (2000)
who indicated that there was a wrong belief that consistency prevents the display of
creativity and innovation, since creativity and consistency are not incompatible but
mutually complementary and integrated:

*Sometimes kitchen employees achieve different standards in terms of not
producing photo manuals and things like that. I think because of the
passion is there and the pride of what kitchen personnel do, and although
the consistency is very good, but the nice thing is that they can change
things through creativity.*

(R5)

This is could be happening by adherence to system as a mandatory aim but with giving
people much freedom as possible but not absolute freedom, e.g. optional methods that
should be documented and written (Kondo, 2000). For instance, top management should engage chefs in major decision-making processes, like encouraging them to re-design menus with new food items and/or using their name to promote the dish (Chuang et al., 2009):

I am giving my chefs a little bit of freedom, so they can cook whatever they wanna cook.... it is the chef de-partie in the morning creates what he likes, that’s it, and he will do it, that’s his job in the morning.

(R8)

Additionally, kitchen staff should be given opportunities for job rotation and variety through cross-training (Gibson and Gibson, 2007). Since satisfied employees are able to sustain and provide a high quality product and service which in its turn has an impact on customer satisfaction and loyalty and profitability (Tews and Tracy, 2009).

The findings indicated by respondents revealed that they recognize their personnel feedback, comments and suggestion through conducting regular taste panels, since this action has a significant impact on employees’ job satisfaction as a way of employees’ involvement in quality issues.

Hotel managers should consider internal service quality issues to improve external service quality such as enhancing a good communication and collaboration, and helping to remove conflicts among hotel departments specially those are inter-linked (Brownell, 1995 and Bouranta et al., 2009) to ensure consistently quality product (Bosselman, 2007). Since there are key barriers for effective communication, e.g. loyalty to a particular department, reluctance to share information, thus a horizontal communication, team-working, and open-mindedness among peer managers is significant to ensure smooth operations and effective management (Brownell, 1995). In addition, Lattin
(1995) proposed that one of the misconceptions about food service in hotels was hiring a good chef and leaving the operation to him and stressed the importance of a team approach in hotel food and beverage operations to get consistent quality food.

Suitable work conditions and good communication play a fundamental role in achieving a consistent level of quality through staff consistent high performance (Vrtiprah, 2001 and Pallet et al., 2003). Thus, lack of effective communication between peers represents one of the main barriers to achieve a consistent level of food quality. This is what has been indicated by one respondent (R10) that there is a gap between him and the head chef in terms of communication. He revealed that although they have a celebrity chef in their hotel which represents a competitive advantage, there is no communication between him as an operations manager and that chef, since he feels difficulty with dealing with that chef regarding food quality issues:

*Our executive chef is a famous …… it is difficult to say I want to see that dish to that quality….. The chef could have a week off and the consistency of that food completely could be different definitely.*

(R10)

In addition, I noticed that there is a gap as well between R3 (F&B manager) and the executive chef of that hotel. Since the interview has been conducted with the F&B manager as responsible for quality issues related to food produced in the hotel, and when asking regarding distributing the staff attitude questionnaires over food production staff, he advised me to meet the executive chef to help me in that matter. Surprisingly, when I met the executive chef, he was very upset that I met the F&B manager relating to food quality issues and he refused to help me at all to distribute the questionnaires. This suggests that loyalty to a particular department and a reluctance to share information represent key barriers for effective communication (Brownell, 1995).
Therefore managers of different departments in hotels should work on that issue to overcome the barriers of effective communication and they should work as part of team not as independent departments. This is also consistent with Lattin (1995) that chefs should work with other departments in the hotel as a member of team not as an independent to achieve quality food products.

Another issue which represents one of the managerial factors of suitable environment is accessing the documentation and information required to carry out tasks (Manning, 2000). This issue has been addressed in the interviews in relation to accessibility of standard recipes for all staff members. Almost all respondents (ten out of thirteen) responded positively that they have standard recipes easily accessible for all staff to be used during food production and they revealed that these recipes should be controlled and maintained to use as guide for cooking and preparation directions. This action will in turn affect the ability of kitchen staff to carry out their work effectively and achieve a consistent level of food quality.

According to the findings coming out of the interviews that relate to involving employees and recognizing their feedback when developing quality manuals, relatively nine out of thirteen respondents confirmed this action, since they indicated that their head chef represents one of the people in charge for developing quality manuals in line with the head office if they are a chain hotel:

*Our spec manual is coming from the head office through sharing all chefs, all the chefs present their dishes and the head office took the bank as dishes broken down and then produces a bank of dishes of like of 150 to 160 dishes.*

(R13)
Considering the results coming out from the management questionnaires and relating to the frequency of involving employees in developing quality manuals, it has been declared that nine out of thirteen respondents involve their employees very often and often and four involving them sometimes. Also it has been found that there is no any significance correlation between this issue and the other quality issues illustrated in the questionnaire. This suggests that managers although they agree to involve all staff in developing quality manuals, this is not actually done in most of hotels studied.

Relating to the findings coming out from the staff attitude questionnaires, it has been noticed that sharing staff in developing quality manuals has an impact on: staff commitment to quality; keeping training records for all staff; monitoring food temperatures through all production stages; keeping accurate records of received, stored and issued items; food appearance conformance to pictures on the menu; availability of standard presentation for all food items; involving staff in conducting quality audits.

With regard to communication as a critical issue for quality, the findings of staff attitude questionnaires indicated that effective communication between staff in the food production area has a significant impact on: staff commitment to quality; training issues; follow-up; clarification of food production procedures to all staff; monitoring and recording food and appliances temperatures; keeping accurate records for received, stored and issued food; conformance of food appearance with pictures on menu; availability of standard presentation for all food dishes; conducting regular quality audits.
In terms of involving each month a different member of staff to conduct quality audits, the outcomes from the staff attitude questionnaires emphasized the importance of this action as it has an impact on: sharing staff in developing quality manuals; regular monitoring of food temperatures during food production steps; matching food appearance with its picture on the menu; availability of standard presentation for food items produced; conducting regular quality audits.

To conclude, suitable physical and managerial work environment represent a key driver to achieve a consistent level of food quality during food production steps. Physical work environment includes, e.g. modern equipment; light; ventilation; suitable work space should be available to help kitchen personnel carrying out their job effectively. In addition, managerial work environment factors have their impacts on achieving consistent quality food. The key issues which affecting staff behavior are: effective communication, clear job description (clear structure), employees’ involvement and accessibility of documentation. All of these factors (physical and managerial) should be improved to get consistency of the quality of food produced.

5.4 System documentation:

Rose (2001) emphasized the great significance of quality system documentation which can be used as a reference for quality system and for training purposes. Additionally, it can save time and cost for production staff to ensure consistent food quality (Pham and Setchi, 2001). Inability or unwillingness of written, documented and maintained
operational standards represents one of the key reasons for restaurant business failure (Parsa et al., 2005).

5.4.1 Managing and preparing QMS documents

Quality management systems documents include: quality manuals, quality control procedures and work instructions (East, 1993). Managing these documents involves developing them and ensuring that they reflect and respect what has been actually done and how it can be done (ISO 9001, 2008 cited (ISO 9001, 2008 cited Praxiom Research Group, 2009e).

The findings coming out from interviews revealed that relatively all respondents emphasized the importance of the existence of quality documents (e.g. quality manuals, training manuals, food production procedures, cleaning schedules and procedures and legislations) that are in place and easily-accessible to all staff to help achieving a consistent level of food quality. All chain hotels shed light on the consistency of these manuals within the same chain as they are prepared by their head office.

In terms of clearly-identified and documented food production steps procedures (e.g. purchasing, receiving, and storing), all respondent shed light on these documents as a major requirement to achieve consistent quality food:

*Yes we got all of these procedures documented, for example in storage process everything when arrived it has to be checked, logged, temperature checked when it arrives, make sure refrigerators, freezers is working properly, they are trained well how all stores stock, the old delivery put in front, the new delivery put in back (rotation, FIFO) and everything is documented.*  

(R4)
Considering mission statement as a key part of the quality manual, relatively all respondents (ten out of thirteen) have got written mission testaments and they are part of their quality manual, since quality is an explicit part of that mission statement:

\[ I \text{ would say no food leaves the kitchen unchecked and all food must be seasonal and safe to eat, that is very much recap on it. } \]

(R8)

In terms of quality manuals and their contents, they were relatively similar as indicated by all respondents, since they include, e.g. risk assessment procedures, food production procedures, mission statements, recipes manuals, specifications manuals. It has been found from their responses that much these manuals are related to ensuring HACCP and food safety issues through food production processes:

\[ \text{We have got manuals for every step in the food production, the delivery, how it is stored, how it's cooked, how it is presented, how it's served, each step clearly defined to all staff.} \]

(R4)

\[ \text{We have got as a “Fresh Manual” and it is quality control manual that tells us, how to control food production, how it’s done safely, and things like that, and then you have got a spec manual, which tells you exactly how all dishes should look, how you cook them, the ingredients to go in it, the portion size, etc. The staff in the kitchen have two manuals are running alongside each other.} \]

(R9)

Additionally, when approached the Fresh Manual of R9 which is their quality control manual I found that it includes: HACCP and food safety practices through food production processes detailing all control measures, cleaning schedules and daily roles for every section in the kitchen, personal hygiene, temperature monitoring for food and appliances, staff training plans, and corrective action procedures. These suggest that the quality manual includes most, if not all, QMS documents. So when we say QMS manuals it means QMS documents. This conflicts with East (1993) and Vrtiprah (2001)
that a quality manual that is satisfying the standard requirement is a part of QMS documents.

Another issue was raised by R11 that although they are chain hotels and their quality manuals should be the same, the head chef of that hotel indicated that their quality manuals were slightly changed according to the market place of each city or hotel to achieve effective quality manuals:

*We have a quality manual which is supplied by the company and because we are Cardiff, then we have got specific steps even pictures of the company standards. Sometimes they (the head office) will develop it through our market place, you know because they have done in London, in Ireland, in Birmingham, so they develop things with our market place as well, but any dish they create and cook, is in the manual.*

(R9)

In terms of the recipe manuals, ten out of thirteen respondents emphasized the significance of the existence of written recipes to achieve a consistent level of food quality; however some of them declared that they do not have written recipes for every single item produced in the food production area. They indicated that quality would not be the same but there will be much more flexibility.

In the case of existence of informal system, Manning (2000) stressed its documentation (i.e. say what you do then write it down) clearly and accurately. Since Oakland (2003) stated to ensure consistency, the chef should write down in some detail the system he used. This is actually what has been suggested by one respondent (R11) to overcome the problem of not having standard recipe manual for some food items produced in the food production area:

*.....for instance, if we introduce a new chicken, we will do it, then we draw up the recipe to know how we gonna do it in the next time when we sort the*
menu. That’s the manner which we are going to say what we do then write it to ensure the same dish regularly……So something, or most of our dishes are standardized, and if it is not, we write them up.

(R11)

On the other hand, three respondents (R5, R10, and R12) did not have recipe manuals for their food. Since they revealed that they just are reliant on individuals in the kitchen not the recipe manuals to produce the food and their menus are changed frequently to the extent that they cannot write down every single thing. This supports what has been found by Taylor and Taylor (2008) that most of people in hospitality operations used to keep knowledge and skills in their memory, since they used to think creatively without writing down all what they do (Taylor and Taylor, 2008). This suggests that there is much more reliance on individuals rather than on a documented system which will in its turn lead to inconsistent level of quality food products:

Because our ala carte menu is changed seasonally, it is changed 3-4 times a year, our TDH (table d’hôte menu) and our Specials changed daily so that require lot more work if we want them standardized and put those things on to a manual……you wouldn't find a written document to that..... There is no any system in place to ensure the consistency of the quality of food here.

(R10)

In addition, one respondent (R5) of them stated that it is a big challenge to have written recipes for all food produced as people in the kitchen have got passion for the food and its cooking not for writing recipes. He also reported that they could do the recipe manual if they open another hotel:

In terms of a recipe manual or presentation manual, they don't have those..... If the head chef had left us, that would be the issue. The quality it is very dependent on our team in the kitchen, they probably know how to cook the food because they do it for years.....You imagine the amount of work, every time he would change the menu....The chef now would have about 20 manuals for all the menus, it is not just the bar menu, it is the all restaurant menu, banqueting menu, room service, all of these menus are influenced, affected, and changed seasonally. So when they change their menus, it is a challenge to introduce new recipe manual every time. I think
the head chef would be an office manager rather than a head chef, and he loves his cooking, it is all about cooking to him.....If the owner is opening up his second hotel, we probably will sit down with the head chef and would make our menus to make sure that the next hotel conforms to these standard recipes. But because we are only one hotel, the head chef does not have standard manuals.

(R5)

The results emerged in the management questionnaires that relate to referring to quality manuals in terms of its correlation with other items in the questionnaire reported that:

- The more referring to quality manuals, the more such quality manuals achieve a consistent level of quality. This suggests that regular referring and using food such manuals lead to that these manuals are effective and achieve a consistent level of food quality;
- The more referring to quality manuals, the more staff to use standard recipes when producing food. This means that quality manuals should stress the regular usage of standard recipes during food production;
- The more referring to quality manuals, the more reviewing standard recipes. This illustrates that reviewing standard recipes is a major part of quality manuals;
- The more referring to quality manuals, the more conformance of food appearance with its picture on the menu. This proposes that quality manuals should stress a consistent appearance for food produced.

The findings of staff attitude questionnaires that relate to the availability of clearly-defined and documented food production procedures to all staff indicated that they have impact on the following:
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- Staff commitment to quality. This suggests that when food production procedures are documented the staff commitment to quality will be increased;

- Training and its running and to all staff. Since clarification of these procedures should be part of quality training;

- Keeping training records for each member of staff. This means that documenting these procedures and using them in training programs will keep training records for each staff member;

- Communication as a critical issue for quality. Since these documented procedures will increase the effective communications between kitchen staff and between head departments as well;

- Follow-up as a critical issue for quality. This means that the identification and documentation of such procedures represent a way of follow up to quality;

- Regular monitoring and recording for food and appliances temperatures. This suggests that identifying and documenting such procedures involving keeping regular monitoring for food and appliances temperatures;

- Keeping accurate records for received, stored and issued items as a key part of such documented procedures;

- The conformance of food appearance to its pictures on the menu. This suggests that documenting such procedures will lead to conforming food appearance with its pictures on the menu;

- Undertaking a regular quality audit. This means that documenting such procedures leads to undertaking regular quality audits as part of such procedures.
To conclude, managing and preparing quality manuals and documents represent an effective way to achieve a consistent level of food quality through food production processes. This documentation should be developed in an effective way, i.e. minimum effort for maximum utility through ensuring less paperwork, e.g. documenting quality issues for a similar group of dishes rather than each dish separately (Tailor, 2008b and Taylor and Taylor, 2008). In addition we have to appreciate what chefs correctly did to encourage them write down every single thing they do in the kitchen. This is consistent with Taylor and Taylor (2008) that chefs appreciate whoever asking them to write down what they did right rather than what they wrongly did. Since recognizing their work by management and customers will give them the pride and satisfaction of their work (Chuang et al., 2009). Therefore we need to focus on documenting every single issue related to the quality of food in food production area through saying what the chefs do and then writing it down (Manning, 2000) to achieve the consistency of the food quality.

5.4.2 Controlling QMS documents

The control of such quality documents might include: quality manuals approving and reviewing; availability and accessibility of quality manuals in all locations; removing quality manuals which are no longer in use; maintaining quality manuals in properly and orderly way (Manning, 2000 and Oakland, 2003).

The results of the interviews relating to approving the quality manuals revealed that relatively most of hotels involve their head chefs in developing and approving their
quality manuals in line with the head office if they are chain or group of hotels. Such approving represents a key component of controlling these quality manuals. In addition, all respondents stressed the availability and accessibility of these quality documents to all staff to be aware of the quality issues to achieve a consistent level of food products. For instance ten out of thirteen respondents declared the existent of recipe manuals for most of their items produced and these manuals are easily-accessible to all staff within the food production area.

To ensure the efficacy of such quality documents, the results of interview reported that most of respondents (ten out of thirteen) confirmed the efficacy of their quality documents to help them achieve a consistent level of food quality. They reported several ways of ensuring their efficacy has been through: seeing revenues and guest satisfaction; attaining regular customers; undertaking quality audit by outside people; making sure they are up to date; their actual applicability; conforming to legislation; following up food allegation by customers; supervision; ongoing training; following food specifications:

_We ensure the efficacy of such quality documents through auditing by outside company and we got B for it. This company called Food Alert, specified in health and safety, food hygiene. Also, by making sure that they are up to date, and when auditing if there is a problem they will rectify them._

(R2)

_They are more effective through ongoing training with the staff….The only way to ensure a consistent level of quality with quality documents is through training with everybody._

(R11)

In addition, respondents indicated updating these quality documents and ensuring that the new version is in place and the old one has been removed represent key issues to
ensure effective controlling for such quality manuals. They update them for various reasons, e.g. when introducing new menu, and when launching new legislation:

\[\text{We change them when we change the product, you can't manage the same risk assessment with different products. Each three months we change the menu and it means you need to be up to date with all the legislation with all the dishes in the new menus. Headquarter of the company and the food and beverage committee are in charge for all the new legislation to be up to date.}\]

(R2)

\[\text{These manuals are up to date and checked every six months by the head office.}\]

(R3)

In terms of the results of management questionnaires that relate to quality manuals to achieve a consistent level of quality, it has been noticed:

- The more quality manuals to achieve a consistent level of food quality, the more referring to quality manuals. This means that keeping regular referring to quality manuals will achieve a consistent level of quality;

- The more quality manuals to achieve a consistent level of food quality, the more conformance of food appearance with its picture on the menu. This suggests conformance of food appearance with its picture on the menu ensures that such quality manuals achieve a consistent level of food quality.

In summary, controlling QMS documents represent a key issue to ensure a consistent level of food quality through an integrated quality management system. All quality documents should be controlled to make sure that the new version of such documents are in place and easily accessible to all staff within the food production area. Also it is important to approve these quality documents to be more respected by all staff.
(Vrtriprah, 2001). In addition a full detail of their number of pages, issue date should be identified to ensure effective control of such quality documents (Manning, 2000).

5.5 System implementation based on input-process-output model of food production steps:

Operations management represents the process of converting resources into products or services (Edwards and Ingram, 1995). Food production is an operational system which could be effectively managed through the application of a systems approach and in particular adopting an input-process-output approach (Cousins et al., 2002). Using food production system contributes to consistency of food quality (Rodgers, 2005a). According to Cousins et al. (2002) food production systems can adopt either of two distinct approaches: The first approach concentrates on the specific processes within the food production (i.e. the way of preparing, cooking, storing the food) or the second approach which involves the product approach that is based on the type of dish being prepared. The focus in this study is on the first approach which concentrates on the process approach.

When respondents have been asked about quality control practices during food production steps, they gave several responses. The majority of respondents declared that these practices encompassed quality checks with delivery, temperature, weight, correct storage, proper cooking and portion control, and food presentation.
One of the respondents asserted that quality control practices have to be conducted on a daily basis, and quality has to be checked during three phases: after delivery, during production and through presenting food on buffets. In addition, another one assured the use of Standard Operating Procedures (SOP) as the bible which comes from the head office.

5.5.1 **Input (Purchasing; Receiving; Storing; Issuing)**

Out of the respondents focused on the *input* phase there was one emphasized the importance of designating well-qualified people to check all deliveries. In addition another respondent focused on the relationship with suppliers who had good standards. Another respondent added that they used specifications for the food they purchase. Furthermore one respondent (R13) said that the quality strategy was "*like food safety*" and everything purchased has to be checked and signed off. Key comments relating to input were supplier issues, designating well-qualified people for deliveries, the use of specifications for food purchases, and the relationship with suppliers.

**Purchasing**

Selecting the right supplier represents the most significant requirement to provide constant quality food products (Lattin, 1985 and Riegel and Reid, 1988). Keeping good relationship with suppliers represents a key issue for providing a consistent level of quality food (Ottenbacher and Harrington, 2009). Of a great importance is to have a specification list for each single food item which will be used in the hotel food production to ensure a consistent level of food quality (Zilliacus, 1985; Kotas and
Jayawardena, 1994; Dittmer and Griffith, 1997; Walker, 2008). In addition, Zilliacus (1985) stressed the effective relationship between specifications list and recipes to ensure consistency of quality food products; since recipes should take into account the specifications of items will be purchased. He further added that changes in ingredients should not be made unless the quality of product will be the same or improved, otherwise the recipe should be changed completely.

The best practice in relation to purchasing involves buying the right items from the right supplier for the right price and in the right amount (Lattin, 1985). Effective purchasing should consider the following issues: the property's financial goal; the amount of food required to prevent under and over stocking; the preparation and presentation of the food; customer expectation of the food operations (Lattin, 1995).

69% of the hotels (9 out of 13) in this study used a specification list for their purchases and they emphasized the importance of these specifications as tool for ensuring consistent food quality, since if they do not have standard purchase specifications they cannot ensure the consistency of their food provided in the hotels’ food operations. Another issue was raised was the importance of selecting particular suppliers and always dealing with these specified suppliers for all hotels in the same chain, since they confirmed that this matter represents an important issue. This supports what has been recommended by Zilliacus (1985) and Rose (2001) that keeping a list of nominated suppliers for every product with the same quality standards represent a key issue for ensuring consistently quality food products:
I think that the main issue is the supplier to get right relationship with your suppliers to make sure that they give you the consistent standard that you demand.

(R5)

In relation to the results revealed from analyzing the management questionnaires distributed over the 13 respondents interviewed, it was found the following issues:

- The more involved quality issues are in food production staff training, the more uses made of a specification list for all items purchased. This suggests that using specifications list represents one of the quality issues involved in training.

- The more use of standard recipes when producing food items, the more use made of a specification list for all food items purchased. This means using specification list for purchased food considered an important pre-requisite for the use of standard recipes to achieve a consistent level of quality.

- The more reviewing of standard recipes, the more use is made of a specification list for all items purchased. This suggests that reviewing standard recipes should consider using specification list for all ingredients in these recipes.

Additionally there are some respondents who (R5, R7 and R8) stressed the purchasing of local produce ingredients as a key element for delivering quality food and also as a key attraction for customers. This echoed with Telfer and Wall (2000); Riley (2005); Siguaw and Enz (2007) that local foods produce in hotels represents a part of tourism attraction and marketing, it is featured by a stable and consistent supply. In addition, Esteves et al. (2005) emphasized the importance of using local food produce in hotel operations as it leads to cheaper products and contributes to a sustainable economy by allowing farmers keep producing and offering job opportunities to local people:
We are using local suppliers as much as possible, so we use local fish supplier, e.g. Welsh products meat suppliers...
(R5)

They are part of a local suppliers, local pastry, local meat, and local food.
(R8)

Moreover, it has been found one respondent (R4) most of their food items, if not all, are convenience food and when asked the food and beverage the reason for that, he responded that the main reason is to provide food with a consistent level of quality. This is consistent with Minor and Cichy (1984); Bosselman (1995); Shiring et al. (2001); Amjadi and Hussain (2005); Bosselman (2007) that the main advantage of convenience food (e.g. proportioned meat; cut fruit and vegetables; prepared sauces) is achieving consistent quality. Since these products do not need skillful people, thus it is easier to standardize with them (Minor and Cichy, 1984 and Baker et al., 1995).

Respondents who has been found not using a specification list for their food items declared that it is quicker for them to order what they want from suppliers verbally, but these situation will affect directly the consistency of their food quality offered since there is no written specifications for the food items used in production.

In conclusion, the following issues were raised by the respondents in terms of purchasing phase:

- Using a specification list for all food items represents an effective tool to ensure a constant level of food quality through all hotels within the same chain.
- It is important to deal with the same supplier who is nominated and specified by the head office of the hotel.
• It is not allowed to use new items within the menu except if there is permission from the head office. This is consistent with Vrtiprah (2001) that the existence of formal system within organization meets a good respect from departments’ heads since they cannot change their operation standard unless these changes have been documented and approved.

• When developing the menu it is significant to take into account the seasonality and availability of food items with suppliers. This conforms to what has been stated by Edwards (2004) that food availability and seasonality has to be recognized when planning menus. Additionally, Ottenbacher and Harrington (2009) indicated that it is important to take into account various aspects when developing new items, e.g. employees’ suggestions; customers’ feedback; brainstorming workshops with management team as quoted in the following:

  We change our menu seasonally. So in the autumn, we have all game products since you can get pigeon or things like that. In a summer, time we are trying to concentrate on fresh strawberries and all things are in season and we change our menus at least 4-6 times a year, so we are quite different in that, we are not expected to serve the same menu, since we change them according to the freshness, and availability of items in season.

  (R5)

• It is important to determine the policy with suppliers when there are some items are not coincided with the specification list.

• It is significant to have clear instructions about delivery volume and schedules (Zilliacus, 1985).

According to the results coming out from the management questionnaires, it has been found in many operations that although they use a specification list for all food items purchased they don’t see quality manuals as the way to achieve it. In addition, using a
specifications list for all items purchased represents one of the quality issues associated in training and an important pre-requisite for using and reviewing standard recipes to achieve a consistent level of quality.

Receiving

Receiving is a key issue in the quality control of the catering operation (Walker, 2006). Therefore it is important to ensure that what has been delivered is matching with what has been ordered (Chon and Sparrowe, 2000) in addition with the quality and the price agreed in advance (Dittmer and Griffin, 1997). According to Lattin (1995) the receiving areas should be equipped with various tools, e.g. adequate floor scale and a small table scale. Additionally, all food items received should be written up on a receiving clerk’s daily report (Lattin, 1995).

Receiving staff should investigate the delivery against its in-house purchase order, delivery invoice, and standard produce specifications (Chon and Sparrowe, 2000). The receiving clerk should quickly move all items to their proper storage areas for two key reasons: reducing product losses in quality and protecting them from theft (Lattin, 1985).

In terms of receiving procedures, responses of the interviews were varied but generally confirmed that twelve out of thirteen respondents have clearly-defined receiving procedures in place and available to all staff. They indicated that the receiving area has been well-equipped with scales, probes, etc. Receiving procedures involve, for example: checking the vans; checking delivery with specification list; probing temperatures;
weighing; decanting; checking shelf life, labels and dates; ensuring that all products are in good quality and signed off before storing.

In terms of designating special personnel for delivery, eight respondents indicated that they had designated chefs or porters to conduct receiving and storing. They are working under the management and follow-up of the head chef. On the other hand, five respondents (R1, R6, R10, R11, and R12) although they prefer to assign people to carry out receiving tasks, they did not have designated persons for this type of work for some reasons, e.g. the structure of the company did not allow to hire special people to conduct this job.

Additionally, respondents indicated that if the quality of any food received was not matching with what has been ordered, they would have to return the food back to the supplier and if this problem occurred many times they would inform the director of purchasing and the head office to stop dealing with that supplier.

In terms of the time and frequencies of delivery, respondents indicated that there was a determined time for delivery i.e. at early morning and most of them said that it was three days a week and they chose those days with low occupancy in the week. This supported the notion that clear instructions about delivery volume and schedules should be available for an effective receiving to ensure a consistent level of food quality (Zilliacus, 1985). Most of respondents confirmed that all receiving documentation is well-kept since they complete it on a weekly basis and sign off the invoices daily.
According to the results coming out from the management questionnaires, it has been found that in many operations in many operations although they keep accurate records of received, stored and issued food items they do not see that quality manuals are the way to achieve this.

Considering the results coming from a non-participant observation in the only hotel (R9) relating to receiving practices, it has been noticed that there is a designated person for receiving food stuffs in the days of delivery which were three days a week and the rest of the week this person is working in the dishwashing and cleanliness in the food production area. The receiving area was very small and was not equipped very well with different tools to check the quality of the food received. In addition it has been noticed that the receiving area was not clean or organized.

Concerning the availability of specification list for all items purchased it has been observed that there was no detailed specification list for food received and there was only the order sheet with the name and amount of the requested food. Additionally it has been noticed that all the received food sealed and packed appropriately but the person who received has not taken any temperature probe.

To conclude there are key issues relating to receipt procedures, e.g. availability and accessibility of receiving procedures, designating qualified people to accomplish this role, determining a limited time for delivery, reducing the amount of delivery, reducing the time between receipt and storage, ensuring stock rotation, and maintaining documentation for receipt, storage and issuing procedures of all food items.
Storing

Well-defined accurate storing procedures need to be clearly specified (Nobis, 1993) to reduce the probability of theft, spoilage and waste for food items (Chon and Sparrowe, 2000). Additionally, Knowles (1998) revealed that food storage was mainly targeted to ensure a sufficient supply of food for the immediate needs regularly. Dittmer and Griffin (1997) suggested the following key objectives for storage procedures:

1. Ensuring the security of purchased materials;
2. Preserving the quality of those materials;
3. Providing ready access to available materials;
4. Facilitating the determination of quantities on hand.

The entire storage area should have only one entrance; be protected with locks; be clean and properly lighted; not allowed for unauthorized personnel to enter the storeroom at all times; merchandise should be stored off the floor; unpacked merchandise of shelves should be kept to a minimum, the food and beverage storeroom should be inspected every day by the food and beverage manager, the chef, or the general manager (Lattin, 1995). According to Dittmer and Griffin (1997) all purchases were basically stored in one of the three following places:

1. Food or beverage items that can be stored at room temperature should be placed in dry storage areas;
2. Those items that require chilling should be placed in refrigerators; and
3. Frozen foods should be stored in freezers.
The findings of interviews revealed that respondents confirmed that storage procedures are in place and accessible to all staff for all types of storage whether in freezer, refrigerator or dry storage. In addition, the time between receiving and storage should be short to not affect negatively the quality of the food and stock rotation should be followed. They also emphasized the importance of stock rotation, i.e. use by dates which apply for high risk food (e.g. meat and dairy products) and best before dates that apply to low risk foods (e.g. rice and flour) to ensure a consistent level of quality food in line with compliance with the law and legislations:

_As soon as the product comes in, it is counted straight away, must put in freezers, it is rotated that the back for the new delivery and the front for the old delivery, so we keep the stock up to date._

(R6)

Respondents then were asked if there are designated people for storage. Eight respondents replied positively and they had designated chefs or porters to conduct receiving and storing. On the other hand, five respondents (R1, R6, R10, R11, and R12) declared that they did not have designated persons for storing for the same reason as in receiving.

Respondents were then asked whether documentations related to storage were well-maintained. Most of responses confirmed that all documentation is well-kept since they fill it in on a weekly basis and sign off the invoices daily. Interestingly, two respondents (R6 and R8) added that they did not purchase huge amount of products to ensure the quality of the food items received and to save space and ensure the consistent quality of food:
...but to be honest, we order stock every other day so we don’t keep lot of stock because we use it. Deliveries come on Monday, Wednesday, and Friday, so the standard is very high, we don’t keep lots of stock in the store.

(R6)

...It is six days a week deliveries in here, and it keeps low level stock. So everything fresh every day consistently; we got fresh vegetables, meat, and fish six days a week.

(R8)

In addition, it has been noticed from the non-participant observation which has been conducted in hotel (R9) that the storage area was very small and not equipped with appropriate tools. All frozen and chilled food stuffs were stored immediately, but dry food has been put on the trolley and left in the food production area for long time without moving it to the storeroom. According to Zilliacus (1985) to achieve a consistent level of quality products, it is recommended to have a little storage space than too much to take stock often. But it is not too little to the extent that some food stuff left long time in the kitchen because of the small space of the storeroom, since this will affect the quality of food stuffs.

In terms of frozen food, most of them were stored with its package and has not been unpacked. Surprisingly, it was found that there were boxes have been stored on the floor in the freezer room, and all shelves were very close to the walls in the freezer room. No log book has been kept closer to the freezer room to monitor the temperature of the freezer regularly.

In the refrigerator room, it has been observed that there were some food items have been kept unwrapped with no label or day dot. The food stored inappropriately since there were cooked food stored closer to raw food. In the dry storage area, it has been noticed
that it is very small so some of the dry storage ingredients were stored on the trolley in the kitchen area for long time which might be susceptible to be damaged. In addition, the shelves in the dry storage were very close to the walls and there were some boxes were put on the floor in the dry storage area and it has been noticed that the dry storage area has not been ventilated appropriately and the ceiling was found damaged which will affect directly on the quality of food items stored.

To conclude, it is important to store food properly to ensure a consistent level of food quality. Clearly-defined storage procedures should be in place for all staff in the food production areas. Storage should be connected to the menu and production planning. Stock rotation and keeping low levels of stock ensure the consistency of quality food products.

Issuing

In respect to issuing, food items should only be issued from the specified storeroom with a properly authorised requisition (Lattin, 1985) for the authorized personnel in the correct quantities (Dittmer and Griffin, 1997) at a specific times during the day (Knowles, 1998) to control the flow of inventory, identify the expenses and revenues of food produced and analyse food sales (Chon and Sparrowe, 2000). In addition, clearly specified instructions for stock rotation, and distribution system alongside with a safety warning for slow moving items should be available (Nobis, 1993).

In terms of issuing almost all respondents indicated that they did not have designated people for issuing from food storerooms, so all staff could enter the storage area and
take whatever they want for food production and based on that there were no requisitions for what had been issued. Some respondents commented on that as follows:

*Once the food is issued for the kitchen, we take it without requisition, but we do require requisitions for food leaving the kitchen such as lemons for the bar or fruits.*

*(R2)*

*Any chef can go and get what he wants from freezer, refrigerator, or dry stores. There is no requisition for what has been issued. It is longer to have store man to issue food with requisitions, and in this country only few hotels have that store man downstairs to issue stock. Because CCTV all around in the building, we know that no stock leaves the building.*

*(R4)*

*No, we do not use requisitions; we only use requisitions if we issue foods from kitchen to bar.*

*(R11)*

The results coming from interviews indicated that all respondents did not care about the control of issuing phase within the food production processes although literature review ascertain the importance of this step in food production processes to ensure the consistency level of food quality. Therefore the responsible of food quality in hotels should take into account this step as a critical issue.

### 5.5.2 Process (Preparation; Cooking; Holding; Regeneration)

The key theme relating to process phase was the importance of the quality strategy in ensuring legislative compliance and in defining standard operating procedures.
According to Chon and Sparrowe (2000) food items could often be cleaned, processed, mixed, seasoned, and otherwise worked before the actual meal period begins. They further added that the preparation step involved variety of tasks, e.g. cleaning, peeling and chopping vegetables; thawing frozen meat and trimming it; adding liquid to dehydrated items; simmering broth; or making salad dressing. To ensure consistency of the quality of food, Minor and Cichy (1984) and Zilliacus (1985) recommended the planning and following-up of a daily production. In addition, Bosselman (1995) proposed that all food items should be prepared in a central commissary in the hotel and then distributed to all food outlets in the same hotel or to all hotels in the same chain.

A written standard recipe for every single item in the menu represents an effective way of ensuring consistent high quality controlled items (Nobis, 1993; Dittmer and Griffin, 1997; Chon and Sparrowe, 2000; Shiring et al., 2001; Hayes and Ninemeier, 2006). In addition, Amjadi and Hussain (2005) emphasized the importance of a written standardized recipe as a tool of communication between employees which would give them full description of providing a consistent quality food within the food production area and as a way of cutting training costs through following all the instructions stated in the recipe. There are several aspects should be taken into account when changing the procedures of the recipe, e.g. the facilities, ability of staff, type and concept of operation, type of service, food presentation, available equipment, purchasing strategy and the work flow (Amjadi and Hussain, 2005). Thus, a highly detailed recipe with a focus on quality issues is a critical issue (Taylor and Taylor, 2008).
All respondents emphasized the importance of preparation stage to obtain a final product with a consistent level of quality. They reported various control points to be followed in preparation, e.g. preparing food as close as the time of consumption, avoiding cross contamination by separating raw and cooked food areas using different tools for each.

Ten respondents out of thirteen confirmed that standard recipes play a significant role in producing a consistent quality food. This supports the notion of Oakland (2003) to ensure consistency the chef should make sure using the same ingredients, the same equipment and the same methods exactly every time through standard recipes. Seven out of that 10 hotels indicated that they had standard recipes easily accessible which detailed everything from preparation to service for all food items produced in the hotel as commented in the following quotes:

\textit{There are standard recipes for everything we produce in the kitchen.} \quad (R2)

\textit{Yes, standard recipes are available for everything. We have a big book which got every single thing for the menu.} \quad (R7)

\textit{All the food has standard recipes, even for the banquet menus, all the specs (specifications) in the kitchen.} \quad (R13)

In addition, three respondents (R8, R9, and R11) declared that they had standard recipes but not for all the items they produce, especially buffet menus, set menus, and the specialties of the day. Reasons varied and involved that the executive chef gave his team a little bit freedom to do whatever they want in the buffet menu. In addition, because of the buffet menu was not a printed or a written menu, and it was a black board menu therefore they did not have a standard recipes for these items. Furthermore,
because they much more reliant on the experience and skills of individuals. The following quote illustrates some of the responses:

> because it is a buffet menu there is no a standard recipe, it is not a menu written or a printed menu, it is a blackboard menu, so the chicken dish today will be different from the chicken dish tomorrow. All the dishes for room service, restaurants and chats café bar are all the same, no different goes on, because it is a recipe card........For buffets, it is different, it is the chef departie in the morning creates what he likes, that’s it, and he will do it, that’s his job in the morning. They don’t have a recipe card for absolutely everything....because we are people...we are not just like robot.....You have to get propel through freedom.

(R8)

Another two respondents because one of them (R4) were offering only pre-made products (convenience food) from the suppliers which maintained a consistent food quality products and the other one (R6) was offering just breakfast, they indicated that they did not have recipes per se but it was just the way of heating the item in microwave or oven as highlighted in the following quotes accordingly:

> No we do not have standard recipes. It is down to the head office and supplier. We do not have recipes because for example the sauce is coming pre-made and the meat. We just grill it or put on griddle or brown it on salamander, but the sauce is just taken out from the freezer, defrosted, heated in the microwave for just 2 minutes and then served.

(R4)

> No we haven’t recipes; just the time is identified, because we just provide breakfast.

(R6)

On the other hand, three respondents (R5, R10, and R12) declared that they did not have standard recipes for their food product. They just rely on the experience of their chefs, since these experiences or recipes were not documented. This suggests that these hotels were found much more reliant on individuals other than systems which in its turn will have a significant impact on achieving a consistent level of quality all the time. The following quotes illustrate some of their comments:
There is an issue, if head chef is off or the sous chef is off, or what happens if they are not around to the other chefs making sure they achieve their standards……..No we do not have standard recipes as you would expect, but the chefs obviously use the same way of producing the food every day…….If the head chef had left us, that would be the issue. The quality it is very dependent on our team in the kitchen. The funny thing is if they had to have a new head chef, it may cause a problem but nobody may probably noticed, because we change our menu quit often anyway. So, if our chef run out and we had a new chef, we wouldn't need to do exactly the same, we could change, we change it to whatever we want.

(R5)

The chef could have a week off and the consistency of that food completely could be different definitely….. Chefs don't look at systems; you know their passion about the food and products; if you put them in a system they will struggle.

(R10)

No recipes at all, I do not believe in recipe, I just believe in the experience of my team in the kitchen.

(R12)

All respondents who had standard recipes indicated that all the recipes were easily accessible to all staff members whether in a recipe book, software, or were hanged on the walls.

Seven respondents reviewed their recipes when changing the menu and after permission from the head office. The period for changing the menu ranged from every week to every six months. They change the menu according to various aspects, e.g. seasonal trends, feedback from customers, feedback from employees, the degree of demand and variety to let the customer see difference:

Anytime we do a new menu if these stuffs we can sort internationally with our Chef Tech, if it starts locally; we produce our own recipes with picture and obviously to enable all cooks to stick to food specifications regarding food presentation and food quality.

(R8)
In addition, one respondent indicated that they could not modify or change the recipe and if there any item was not demanded, they took it off without changing the recipe because they were not allowed to change or modify the standard recipe from the recipe software bank which was coming from the head office. This is consistent with Zilliacus (1985) that it is recommended to change the item completely on the menu other than modifying the recipe if the improvement is not real.

Respondents indicated that each recipe had its quality issues that should be followed to obtain a consistent level of food products, e.g. ingredients, way of cooking, cooking time, shelf life, portion size, texture, and appearance. This in turn helps ensuring the consistent quality. Paradoxically, one respondent (R7) indicated that their recipes did not have any written and detailed quality issues as he teaches his staff these quality issues on the job training when developing a new recipe for a new product.

Nine respondents reported that they used the recipe but not regularly, since they only use it as a guideline in training and through launching of new food items in the menu till knowing the cooking of these items.

In respect of following and using written standard recipes during food production, all respondents shed light on the importance of adherence to a standard recipe to obtain a constant quality food, yet none of them using these recipes during food production all the time, since they just use their memory. This conflicts with what has been found by Esteves, et al. (2005) that ongoing uses of standardized recipes for all food items within all hotel food production areas will lead to a consistent usage of food ingredients for the
same dish which will achieve consistent food quality, effective cost control, and waste reduction.

One respondent (R4) has raised a critical issue that the head chef writes down the daily plan of food production every day on a large board in the kitchen with all the functions and who will do these functions as a way of achieving a consistent level of food production. This supports the notion of Zilliacus (1985) that the planning and follow-up of a daily production should be documented and if there are any problems, they should be analyzed to achieve consistently quality products:

*Our head chef has got a huge write board in the kitchen; basically he has all the functions on that day in and the head chef delegates and sets it verbally as well with his team in the kitchen......for functions the head chef plans a function sheet week in advance in certain dates and identifies what will happen.....*

(R4)

According to the results coming out from the management questionnaires that relate to using standard recipes, it has been found the following issues:

- In some operations there are no recipes for the food products they produce, since they just rely on the experience of their chefs. This will lead directly to inconsistent food quality products and improper food cost control;

- The more using of standard recipes during food production, the more referring to quality manuals. This suggests that written standard recipes represent a key component in quality manuals to achieve a consistent level of food quality;

- The more using of standard recipes when producing food, the more management to stress quality food products. This suggests that standard recipe is a tool by which management stress the production of quality foods;
• The more using of standard recipes, the more reviewing of these recipes. This means that keeping using standard recipes regularly leads to reviewing these recipes to cope with new trends in cooking;

• The more using standard recipes, the more using a specifications list for all food items purchased. This confirms purchasing food according to specifications list is a pre-requisite to use standard recipes;

• The more using of standard recipes, the more conformance of food appearance with its pictures in the menu. This suggests that following standard recipes will in its turn conforming food presentation to its picture on menu;

Considering the results coming from the non-participant observation in the only one case (R9) and with regard to preparation practices, it has been noticed that the overall preparation area was not appropriately clean and organized that there are some food items kept in the temperature of the kitchen without putting in the fridge after preparation. In addition, it has been noticed that the temperatures of food prepared has not been probed during the reparation and the preparation people did not were gloves or use tongs when preparing food. To conclude, there are a number of issues has been found as listed below:

• Recipes should be available for each single item produced in the food production area even for banqueting and functions to ensure a consistent level of food quality;

• These recipes should be easily-accessible to all food handlers;

• All recipes should have their quality issues, e.g. ingredients, cooking time, shelf life, portion size, and appearance;
Reviewing and changing recipes depending on various reasons, for instance seasonal trends; customers and employees feedback; developing new items. Since it is recommended to change the item completely other than modify the recipe if the improvement is not real.

Cooking

It is important to cook food for various reasons, e.g. adding variety; making some food more digestible, more appetizing, or easier to eat; destroying any bacteria present or natural toxins; reducing bulk (Jones et al., 1997). They further categorized the methods of food cooking into two major methods: (1) dry cookery which involves grill, shallow fry, deep fry, bake and roast; and (2) wet cookery which includes boil, braise, steam, and poach. Minor and Cichy (1984) shed light on the control of portion size to achieve a consistent level of food quality.

Almost all respondents stressed the properly cooking for food since inadequate cooking will result in the survival of bacteria. The same results previously mentioned in preparation section addressing the recipe matter was raised in the cooking phase. Since to achieve consistent quality food, there is a significant need for written standard recipes. This supported the notion of Esteves, et al. (2005) that failure to use standard recipes will in turn lead to inconsistent procedures, especially in cooking and food acquisition procedures.

With regard to the non-participant observation that considers cooking practices, it has been observed that all production people were not referring to standard recipes during
cooking phase and all of them using their memory and experiences when cooking food items which might affect the consistency of the food quality. In addition, it has been remarked that all people were not wearing gloves when cooking foods and there were some waste not disposed off from the table of preparation since it has been left for long time till cooking has been finished.

To summarize, it is important for the cooking process to be carried out properly according to the standard recipes and for food temperatures to be monitored regularly to ensure a consistent level of food quality.

**Holding**

The holding activity is a stage which separates between two closely interlinked systems or subsystems with no deterioration in quality (Ball *et al.*, 2003). They added that there are two major types of holding: (1) warm or hot holding; and (2) chilled or frozen holding. When food products are not cooked to order, it is necessary to hold them properly for a minimum time to increase their quality, since they may be held hot on steam table or *bain maries*, chilled in fridges, or frozen in freezers (Minor and Cichy, 1984). In addition, Lattin (1995) illustrated that hot or cold food holding for long time will directly reduce the quality of the food. Therefore he advised to keep the food cold or hot for the shortest possible time. Thus, he emphasized the importance of preparing small patches of the food to increase the quality of it.

In relation to this section, most of respondents confirmed the importance of using separate utensils to each food and keeping monitoring temperatures of the food during
the holding phase if it is cold, hot or blast chilling. In addition one respondent (R11) stressed reducing the amount of food to be held in line with minimizing the holding time to ensure that the quality of that food has not been affected, since he preferred this if there was any function, e.g. banquets; parties; conferences as quoted below:

_We don’t do a lot of cook chill, and holding. If they do cook chilling holding, they monitor that. Yes, so for functions, that way yes, so be monitored, so they fill out, so they have got a temperature control chart for cooked goods, and a temperature control fro chilled goods for instance chicken creaser salad, also the fridge temperatures are monitored as well._

(R11)

As part of the non-participant observation and in relation to the holding process, it has been noticed that there were much food items left on the hold table long time before serving which affected the quality of the food served so some of the fried items were becoming soggy and tender not crispy, and sautéed vegetables were tender not crunchy because of long time of holding. In addition the temperatures during hold time have not been checked and the leftover in the fridge has been found not wrapped tightly and labelled appropriately.

In summary, the holding of food is a critical period which might affect the quality of food if attention has not been paid to that process. Keeping monitoring food temperatures is an effective way for ensuring quality food. The less the holding time is, the more the quality is achieved.

**Regeneration**

Regeneration step in the food production system represents that stage which requires to process and transform the food to ready-eat-food usually after a long period of storage either chilled or frozen storage. According to Edwards et al. (2000) the main concern in
the regeneration process is keeping the food safe and all aspects of food quality, e.g. presentation, texture and taste without any damage.

The findings coming out from the interviews revealed that most of respondents shed light on tracking foods temperatures during this stage and they stressed reheating food quickly with stirring to maintain even temperature. They also advised to not reheat food twice.

Additionally, one respondent emphasized the importance of not doing much more regenerated food as this stage reduce the quality of the food as quoted below:

Where in banqueting, we do not do cook chill food as it will reduce the quality of the food, therefore we do not do plate regeneration as we cook fresh (to order) in banqueting.

(R8)

In terms of non-participant reservation in hotel R9 and concerning regeneration it has been noticed that there were no temperatures checks during regeneration process and almost all people in the food production area did not have any temperature probes to check the temperatures. This conflicts with what has been recommended by Zilliacus (1985) that keeping monitoring food temperatures during steps of food production is a significant issue to ensure consistent quality food products.

5.5.3 Output (Presentation)

Presentation

In relation to output (i.e. presentation), respondents highlighted the importance of a well-presentable food as a critical issue for ensuring quality food. Two respondents emphasized food presentation as the main concern in their food quality strategy. In
addition, one respondent defined the quality strategy as it was the way of well-presenting the food. Another one confirmed they worked with a final product with excellent presentation as quoted below:

*The quality strategy is centralized, so our head office implements everything for how it is well-presented.*

(R4)

*Well, the way we follow, it is the rule which either we will do it nice or we will do it twice, so when we are cooking the food, either we get it right or it goes in the bin so fresh and nice or twice. We always serve fresh food and nice not only for the kitchen but it also for ourselves, and the presentation is always clean, tidy, colorful.*

(R7)

**Presentation**

Presentation represents the way of food that is attractively presented and decorated as a tangible indicator for customer perception of quality (Namkung and Jang, 2008). Of great importance is to match the food produced with its picture in the menu, since shortage to conform to the product picture could lead to quality deficiency which in turn affects the consistency of product quality delivered (Dillon and Griffith, 1997).

All respondents emphasized the importance of this stage, since they stressed to serve the food as quickly as it is presented or displayed on the plate, and to serve the food at the same temperature when it is presented, since they indicated that hot food must be served hot and cold food must be served cold. This is consistent with Cichy and Wise (1999) that food temperature represents a crucial issue for the overall quality of the food.

Additionally, six respondents (R1, R3, R4, RR8, R11 and R13) indicated that they had pictures for most of dishes they produce as it is difficult to get consistent food without picture presenting the appearance of the final product. This supports the idea of Dillon
and Griffith (1997) and Cichy and Wise (1999) that conformance of food appearance with its picture and description on the menu results in food-quality consistency:

*We judge the appearance of food by the picture that is shown when the menu comes out. The staff should know what the dish should look like as soon as the new menu arrives, all dishes have pictures on the back wall in kitchen, the chefs have pictures that all lined up there of how every dish should look like and his staff know if presentation of food does not look like the picture, it doesn't come out to the customer.*

(R4)

On the other hand one respondent (R12) declared that he does not believe in pictures since he just believe in the experience of his chefs in the kitchen to produce quality food. I think the viewpoint of that head chef is very limited and based only on the technical perspective of chef profession:

*Actually, I do not believe in pictures, so there are no pictures for the items produced, I believe in the experience of my chefs.*

(R12)

In addition, most of respondents took into consideration feedback from customers, employees, and managers concerning the quality of food produced:

*We judge the quality through feedback from our employees and also from the customer as well. If you get regular customers come in and eat the same dish, they (customers) expect the same quality in different times. So we need to make sure food, (1) it is cooked correctly, (2) it is presented properly, (3) it is like the spec and it is closer as possibly as you can, (4) it’s warm, it’s hot, it’s tasty, there is so many different things you can look at that.*

(R9)

Moreover, five respondents (R2 R3, R5, R8, and R11) indicated that they conduct taste panels involving employees and managers to give comments about the quality of food produced as a way of achieving a consistent level of food quality:

*Whenever we are doing a new menu, we always do taste for the restaurant staff, so the chef will always cook off for the new dishes and then will pass them round for everybody to have a try and learn about the dishes. It is opportunity for everybody to ask questions, if they are not sure for something, if they are not sure what make up the dish, and the chef explains.*

(R5)
Interestingly, two respondents (R7 and R8) declared that they conduct mystery shopper practices to judge the quality of their food, since one of them (R7) reported that he sat down on the table in the restaurant and order any food item from the menu without telling the kitchen staff that he ordered the food and look to the food and judge it. So he judges the quality of the food as a mystery shopper. Whilst the other one (R8) send one of his friends as a mystery shopper to eat in the restaurant and give him feedback:

*What I am doing is to ask the waiters to send me orders through and my chefs think that I am doing paper works, while really I am stuck here in the kitchen, so the food which comes out I will try it before out every day, so I check the ability of chefs to produce consistent quality food every single day.*

(R7)

*I will do mystery shopper. I will send someone in the restaurant to eat or whatever....may be one of my friends, fellow chef that works in different hotels. No one knows that he is going to eat in the restaurant, and he will send me (an e-mail of what thinks....*

(R8)

In terms of the management questionnaires results, ten out of thirteen thought that that appearance of food items should coincide with the picture and the description on the menu. However there was only five respondents who have pictures for their foods produced. The respondents who never and sometimes stressed on this issue were the respondents whose staff rarely used standard recipes when producing food products. According to significant correlations between items in the management questionnaires and conformance of food appearance to its picture on the menu, it has been found that:

- The more conformance of food appearance to its picture on the menu, the more referring to quality manuals. This suggests that quality manuals should involve pictures of every single dish produced.

- The more conformance of food appearance to its picture on the menu, the more quality manuals to achieve a consistent level of food quality. This proposes that
if quality manuals involve pictures for every single dish produced, the consistency of food quality for sure will be achieved.

- The more conformance of food appearance to its picture on the menu, the more using of standard recipes when producing food. This indicates that adherence to standard recipes will lead directly to conformance of food appearance to its pictures on the menu.

- The more conformance of food appearance to its picture on the menu, the more reviewing standard recipes to be updated with new trends in food preparation and cooking.

Considering the findings coming out from the staff attitude questionnaires distributed amongst food production staff over the six hotels (R4, R5, R6, R7, R9 and R12). All respondents shed light on that issue as key method for ensuring a consistent level of food quality. Concerning significant correlations, it has been found that the more conformance of food appearance to its picture on the menu appears to be as a result of:

- Staff commitment to quality
- Sharing all food production staff in developing quality manuals;
- Paying attention to food production staff training addressing quality issues and keeping training records;
- Effective communication;
- Availability and accessibility of all food production procedures to all staff;
- A regular monitoring for food temperatures through all food productions steps;
- Keeping accurate records for received, stored and issued food;
- Availability of standard format of food presentation for all dishes;
• Conducting regular quality audits and involving employees to undertake them.

The results coming out from staff attitude questionnaires that relate to the existence of standard format of presentation for all food produced indicted that most of respondents emphasized the importance of this issue as way by which they can achieve a consistent level of food quality. In terms of significant correlation, it was reported that the more the availability of a standard format of food presentation for all food items produced has an impact on:

- Staff commitment to quality;
- Staff involvement in quality manuals development;
- Keeping training records for all staff members;
- Communication as a critical issue for quality;
- Regular monitoring and recording of food and appliances temperatures;
- Keeping accurate records of received, stored and issued items;
- Matching the appearance of food items with pictures and descriptions on the menu;
- Conducting regular quality audits and involving employees in these audits.

With regard to results coming from the only hotel (R9) in which I conducted a non-participant observation and in relation to the interview the respondent indicated that they judge the appearance of the final product by comparing it with the specification manual; however they can alter the appearance if the presentation in the specification manual is not good as quoted below:

....yea, it is the specs manual for every single dish, but we can alter the specs if we do not feel the presentation is good, providing it with the same
Additionally, the respondent emphasized the importance of taking into account the feedback coming from the customers if it was written or verbal alongside the feedback of its staff when changing the item of the food in the menu.

While the results illustrated from the non-participant observation with regard to presentation phase, it has been noticed that there were some food items because of long hold under hot area, especially the fried items has been soggy and tender which supposed to be crispy, and the vegetables which supposed to be crunchy were found tender. In addition the hot items were not served in hot plates which will affect the quality of the food and also the cold items were not served on cold plates. Moreover there were no any pictures for the food produced to be compiled with.

To conclude, In terms of judging the appearance of the final product, although respondents stressed the importance of having pictures for all items produced, none of them had pictures for all items produced and they just had pictures for some of the items. In addition, they relied on the experience and skills of individuals to judge the appearance of the food produced. Therefore, a standard format of presentation for all food items produced within the food production area should be available to ensure that all chefs provide constant food quality. This supported the idea of Dillon and Griffith (1997) that to achieve quality product consistency, there is a need for a standard food presentation against which we compare food produced. In addition and relating to the whole observation results, it has been found that they have a quality system and
manuals (i.e. *Fresh Manual*) which should be followed and they said they follow it accurately but in fact they did not apply it precisely and holistically. Therefore these manuals should be documented in an effective way to enable employees to adhere to them regularly.

### 5.6 System maintenance:

The maintenance of a quality system consists of three key components: control of inspection; control of measuring and test equipment; control of quality records (Dillon and Griffith, 1997).

#### 5.6.1 Control of inspection (quality audit)

The key benefits of a regular quality auditing are to identify the training and development needs to be taken into account (Hoare, 1995) and to ensure a continuous compliance with the standard (Rose, 2001). Additionally, Vrtiprah (2001) the findings coming out from conducting a periodical internal or external audit within the organization represent the fundamentals of reviewing and re-examining the quality system to ensure unbiased view of the quality system. He further added that the procedures of audits should be written and documented.

The results of the interviews revealed that relatively all respondents emphasized the importance of conducting regular quality audit either internal or external to ensure that
they adhere to their quality standard and policy and to identify the improvement practices and training needs:

*The quality audit is good because it gives you points of what you would improve on and give the date you improve it by.*  
(R2)

*Quality audits are very effective, because staff are audited to know what they have to produce in terms of quality, and they have to follow the policies. They are part of training, not all points but some, so they identify what would be in training….it might be training for new equipment so it is part of training.*  
(R3)

*If there is something we missed as a result of quality audit, we would include it in our training. I would make it part of our training manuals.*  
(R5)

There are key three types of audits: (1) first party assessment, i.e. internal audit which is carried out to examine the quality management system against a group of specified requirements; (2) second party assessment, i.e. an external customer investigates the product against its standards; (3) independent third party assessment, i.e. conducted by independent company to make registration for the supplier (Oakland, 2003). External assessment is conducted by outside consultant (Johns, 1992), and internal one is carried out by organization’s personnel (Praxionm Research Group, 2005).

Considering internal quality audits, the findings of the interviews reported that relatively all respondents (ten out of 13) undertake regular internal quality audits through the food production processes. They reported that the main benefit of conducting such audits is to ensure a consistent level of food quality. The intervals of these audits differs among respondents, since it ranged from weekly, monthly, every two months and quarterly to every six months. This is consistent with what has been stated by Vrtiprah (2001) that internal quality audit should be undertaken at least once a year. The results of the
quality audits represent a big issue since all respondents are given a percentage, code number or code letter as an assessment demonstrating what actually has been found, what would be improved and when should be accomplished:

_The internal audit I and the GM are responsible to conduct it. Because they make the external audit every six months and it is long time, so we conduct internal one every two months. It is smaller version than of the external audit. What we do is that we go in the kitchen...And the internal audit is more to what the food look like on plates, does it look the same every time it goes out, is the food hot, what the customers say about the food, that is more the internal one and the kitchen personnel are concerned about the result of audit._

(R2)

One respondent reported that they do not do much paperwork in quality audit as they undertake the internal audit daily by involving all staff in checking products on daily basis. This conflicts with Vrtiprah (2001) that quality audits procedures should be Witten and documented:

_what I am doing I do not really do paperwork for that, it is more as I check it every day, and I will get staff to check things every day to ensure the products are always good._

(R7)

On the other hand, two respondents (R5 and R10) declared that they do not conduct internal quality audits through the food production processes:

_We don't conduct any quality audit, it is constant, it is daily, and it is our own kind of automatic feedback immediately not auditing._

(R5)

_We do not do internal quality audits, the only quality audit we have is that one line saying food is prepared well and presented well, nothing from the food production to say how were that food prepared. There is no audit within this company except the external grading from the AA to grade how our food looks like._

(R10)

In respect of external quality audits, all respondents reported the significance of undertaking external quality audits to ensure the consistency of their food quality and to
demonstrated that they work up to the specified standard. Also all respondents relatively declared that they have not been informed in advance that an external quality audit will be undertaken. Therefore they reported that they always work up to standard. These external audits have been undertaken by different parties, i.e. auditors from the head office, especially in chain hotels, outside companies, mystery shoppers or auditors from the council (i.e. E.H.O or Environmental Health Officer). The intervals of such audits varied and ranged from three times, twice or once a year to every eighteen months. They also stressed the results coming from the external audit as an assessment illustrating what actually has been found, what would be improved and when:

….once in a month we have a Mystery Shopper that is a guest who comes in, and basically books room over a night, must have room service, must drink in the bar, must eat in the restaurant at night, and must have breakfast in the next day and marks on it, and we don't know him.

(R4)

We have annual audits from the head office, also we have got a visit from council winch is Environmental Health Officer (EHO) that is done every eighteen 18 months....about food safety practices. They turn up suddenly, and they report us at the end of audit. They will send a report back, it says that you don’t do A, B and C, so you fix A, B and C; simple, that what we do.

(R8)

The results of staff attitude questionnaires that relates to undertaking a regular quality audit, indicated that undertaking a regular quality has an impact on:

- Staff commitment to quality;
- Training as a critical issue for quality and ensuring that all staff have been trained;
- Undertaking both types of training, on-the-job and off-the-job;
- Keeping training records for all staff;
- Communication between staff and management as a critical issue for quality;
• Follow-up as a critical issue for quality;
• Availability of clearly-defined food production procedures to all staff;
• Regular monitoring of food temperatures through all stages of food production;
• Keeping accurate records for received, stored and issued items;
• Conformance of food appearance with its picture on the menu;
• Availability of standard presentation for all food items;
• Involving employees in undertaking quality audits.

In conclusion, to achieve a constant quality foods, it is significant to undertake regular internal and external quality audits to ensure what has been implemented is as what has been previously documented in the standard and if there any deviations, they should be improved.

5.6.2 Control of measuring and test equipment

According to East (1993) and Lockwood (1996) it is very important to control all equipments used for measuring and checking the quality of food produced in the kitchen, e.g. temperature probes need to be regularly checked for their accuracy as a legislative requirement. These test equipments (e.g. temperature probes; timers) should be available and easily accessible for all staff in the food production areas, since they have to be encouraged using them regularly (Manning, 2000).

The results coming out from analyzing the interviews reported that relatively all respondents shed light on the use of accurate temperature probes to check the food
temperatures during all food production processes and when food displayed on buffets on a regular basis. They revealed that they check the availability of these probes for their staff in the kitchen in line with checking that these probes are working effectively since these probes check the critical temperature of food which will be affecting the overall quality of food. Also they indicated that the receiving area is well equipped with these equipments such as temperature probes, weighing scales to investigate the quality of the delivery, thus they stressed the regular maintenance for these equipments to ensure their efficacy.

All staff have thermometer probes to monitor food temperatures on a daily basis.... We ensure that they are given they probes...... also we check these probes regularly.

(R1)

I go to the kitchen with my temperature probe every day. All the managers have probes and basically duty managers. You have to check the buffet for breakfast, you check the lunch. If you get lunch on and evening, you coming to and check everything again check temperature, log it, checked, and write temperature, It is important to check that these probes are working properly; it checks the quality of food.

(R4)

Our receiving area is well equipped with such as temperature probes and weighing scales to check the quality of delivery. So regular checking for this equipment is a must.

(R7)

In summary, the food production area should be well-equipped with all measuring and test equipments which investigate the quality of food regularly. Therefore controlling these equipments is very important to ensure that they are working properly and they are available to all staff in the kitchen. Also staff should be encouraged regularly to use these equipments.
5.6.3 Control of QMS records

Effective record keeping represents a key issue to ensure that the quality system is being effectively implemented as specified and written (Rose, 2001). Thus inaccurate recording can do more harm for the business than not taking any records (McEachern et al., 2001). However, keeping records has been recognized as a big dilemma in hospitality operations (Taylor and Taylor, 2008). These quality records involve, e.g. inspection and test records; all quality procedures; quality audits reports; staff training records. To control these QMS records, it is important identifying: what records to be kept, the procedures to fill them, and their retaining time (Lockwood, 1996; Manning, 2000; Oakland, 2003).

The findings of the interviews revealed that relatively all respondents emphasized the importance of accurate keeping for quality management records to ensure regular follow-up for the quality issues in the food production area and keeping the standard high. For example they have raised the issue of keeping training records for every single person in the kitchen to identify what has been trained and plan the future training for their employees. Also they reported that these records help them indentifying the qualifications of their employees to carry out the job. This is consistent with what has been stated by East (1993) that it is important to keep training records for all staff and make them available to supervisors to enable them to allocate the specified tasks to the individual who had the right training. To ensure keeping training records, responses yielded varied opinions: regular one on one meeting with the manager, regular assessment, and each individual has to sign off after getting be trained:
Chapter Five: Discussion - An Operational Model for Consistent Quality in Hotel Food Production

Every member of staff has a file which gets all what has been given in the first week of joining the company and that file basically has the five day assessment, the week assessment, and the twelve 12 week assessment, and then any training after will be logged on that page so the H&R can request the files at anytime to see what they are doing.

We have individual files for each member of staff; there is also a training record for each individual member of staff to cover what he has been trained on but even what will be trained and over and over again to keep the standards high.

Respondents also indicted that they keep accurate record for all documentations related to received, stored and issued food items, since they emphasized the importance of these records to be used when they conduct the monthly inventory. In addition, they declared that they have got records for temperature monitoring for food during all food production processes, since they check the temperatures of food when it is displayed for buffets three times within the period of display:

There are well kept records for temperature monitoring during all steps of food production, so every chef do it in fridges, everything. If they discovered that there is food in danger zone, they will not send it out, but it is not happened before. The breakfast chef is doing all his breakfast temperature monitoring, if they do a buffet for lunch they do all temperature checks, then they do all the fridges every day, they do the blast freezing every day. So everything related to temperature checks is done three 3 times a day.

Moreover, they reported that they regularly checking the temperatures of all food appliances in the kitchen on a daily basis which used for storing, cooking or holding the food. They keep accurate record of these checks to ensure the efficacy of these appliances and to identify any problem to correct it. This is consistent with Hawkes (1992) that kitchen staff needs to check the temperature of food storage appliances, e.g. fridges and freezers once or twice a day and keep written records of these results, then if any problems, they have to take actions immediately:
You need to monitor fridges and freezers temperatures because if you discovered a problem you need to react as soon as possible. The sous chefs and chef de-parties have the responsibility to monitor temperature of appliances. If there is a problem, they will call maintenance department.

(R1)

There is a piece of paper beside every fridge and freezer to check their temperatures …...they are digital, and we have a clipboard to put it.

(R2)

...Our fridges and freezers are logged on basis of filled out three times a day, so the senior chef on duty will log on and fill it three times a day, breakfast, lunch and dinner. We have two senior chefs and one junior is allowed to do this when he is in night.

(R4)

.... any chef can write the fridges and freezers temperatures and check them, and the log book is in my office desk and the chef come along every day at set times to check it off.

(R7)

Another issue was raised by four respondents (R3, R8, R11 and R13), that they take samples for their food displayed in buffets for large groups or functions and they keep records of these samples to ensure that their food produced is safe and free of poisoning. Furthermore, all respondents indicated that one of the important quality records is audit reports, since they use these records to identify and plan their actions regarding the quality issues to enable their staff to implement these actions in practice. Also they used these audit records as reference for the next quality audit:

...A detailed report of the quality audit was given of 25 pages....absolutely everything on there, that's already the feedback because you could tell us points....Food productivity is very big part of this feedback.

(R3)

We keep quality audits reports for the next audit, make sure that they haven't work to do, if there is work to do; we need to check that actions have been taken. Therefore I will make sure that they do it or not.

(R4)

All quality audit records are available, then when the internal auditor comes and checks these records, he looks out for what's usually happens,
then he signs these records which have been looked up by the external auditor from the head office. So, all your records would have to be in place.

(R11)

In the quality manual (Fresh Manual) of R9, they indicated that they keep all audits documentations at least twelve months as evidence of demonstrating due diligence practices and avoiding management prosecution. In addition, I was given a form by R8 as evidence of QMS records which is called HACCP Weekly Checklist that includes: review of food safety records through food production processes, food safety inspection record and probe calibration checks. Also it has been found the following details as a control for this form:

- This checklist must be completed weekly by a senior chef and held on file for 3 months.
- Completion requires both review of the previous week’s paperwork and an inspection of storage areas and food handling practices.
- Thorough completion of this process will ensure that any deviations from critical controls are promptly identified and rectified.

(HACCP Weekly Checklist, R8)

The findings emerged in the management questionnaires analysis that relate to keeping accurate records for received, stored and issued food items, indicated that here is no any significant correlation between this activity and the other activities in the management questionnaires. This suggests that although all thirteen respondents emphasized the importance of keeping accurate records for received, stored and issued food items to achieve a consistent level of food quality, they do not actually relate them with the other activities in the management questionnaires.

The results outlined in the analysis of staff attitude questionnaires that relate to keeping training records to all staff member in the food production area, reported that all staff
emphasised this issue as it was found that keeping training records for all staff has an impact on the following issues:

- Staff commitment to quality;
- Staff involvement in quality manuals developments;
- Carrying out both types of training (i.e. on-the-job and off-the-job) for all staff;
- Communication between staff and management as a critical issue for quality;
- Availability of clearly-defined food production procedures to all staff;
- Regular monitoring of food temperatures through all stages of food production;
- Keeping accurate records for received, stored and issued food items;
- Conformance of food appearance with its picture on the menu;
- Availability of standard presentation for all food items;
- Undertaking regular quality audits.

In respect of recoding food appliances temperatures, the results of staff attitude questionnaires indicted that this activity has an impact on the following:

- Staff commitment to quality;
- Carrying out both types of training (i.e. on-the-job and off-the-job);
- Communication as a critical issue for quality;
- Availability of clearly-defined food production procedures to all staff;
- Monitoring food temperatures through all food production processes.

Considering keeping accurate records for all received, stored and issued food items, the findings of staff attitude questionnaires revealed that this the more keeping accurate records for all received, stored and issued food items will lead to the increase in:
Staff commitment to quality;

Staff involvement in quality manuals developments;

Undertaking both types of training, on-the-job and off-the-job;

Keeping training records for all staff;

Communication between staff and management as a critical issue for quality;

Follow-up as a critical issue for quality;

Availability of clearly-defined food production procedures to all staff;

Regular monitoring of food temperatures through all stages of food production;

Conformance of food appearance with its picture on the menu;

Availability of standard presentation for all food items;

Undertaking regular quality audits.

In conclusion, it is very important to have accurate and effective QMS records to ensure that the quality system has been effectively implemented as identified. These records should be monitored and checked regularly to identify what records will be removed and what will be kept.

5.7 System improvement:

Continuous improvement is very important in hotel operations for several reasons, e.g. customers tastes are constantly changed and operations needs to be updated with new trends such as new legislation and what competitors are doing (Vrtiprah, 2001). In addition, the quality system should be improved continuously to cope with new trends with food quality (McEachern et al., 2001). They further added that these improvements
will become inputs for system development. Therefore, failure to improve the quality system will lead to inefficiency in the integrated quality management system (Rose, 2001).

5.7.1 Eliminating the causes of non-conformity and preventive recurrence

Kondo (2000) emphasized the importance of eliminating causes of non-conformity and prevention of recurrence as a compulsory solution when we find errors in the process phase of production as fundamental of continuous improvement. Therefore, it is significant to identify what actions will be taken which might include: rejection of non-conforming product at all; correction or adjusting to meet requirements; acceptance under concession with/without correction; or reassigning for an alternative (Oakland, 2003). Also he indicated that non-conformity reports, quality audit, customer complaints (i.e. customer feedback), personnel feedback and management review represent significant inputs for an effective corrective action. The corrective actions which have been conducted as a result of quality audit prove that the quality system is up to date, reflecting the new requirements of the quality audit (Rose, 2001).

The results coming out from the interviews analysis showed that most of respondents indicated the importance of rectifying the problems discovered through food production processes. Since, if there is any problem regarding the quality of food identified by customer feedback and complaints, they must implement corrective actions effectively. Also, they reported that these problems might be identified in audit reports, deliveries, or problems associated with food temperature monitoring. The corrective actions
should be followed-up and monitored to ensure they are implemented effectively. Additionally, all respondents shed light on eliminating the causes of deficient products. However some of their responses did not take the systematic approach of corrective action procedures suggested by Oakland (2003) in chapter four. Since they just focused on rectifying the errors immediately without identifying the causes of these problems to eliminate them:

*If there is a problem with the customer, we rectify it through the way, we of course apologize, see if customers wanna anything else, discount the food. If it is with what is audited, we just action through the way, so for example, if we found out of date mayonnaise in the fridge, we will look at the auditing procedures, of course we will change the mayonnaise and make sure that it doesn't happen again.*

(R2)

Interestingly, two respondents (R3 and R9) raised the issue of assigning timescales for the corrective actions to rectify the problems according the volume of the work will be improved. This is consistent with Manning, 2000 and Vrtiprah, 2001 that managers should consider the determined timescale required to rectify the situation:

*We undertake internal audits every six months.....the auditor gives detailed report (50 pages report) of what should be improved or what we should work on and what should be improved by next time and it is coded by A, B and C. A means you have to sort it straight away, B means up to two weeks, and C means up to two months. You got time that means in the next six months, next time should be totally done.*

(R3)

.....I will go back within a week. Basically, I would score the audit for levels; you have three levels of the audits:  A, is immediate so for example there is no guard on the blade on the meat slicer, that’s immediate action. B is within 30 thirty hours and C is within 72 hours. So order of priority of basically what I thinks he needs to do so if he score themselves, put inspected (within) two hours to get a blade on the guard of meat slicer that’s wrong, because it is health and safety of each, so that’s immediate. For 72 hours may be a dish rack change.

(R9)
To conclude, it is of a great importance to eliminate the causes of non-conformities products to prevent their recurrence again. Therefore a holistic systematic approach should be followed to correct these errors and prevent their recurrence again. These actions should be timed and when implementing these actions, they should be monitored to ensure their effectiveness for achieving a consistent level of quality. It is important to identify non-conformance to determine the extent of non-conformities products and its cost. These non-conformance products should be isolated to ensure they cannot be reached to customers.

5.7.2 Control of the causes of potential no-conformities to prevent their occurrence

When conducting internal audit in the entire hotel and discovering problems, then rectifying these problems in the pre-determined time period, it is very important to issue preventive measures to prevent their occurrence in the future (Vrtiprah, 2001). Clearly-defined preventive action procedures should be in place to prevent deficiencies identified during food production processes from occurring again, since they should be documented effectively (i.e. defining what is required by whom and with suitable timescale) to ensure continuous improvement. Quality management system records represent key inputs for preventive action procedures (Oakland, 2003).

The findings of the interviews revealed that all respondents emphasized the significant impact of ensuring that the problems they discovered when producing the food will not be occurred again. Therefore, they stressed eliminating the causes of these problems. One of the key solutions to prevent problems occurred in food production is through
regular training, since if they discovered any product is not up to standard they stress training for all staff to ensure that this problem will not happen again. Also some of them stressed to have a standard presentation format for their food produced to ensure that all staff put the food in plates the same way predetermined in advance. In addition, when they discover a problem with quality of food supplied, they are trying to get the right quality food from that supplier, and if this happened again they stop dealing with that supplier to prevent the occurrence of receipt of poor quality food. Moreover, they keep regular asking their customers for their opinions regarding the food quality to take into account their feedback and complaints when producing new menu to prevent any problems that have been found before. Furthermore, they stressed a regular training which addressing all of that issues to all their staff in the kitchen which enable them ensure a consistent level of food quality:

when changing the menu, the restaurant manager will ask the customer in the restaurant, they enjoy the meal, if anything needs to be changed, because they are very regular customers, and they like this, don't like that or whatever, that is our review. We get feedback from the customer and we implement this in the next menu.

(R2)

If we find a problem with a particular dish because guests are not happy, we would question them, why they are not happy, may be they are not happy with the way of cooking some dishes. We change it, we take another photograph and then, we list down the steps to prepare the food as best we can, in that way the standards then are accepted. It is listening to what the guests want, and then we do a report of that....in terms of quality audit, then if we found a problem happened again, we stress the training to eliminate that problem to happen again.

(R11)

To conclude, it is very important to eliminate the causes of the potential non-conformities products to prevent their occurrence again in the future. The systematic procedures suggested by Oakland (2003) in chapter four should be taken into account
when working on that issue. Failure to eliminate these causes will in turn have an impact on achieving a consistent level of food quality. Therefore all hotel food operators should consider this issue to get a consistent level of food quality on the long run.

5.7.3 Reviewing quality management system

Quality management system should be reviewed regularly at specified intervals (e.g. regular management meetings monthly, bi-monthly or quarterly) to determine the extent of management control and its effectiveness to ensure that the quality policy and objectives conforming to the system and customer requirements are consistently met (Manning, 2000). It is very significant to review the standard at least annually to check its effectiveness and recognizing the employees and customers feedback regarding quality issues when making changes in standard or creating a new one to fill the gaps (Manning, 2000 and Yeates and Wakefield, 2004). To ensure consistency, any change should be clearly defined and documented in the management system (Oakland, 2003). Thus, earlier versions of quality management system documents should be updated and employees should be informed with that change (McEachern et al., 2001).

The findings coming out from the interviews reported that most of respondents emphasized the importance of departments’ heads meeting to review any change in the quality management system to inform all staff within department with the change how they can action these changes:

*If there is something needs to be developed, they have got a report after the audit. The report is done and given to the general manager and he reports*
to different managers in a meeting and after if there is some risk....they check which quality control points need to be improved or changed to be a norm and there are different points need to take some action, and there is an action plan on the guide I admit it and take actions immediately to be a norm with quality or hygiene.

(R1)

Once the outside company gives us the points, we get them done straight away. We actually have got B, i.e. is very good. If there is something wrong we will have a meeting with all heads of departments and then we give them with all the points and then they put the name by the point and then they have to action it. So they notify the head chef and the head chef has a meeting to notify all staff in his department in his team meeting. The head chef and sous chef are involving in developing the quality of food.

(R2)

On the other hand one respondent (R10) indicated that that the head chef did not report to him but he reported only to the general manager while he was supposed to report normally to the operations manager, so there is gap between the head chef and the operations manager in delivering information. This is because there was no clear job description and effective communication which supposed to be followed:

Normally, the chef supposed to report to myself (operations manager) but it is unusual here, this should be changed. Every operational department in this hotel reports to me, e.g. service areas, housekeeping, front office, and concierge. But the chef doesn't report to me. In terms of hierarchy, yes I can work and say to head chef that I need that chef to do that, but these chefs are not reporting to me.

To solve this problem he reported that he will try to sit down with the executive chef and sort out these issues but after getting everything in place to ensure that they achieve a consistent level of food quality:

I will sit down and formulate my ideas to work with the chef and say this is what we are trying, to achieve in some of their restaurant, how much cover (i.e. star chef manual)......what style of the food do we think our customer are looking for then once we have got those answers, then we got the chef and say this is what I want him to prepare and this is then the policies or procedures, the training, the checks , the balance, the audits, the inspections.....Because at the moment they don't have objectives. We wanna make the continuing balance of food consistency but we don't know
how we gonna reach that……there is no clear strategy of how we gonna do, so we have to get that strategy, sales and marketing plan, feedback on dishes, and tell the chef this is what we want the style of menu, what we want him to prepare and so on. You have to have everything in place, but at the moment we don’t have anything complete.

(R10)

All respondents revealed that reviewing quality management system include several aspects, e.g. changing menus; reviewing standard recipes; updating with new legislation; risk assessment compliance with new products; updating quality manuals; updating with new HACCP requirements; improving training needs; updating QMS records; taking into account the new trend of customers towards food quality; recognizing employees’ feedback regarding food quality. All of these aspects should be taken into account when reviewing the quality management system:

there is a food and beverage committee in this company, and this committee is in charge of all the new legislation to be up to date and things like that…… also we change the menu, each three months they change the menu and it means you need to be up to date with all the legislation……we change the risk assessment when we change the products on the menu, you can’t manage the same risk assessment with different products.

(R1)

Our quality manuals are up to date and checked every six months by the head office……you have to work at everything as well, because some certain things are changed from health and safety point and from risk assessment.

(R3)

We employ a team of food analysis by the head office that will basically decide what their menus are, what you will run at certain times a year to go with trends in the world, what the healthy options are in the summer……they are putting plates in hotels over yearly basis.

(R4)

The findings of the management questionnaires that related to reviewing standard recipes reported the following issues:
The more reviewing of standard recipes, the more referring to quality manuals. This suggests that standard recipes represent a key part of quality manuals;

The more reviewing of standard recipes, the more using of standard recipes by staff when producing food items. This means that a major part of reviewing standard recipes is to encourage all staff to use them through food production.

The more reviewing of standard recipes, the more using a specifications list for all purchased items. This proposes that purchasing food items according to specifications list represent a key issue in standard recipe to achieve consistent quality products;

The more reviewing of standard recipes, the more conformance of food appearance with its picture on the menu. This suggests that reviewing standard recipes stressed the conformance of food appearance with its picture on the menu.

To summarize, reviewing the quality management system on regular basis appears to be as a key issue to ensure that the system is matching the new trends in food quality and to ensure the effectiveness of that system. Reviewing any section in the system will have a significant impact on the part that interlinked with that section within the system. Any change (i.e. corrective or preventive actions) should be documented and reported to all food production staff to ensure a consistent level of food quality.
5.8 An operational model of consistent food quality management system:

Hospitality systems and in particular catering systems are well-known by its cyclical nature (Edwards and Ingram, 1995). According to Oakland (2003) the quality management system is a bundle of components that are interacted and affected by being in the system, thus it should be understood and applied holistically. The main contribution of a good quality management system is to provide consistent quality products (Oakland, 2003; Skidmore and Eva, 2004), as a great demand for customer expectation (Castle, 1996 and O'Neill and Black, 1996).

To obtain a quality management system ensuring the consistency of food quality, it must be:

- Consistent with best practice;
- Based on a consistent standard;
- Easy to implement through incorporating simple practical steps to meet standard requirements;
- Based on wide implications of food quality not just food safety practices;
- Based on full management commitment to quality;
- Focused on customers’ requirements and feedback;
- Based on clear objectives;
- Supporting for a clear quality policy;
- Based on competent personnel following a consistent standard through team working;
Based on effective and systematic ongoing training to all food production employees;

Based on effective communication between employees, between peer managers, and between managers and employees;

Based on effective leadership;

Based on staff involvement in quality issues development;

Based on clear organizational structure;

Based on suitable work equipment;

Based on effective documentation (i.e. minimum effort for maximum utility) through considering simplicity, avoiding repetition and controlling its documents;

Based on consistent food production practices and procedures;

Based on good relationship with food suppliers;

Maintained through undertaking regular quality audits and controlling their records;

Based on controlling of test and measuring equipment;

Based on clear and consistent corrective and preventive action procedures;

Reviewed continually to ensure its effectiveness;

Based on documenting any change to ensure consistency and staff should be informed with these changes.

According to all aforementioned key issues, there is a need to apply the following quality management system to ensure a consistent level of food quality within hotel food production operations. Full adherence to that cyclical system holistically and
comprehensively will lead to that aim. Figure 5.1 shows the operational model for consistent quality in hotel food production.

Figure 5.1: An operational model for consistent quality in hotel food production

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5.9 Recommendations for hotel food production operators:

I hope this thesis has conveyed the importance of providing consistent level of food quality within hotel food production operations to maximize guest satisfaction and hotel
food revenue. In addition, I hope that it explains the nature of food production within hotels and the critical issues related to the quality of food. I would like to try to provide a number of recommendations from the above discussion of the current study to help hotel food operators better providing food products with the same or consistent quality, no matter who produces the food. These proposed recommendations are illustrated below.

System development

**System identification**

Standard identification

- Hotel food production operators should adhere to a clearly-defined standard. This standard should identify the quality control measures which incorporate simple and practical steps to be undertaken to ensure compliance with that standard. Quality control measures should include all issues of food quality not just food safety issues to ensure a holistic approach to food quality.

- Managers of hotel food production operations should assign appropriated qualified trained people to care for the quality of food.

Control measures identification

- Quality control practices should be undertaken on a daily basis with consistent follow-up and sufficient training for staff to adhere to the standard. These practices must cover all food production procedures from delivery to storing,
preparation and cooking, holding, generating, and presenting on plates or buffets.

Corrective action procedures identification

- Hotel food production managers should identify the corrective action procedures and measures with a main focus on determining deadlines to correct the error and assigning responsibility for completion. It is important to correct any errors straight away before the product reaches the customer.

Management responsibility

Commitment to quality

- Management should be committed to quality through involving and empowering their kitchen staff on a daily basis in quality issues to ensure consistency. This could be through conducting a small daily taste panels among kitchen staff. Lack of acknowledgment of food production staff feedback, contributions and suggestions regarding food quality will lead to inconsistent quality food products.

- To sustain competitive advantage in hotel food operations, hotel food production operators should not reduce their food prices, since hotel customers are less worried about prices and more concerned with the quality of food. Therefore, hotel food service operations should focus on improving their food quality not on reducing their food prices to gain more customers.
Focus on customers

- To be a successful and more profitable hotel restaurant, it is important to identify customers’ needs and recognizing their feedback regarding food quality to obtain satisfied customers and guest retention as a result of delivering consistently quality foods through experiencing good practices and knowledge in food production. In addition, identifying customer needs represents a critical issue to improve hotel food quality practices.

Supporting quality policy

- Hotel food production operators should have a clear written mission and vision statements focusing on providing the appropriate level of quality food to their guests consistently as a key step in supporting their quality policy. Lack of a written mission or vision leads directly to inconsistent food quality.

Quality resources

Competent personnel

- It is important to choose the right and competent personnel to ensure consistent food quality to ensure consistent food quality through adherence to the specified standard. Therefore, hotel management should pay attention to how can prospective kitchen staff correspond to the entire standard. The successful hotel chef should have culinary experience (i.e. technical skills), food knowledge and managerial skills.
• To overcome the problem of lack of qualified chefs, hotel food production operators should work hard on training young people (apprentices) to be qualified chefs through effective communication between the chef and his kitchen staff. Hotel food production operators should shy away from the idea of a tyrannical chef who is a reluctant trainer and not willing to share his skills with other people. However, they also should not rely only on younger, less experienced staff as this will lead to inconsistent food quality. Over-reliance on younger staff in food production area will increase the proportion of employee turnover. In addition, over-reliance on part-time employees will result in high turnover that leads to inconsistent quality will lead to inconsistent quality food products.

• Although hiring a popular or celebrity chef in hotel food production gives competitive advantage, hotel management should not leave the operation to be dominated by her/his fancy, attitude or personality. Therefore, however famous the chef she/he should work with the hotel management as a member of the team.

Effective training

• Hotel management should invest in training, since the cost of not conducting training exceeds the cost of training through not conforming to standards and will increase the cost of rework. Therefore, hotel food production operators should follow a systematic and structured approach of ongoing training which addresses not only the development of culinary skills and techniques (i.e. off-the-job training) but also involves formal training (i.e. off-the-job training)
which incorporates, for example knowledge of food science, food preparation, nutrition and cultural and artistic training for all kitchen staff not only for full-time staff but also for part-time staff to improve their catering practices and increase their positive interactions.

- Hotel food operators must not be reluctant about training, since they must ensure that all staff have the appropriate skills and experiences to achieve consistent food quality through informing them with the requisite details about food production. Effective training should incorporate sufficient time, follow-up, incentives and management support. In addition it should consider customer and employee feedback relating to food quality issues.

- To decrease the cost of labour and increase kitchen staff job satisfaction, it is important to conduct cross-training for kitchen staff to give them opportunities for job rotation and variety to be able to provide and sustain high quality products.

Suitable work environment and equipment

- Hotel management should provide the necessary equipment and tools for the food production area to achieve consistent food quality. These equipment and tools should be checked and maintained regularly to ensure their effectiveness.

- Hotel food production operators should give their chefs and cooks opportunities to express their creativity in culinary art through experiencing craftsmanship skills to achieve professional recognition and personal growth. This will lead to the consistency of product quality, although there was a wrong belief that consistency prevents the display of creativity and innovation, since creativity
and consistency are not incompatible but mutually complementary and integrated. This could be happen by adherence to the system as a mandatory aim but with giving people much freedom as possible but not absolute freedom.

- Hotel management should work on enhancing a good communication and collaboration between peer managers and between managers and employees and helping to remove conflicts among hotel departments, especially those are inter-linked such as the head chef and the hotel operations manager to ensure consistent quality products. Therefore hotel managers should promote team-working and adopt open-minded approaches to ensure smooth operations and effective management.

- To ensure a consistent level of food quality, it is important that the owner-manager of a hotel is not involved in the day-to-day operation of the business, since excessive interference from the owner in hotel food operations will lead to inconsistent quality food. Therefore, it is important to have a clear structure as a substantial issue for quality commitment in hotel operations. Since unclearly-defined responsibility and authority for peer managers will affect the efforts of quality improvements.

System documentation

Managing and preparing QMS documents

- Hotel food production operators should pay attention to documenting every single thing in food production as a reference for the quality management system
and training purposes to save the time and cost for ensuring consistent level of food quality. This documentation should be developed in an effective way, i.e. minimum effort for maximum utility through ensuring less paperwork, e.g. documenting quality issues for a similar group of dishes rather than each dish separately and incorporating simple and practical steps for food production. Additionally, if an informal system is operated, it is important to document it clearly and accurately through saying what the chef does then writing it down.

Controlling QMS documents

- To ensure the effectiveness of the documentation, it should be controlled through: approving and reviewing them; making sure that they are available and accessible of in all locations; removing documentations which are no longer in use; maintaining them in properly and orderly way. In addition a full detail of their number of pages, issue date should be identified.

System implementation based on input-process-output model of food production steps

Input (purchasing; receiving; storing; issuing)

Purchasing

- To ensure a consistent level of food quality, hotel food production operators should follow the best practice in relation to purchasing which involves:
selecting the right supplier; keeping good relationship with nominated suppliers; having a specification for each single food item used; buying the right items for the right price; having clear structure about purchasing volumes to ensure a consistent level of food quality. When developing the menu it is significant to take into account the seasonality and availability of food items with suppliers; employee suggestions; customer feedback.

Receiving

- Hotel food production operators should ensure that the receiving areas are equipped with various tools, e.g. adequate floor and table scales and designating appropriately qualified people to accomplish this role, determine a limited time for delivery, reduce the amount of delivery, reduce the time between receipt and storage, ensure stock rotation, and maintain proper documentation for receiving procedures.

Storage

- To ensure consistent level of food quality, hotel food production operators should follow best practice in relation to purchasing which includes: maintaining well-defined and accurate storage procedures to ensure that food is properly stored; connecting food storage to the menu and production planning; having too little storage space rather than too much so there is close control on stock. However, there must not be so small that some food-stuffs are left long time in the kitchen because of the small space in the storeroom, since this will affect the quality of the food-stuffs.
Chapter Five: Discussion - An Operational Model for Consistent Quality in Hotel Food Production

Issuing

- Hotel food operators should ensure that food is issued according to a properly authorized requisition from the correct storeroom for the correct staff in the correct quantities at specified times during the day. Stock rotation should be followed to ensure consistent food quality.

Preparation and cooking

- Hotel food production operators should plan and follow documented daily production schedules through identifying what is to be cooked and who will cook the item to ensure consistent food quality. In addition, they should ensure the availability of written standard recipes which involves all quality issues related to the food produced (e.g. control of portion size) for every single item in the menu as a tool of communication between kitchen employees and as an effective way of ensuring consistent food quality, effective cost control and waste reduction through consistent usage of food ingredients for the same dish. This means that kitchen staff should be loyal to recipes, since they must follow the recipe not the recipe follow them.

- Hotel food production operators also should consider the effective relationship between food specifications and recipes; since recipes should take into account the specifications of food items that will be purchased to ensure quality consistency. Additionally, changes in ingredients should not be made unless the quality of the product will be the same or improved, otherwise the recipe should be changed completely.
Holding

- When food products are not cooked to order, it is necessary to hold them properly for a minimum time to maintain their quality. Therefore, it is advisable to prepare small amounts of the food to increase its quality and keep it for the shortest possible time. The less the holding time, the longer the quality achieved. Additionally, food temperatures should be monitored and checked regularly during this phase.

Regeneration

- Hotel food operators should ensure that food is safe to eat and all aspects of food quality, e.g. presentation, texture and taste are maintained without any damage. Additionally, they should keep monitoring food temperatures during steps of food production to ensure consistent food quality.

Presentation

- Hotel food production operators should stress the availability of standard formats for food presentation items within the food production area to ensure that all chefs provide constant food quality through matching the food presented with its picture in the menu, since shortage to conform to the product picture could lead to inconsistent food quality. Additionally, food should be served as soon as it is presented on the plate to ensure that hot food is served hot and cold food is served cold.
System maintenance

Control of inspection (quality audit)

- Hotel food production operators should conduct regular internal and external quality audits to ensure compliance with specified standards (i.e. what was implemented is what was documented in the standard) and to identify training needs according to the results of these quality audits. The quality audit procedures should be documented accurately.

- Hotel food production operators should also inspect food products throughout food production processes and in case of catering for large groups of customers; they should take periodic samples to test critical elements for achieving consistent quality food.

Control of measuring and test equipment

- Hotel food operators should provide all kitchen staff with test equipment (e.g. temperature probes; timers) and encourage kitchen staff to use them regularly during food production processes. Additionally, all equipment used for measuring and checking the quality of food produced in the kitchen should be controlled, e.g. temperature probes need to be regularly checked for their accuracy to comply with legislations.
Control of QMS records

- Hotel food production staff should effectively keep quality records to ensure that QMS is being effectively implemented as specified, since inaccurate recording can do more harm to a business than not keeping records at all. They also should control and check these records regularly to identify what records to be kept, the procedures to fill them, and their retaining time. The QMS records represent key inputs for corrective and preventive action procedures.

System improvement

Hotel food production operators should undertake continuous improvements to cope with new trends in food quality, e.g. changes associated with customers’ tastes and new legislation. Additionally, these improvements represent inputs to be taken into account in system development.

Eliminating the causes of non-conformity and preventive recurrence

- Hotel food production operators should stress the elimination of the causes of non-conformity and preventing as an effective solution when errors are found during food production processes. Therefore, they should identify what actions will be taken through undertaking a systematic approach of corrective action procedures to rectify the errors found. These actions should be timed and when
implemented they should be monitored to ensure their effectiveness for achieving a consistent level of quality.

**Control of the causes of potential no-conformities to prevent their occurrence**

- Hotel food production operators should eliminate the causes of the potential non-conforming products to prevent their re-occurrence in the future. They should take into account the systematic procedures should be taken into account when working on that issue to ensure consistency of food quality.

**Reviewing quality management system**

- It is important for hotel food production operators to review their QMS at specified intervals through conducting regular management meetings monthly, bi-monthly or quarterly to determine its effectiveness and recognizing their employees and customers’ feedback regarding food quality when conducting changes in the quality management system. These changes should be clearly defined and documented and employees should be informed with these changes to ensure consistent level of food quality.
CHAPTER TEN: CONCLUSIONS AND FINAL OVERVIEW

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Chapter Ten: Conclusions and Final Overview

6.1 Introduction:

This chapter concludes this study on managing food quality in hotels and developing an operational model of quality management system to ensure consistency of food quality within the hotel food production area. Section 6.2 reviews the study objectives and the extent of their achievement. The chapter then moves onto outlining the major findings of the study in section 6.3, followed by section 6.4 which highlights the significant contributions of the study to theory and practice. Limitations are presented in section 6.5 followed by opportunities for further research in section 6.6. The chapter concludes with the researcher’s personal reflections on the research process in section 6.7.

6.2 Review of objectives:

6.2.1 Objective one: Undertake a critical review of relevant literature related to quality, quality management and food production processes within the context of an integrated quality approach in the hotel sector to develop a theoretical model for achieving a consistent level of food quality.

This objective was presented in chapter three. Chapter three initially provided a critical review of literature on quality management; alternative approaches to quality management; the hospitality industry and the quality issues related to it. It then identified types of hotels, quality in hotels, hotel quality rating schemes and national awards; hotel food and beverage operations identifying their importance, the various types, and the quality issues relating to food production. The review of literature in
Chapter three revealed that there are critical elements in relation to quality, i.e. customer satisfaction; the product and its attributes; production processes; system design; customer feedback. Definitions of quality are many and varied but focus on three key issues: the customer, the product and the manufacturing process. The manufacturing process must fit the product and the product must meet customer requirements. Quality must be appropriate and consistent. Quality has evolved through four key phases: inspection; quality control; quality assurance; total quality management. Quality in the hospitality industry is a challenge because of strong competition amongst hospitality operations. Hotels and their food and beverage outlets are key components of the hospitality industry, thus ensuring the quality of their tangible and intangible aspects constitutes a key issue for maximizing customer satisfaction and increasing hotel revenues. Hotel food production constitutes one of the critical areas in which food is prepared for sale. Ensuring consistent food quality represents one of the main duties of the head chef or the food production manager.

The chapter then moved to develop a theoretical model to ensure consistency of food quality through hotel food production operations. It covered the concept of consistent quality; the relationship between food quality and consistency; the ISO standards addressing their evolution and their use as a model for a consistent quality; the concept of a systems approach; developing an effective quality control system which encompassed the five major areas of a system, i.e. system development; system documentation; system implementation; system maintenance; system improvement; the conceptual framework for a consistent hotel food production quality management
system that will be used as a framework for collecting data and will be reflected on it in chapter five.

From the operational perspectives of quality, consistency is recognized to be a significant factor for delivering quality as a great demand for customer expectation (Castle, 1996 and O'Neill and Black, 1996) and as a main aim of quality management systems (Oakland, 2003). Many studies (e.g. Krajewski and Ritzman, 1996 cited Southern, 1999; Lenehan and Harrington; 1999; Lashley, 2000; Bowen et al., 2004) have stressed consistency of quality as a main competitive advantage in hospitality operations. In a study addressing Investors in People at a four-star hotel in Glasgow, Macvicar and Brown (1994) found that the hotel carried out two approaches to achieve a consistent level of quality: (1) involving staff in quality improvement on a daily basis by their management and supervisory staff and (2) giving induction training not only for full-time staff but also for part-time to reduce labour turnover which in turn affected the delivery of consistent quality.

Hospitality systems, and in particular catering systems, are well-known for their cyclical nature (Edwards and Ingram, 1995). Cousins et al. (2002) considered food production as an operational system which could be effectively managed through the application of a systems approach. Additionally, Wood (2004) emphasized the importance of the food production area as the most interesting part in a systems approach in the hospitality context. Both control and quality approaches contributes to the same aim that is customer satisfaction (Pujo and Pillet, 2002). Control should be carried out daily to achieve consistency of food quality Vrtiprah (2001).
To implement a holistic food quality approach Nobis (1993) stated that although each organization has its own approach, he suggested three key elements that at least should be found in each quality system. These are: (1) specifications, i.e. what is to be achieved, (2) documented instructions, i.e. how it is going to be achieved, and (3) the recording system, i.e. evidence on how the stated programme/operation has been achieved. To maintain the delivery of consistent quality products in the food production area, Oakland (2003) suggested that the chef should write down in details the used system to be followed and adopted by all other employees in the food production area.

The proposed consistent hotel food production quality system should comprise all five major interlinked and connected areas of a system, i.e.: system development; system documentation; system implementation; system maintenance; system improvement based on ISO 9001 (2008). This theoretical model reflects and integrates these major areas. A holistic and comprehensive utilization of this conceptual model will in turn achieve the consistency of food quality through food production processes in hotels. Figure 6.1 shows the theoretical model for a consistent hotel food production quality management system which has been previously shown in chapter four.
Figure 6.1: A theoretical model for a consistent hotel food production quality management system

System development

System identification:
- Standard identification
- Control measures identifications
- Corrective action procedures identifications

Management responsibility:
- Commitment to quality
- Focus on customers
- Supporting quality policy

Quality resources:
- Competent personnel
- Effective training
- Suitable work environment and equipment

System Improvement

Eliminating the causes of non-conformity and preventive recurrence

Control of the causes of potential non-conformities to prevent their occurrence

Reviewing quality management system

System Implementation based on input-process-output model of food production steps

System Documentation

Managing and preparing QMS documents

Input: Purchasing  Process: Preparation

Output: Presentation

System maintenance

Controlling QMS documents

Input: Receiving  Process: Cooking

Output: Storing  Holding

Issuing  Regeneration

6.2.2  Objective two: Investigate management approaches and staff attitudes towards a consistent level of food quality in hotel food production operations.

This objective referred to answer the two main questions of this thesis: (1) what quality control practices are adopted to achieve effective consistent product quality through the food production processes in hotels? And (2) how are these quality control practices
best integrated to enhance the consistency of quality product through the food production process in hotels? To achieve this objective, hotel food production area in and around the Cardiff area were approached to investigate their management approaches and staff attitudes towards a consistent level of food quality in hotel food production operations. This involved four distinct studies with different instruments in chapter four: (1) Phase 1: preliminary and profiling information through web-based questionnaire; (2) Phase 2: management issues relating to managing of quality food production in hotels through semi-structured interviews and management questionnaires; (3) Phase 3: staff attitudes towards quality issues in hotel food production through staff attitude questionnaires; (4) Phase 4: a non-participant observation to verify whether the given system is being adhered to.

Phase 1 (i.e. preliminary and profiling information of hotel approached) presented the results of the web-bases questionnaire which carried out in the hotel sector in and around the Cardiff area to obtain pre-information relating to hotels accreditation, size, ownership, food and beverage outlets, number of guests served, staff involved in food preparation, functions, and the availability of quality management system in the food production area.

Phase 2 involved the findings of 13 hotels located in and around the Cardiff area to evaluate whether the company has developed the system to meet a given standard's requirements with a main focus on managing food quality in the food production area in these hotels and how can they obtain a consistent level of that quality as a main purpose of a system audit through semi-structured interviews and management attitude.
questionnaires. This presented through semi-structured interviews to explore the viewpoints of the 13 respondents related to different key themes, i.e. quality strategy; quality manuals; training; staff recruitment; raw material specification; receipt, storage and issuing; temperature monitoring; standard recipes; evaluating food presentation; quality audit.

Phase 3 covered the results of staff attitude questionnaires representing only six hotels out of the 13 hotels researched in Phase 2 which allowed the researcher to distribute staff attitude questionnaires to food production employees of these hotels. This chapter showed the degree of acceptance for six hotel food production employees towards aspects relating to ensuring consistent level of food quality during the steps of food production.

Phase 4 included the findings of a non-participant observation for case R9, since this hotel was the only hotel which allowed the researcher to this method. Therefore this case has been investigated through non-participant observation to check the difference between what the operations manager of that hotel said in the semi-structured interview and what was actually being done in the food production area. The results from the non-participant observation proved that they have a quality system (i.e. Fresh Manual which covers all control measures through food production processes) that should be followed, as they said they follow it accurately but in fact they did not apply it precisely. Since, the operations manager confirmed that they have a quality system and all staff in the food production area apply it accurately, but in fact, when conducting the compliance audit it was noticed that there was a major disparity between what was
stated in the quality system and should be followed and what was actually applied in practice.

6.2.3 Objective three: Identify and evaluate the management practices and staff attitudes against the conceptual framework to develop an operational model for consistent quality in hotel food production.

This objective was accomplished in chapter five. In this chapter the researcher used the theoretical model for consistent quality in hotel food production (figure 5.1) as a framework to present a discussion of the results found in hotels approached in chapter four. Since the researcher took the headings of that conceptual framework to structure the discussion of what was found and how it related to literature to identify what the issues were and to develop the proposals for what they need to look like. Thus, the researcher developed an operational model recognizing all the issues which had been raised in the literature and in practice through discussing the results of all instruments used in data collection to ensure consistency of food quality within hotel food production operations. Figure 6.2 illustrates the proposed operational model for consistent quality in hotel food production operations.
To ensure a consistent level of food quality within hotel food production operations, it is important to use the proposed operational model for consistent quality (see figure 10.2). This model should involve five key sections, i.e. system development, system documentation, system implementation, system maintenance, and system improvement. Full adherence to that model holistically and comprehensively will in turn lead to consistency of food quality within hotel food production operations.

In terms of system development section, it covered three key areas: (1) system identification which involved the identification of the standard, control measures and
corrective actions; (2) management responsibility that encompassed commitment to quality, focus on customers and supporting quality policy; (3) quality resources which included competent personnel, effective training and suitable work environment and equipment.

In respect of system documentation, it should incorporate two key components: managing and preparing QMS documents through effective documentation (i.e. minimum effort for maximum utility) and the constant controlling for these QMS documents to ensure its validity and applicability within hotel food production operations.

In relation to system implementation, the researcher focused on the food production input-process-output model. The main focus in this research was to ensure consistency of food production operations in hotel. This section included nine different processes: purchasing; receiving; storing; issuing; preparation; cooking; holding; regeneration; presentation.

Considering system maintenance, it should involve three key areas: control of inspection or audit; control of measuring and test equipment; control of QMS records. Full adherence to these key areas will in turn maintain the system regularly.

System improvement is a significant section to ensure an ongoing continuous improvement for the system to ensure that it is up to date with new trends in food quality according to customer requirements or regulations. This section involved three
key aspects: eliminating the causes of non-conformity and preventive recurrence; control of the causes of potential no-conformities to prevent their occurrence; reviewing quality management system. Any change with the system should be clearly-identified and effectively-documented to ensure all hotel food production employees are aware of these changes to ensure the consistency of food quality through hotel food production processes.

6.2.4 **Objective four:** Provide recommendations for hotel food production operators to ensure consistency in the level of food quality offered.

This objective was covered in chapter five in section 5.9. The researcher proposed recommendations for hotel food production operators to be taken into account to ensure a consistent level of food quality in hotel food production operations. A number of recommendations were proposed by the author in order to enable hotel food production operators achieve a consistent level of food quality during food production processes from food purchasing to food presentation on plates or display on buffets.

6.3 **Major findings:**

The findings coming out from all aforementioned instruments used for data collection in this research revealed a number of major issues that need to be improved to achieve consistency of food quality within hotel food production operations. These major findings are as follows:
Hotel kitchens which are run by a chef and ignore the system are over-reliant on individuals

The findings highlighted that although, quality standards in hotel food production operations have been identified but they actually were not used or utilized effectively for various reasons: miscommunication, unstructured hierarchy, culture, and full reliance on individuals not on the standard. These issues will affect directly the consistency of food quality:

The chef could have a week off and the consistency of that food completely could be different definitely..... Chefs don't look at systems; you know their passion about the food and products; if you put them in a system they will struggle.

(R10)

The majority of hotels approached in this study indicated that they just were reliant on individuals in the kitchen not recipe manuals to produce the food since their menus are changed frequently to the extent that they cannot write down every single thing. In addition, kitchen employees keep knowledge and skills in their minds, since they used to think creatively without writing down all what they do. Moreover, kitchen personnel have often got passion for the food and its cooking not for writing recipes. I believe that the way to overcome this issue is by effective documentation through saying what they do and writing down what they actually did.

Lack of a clear structure

Lack of a clear structure in hotel operations represented as a key barrier for ensuring a consistent level of food quality. It led to a gap between the head chef and peer
managers in delivering information that will in its turn affects negatively the consistency of food quality.

Normally, the chef is supposed to report to myself (operations manager) but it is unusual here, this should be changed. Every operational department in this hotel reports to me, e.g. service areas, housekeeping, front office, and concierge. But the chef doesn't report to me. In terms of hierarchy, yes I can work and say to head chef that I need that chef to do that, but these chefs are not reporting to me.

(R10)

Celebrity chefs and poor communication

Although a celebrity chef represents a competitive advantage in hotel food operations, the findings revealed that there was poor communication between the chef and peer managers since it was found difficulty with dealing with that chef regarding food quality issues. Thus, hotel food production areas were dominated by his fancies, personality and attitude. Consequently, hotel managers should work together with their celebrity chefs to get a consistent level of food quality and not leave the operation to them to do whatever they want without any communication with peer managers. Since, it is important that chefs are not able to have this dominant role in hotel food production operations:

Our executive chef is a famous member of Welsh culinary team. He has awarded AA rosettes and has got lots of experience. He probably knows what to do to reach those two rosettes, but the rest of his team wouldn't know that. Nothing is written down to say this is what they must to do to be awarded these two rosettes......it is difficult to say I want to see that dish to that quality......The chef could have a week off and the consistency of that food completely could be different definitely.

(R10)

Lack of effective communication between peer managers represents one of the main barriers to achieve a consistent level of food quality. I believe that hotel food
production operations should work on this issue to obtain a consistent level of food quality within hotel food production operations.

**Demonstration of management commitment to quality**

The findings revealed that hotel food production operations carried out several practices illustrating their commitment to quality, e.g. recognizing staff feedback and suggestions regarding quality issues through conducting taste panels, conducting regular daily meetings with employees, considering customers feedback and requirements, choosing suppliers very carefully and restricting the number of nominated suppliers, following the specification list for all food items received, conducting due diligence practices and focusing on effective training and supervision.

**Tensions between price reductionist and food quality**

Price reduction is not a proper way to sustain competitive advantage in hotel food service businesses because customers are less worried about prices, but they are concerned with the quality of food. Therefore, hotel food service operations should improve their food quality to obtain more customers not reducing their food prices. The findings revealed that there is an erroneous belief that cheap food prices for customers represents a competitive advantage for hotel food operations, but I personally believe that the way to get more customers is through improving the quality of food without price reduction.
Excessive owner interference in hotel food production operations

I believe that if the owner is totally involved in the day-to-day operation of hotel food production business, there will be an impact on the consistency of food quality in the hotel food production operations. Therefore owners should not be interfered in the operation of food quality within hotel food production processes.

Tensions between technical skills and managerial skills of chefs

The core responsibility of the chef is organizing and administering not purely cooking (Kotas and Jayawardena, 1994; Reed, 1995; Pratten, 2003a, b; Stutts and Wortman; 2006; Bosselman, 2007; Rutherford and O’Fallon, 2007). However, chefs should have both culinary experience and food knowledge, since their job exceeds the job of cooks as they should: have planning and management skills; perform training programmes and supervision responsibilities; coordinate food outlets for the hotel food production (Career as a Chef, 2007 cited Chuang et al., 2009). The findings revealed that most of chefs shy away from managerial skills believing they are inconsistent with their passion for cooking. Actually, I think that to be a successful chef, you should have both technical and managerial skills.

Shortage in qualified chefs

The findings revealed a major lack in qualified chefs in hotel food production operations. To overcome the problem, one respondent (R9) proposed to work hard at
training young people to be qualified chefs, since he rejected the idea of being a tyrannical chef who is a reluctant trainer, unwilling to share his skills with other people in the kitchen:

It is not easy to find a qualified chef, but the answer is getting youngsters straight from schools and training them up. Yea, getting someone in your role, and then picking a knife and happy in a life in training them up, that’s the right success.

(R9)

**Tyrannical chefs represent barriers for food quality training**

According to Horng and Lee (2009) that traditional mentors (i.e. qualified chefs) often keep specialized skills and knowledge (i.e. tricks of the trade), since they do not have the desire to convey these skills and knowledge to apprentices in hotel food production:

experience and he probably knows what he needs to reach two rosettes award, but the rest of his team wouldn't know that......Nothing is written down to say this is what they must to do to get two rosettes.

(R10)

Chefs should have the desire to train their apprentices if they want to achieve consistent level of food quality. Since unwillingness to convey chefs’ skills to their apprentices in the kitchen will in turn lead to inconsistent food quality.

**Tension between creativity and consistency**

Documented creativity promotes consistency but some chefs shy away from documentation believing it stifles creativity. Since creativity and consistency are not incompatible but mutually complementary and integrated. I believe that the way to overcome this tension is by effective documentation to capture creativity and to ensure consistency of food quality within hotel food production operations.
Effective documentation – a simple straightforward QMS

System documentation represents a reference for quality system and training purposes (Rose, 2001). Inability or unwillingness of written, documented and maintained operational standards represents one of the key reasons for restaurant business failure (Parsa et al., 2005). To overcome this problem, this documentation should be developed in an effective way, i.e., minimum effort for maximum utility through ensuring less paperwork, e.g., documenting quality issues for a similar group of dishes rather than each dish separately (Tailor, 2008b and Taylor and Taylor, 2008). In addition we have to appreciate what chefs correctly did to encourage them write down every single thing they do in the kitchen. This is consistent with Taylor and Taylor (2008) that chefs appreciate whoever asking them to write down what they did right rather than what they wrongly did. Therefore we need to focus on documenting every single issue related to the quality of food in food production area through saying what the chefs do and then writing it down (Manning, 2000) to achieve consistency of food quality.

Specifications list

Of great importance is having a specification list for each single food item which will be used in hotel food production to ensure a consistent level of food quality (Zilliacus, 1985; Kotas and Jayawardena, 1994; Dittmer and Griffith, 1997; Walker, 2008). In addition, Zilliacus (1985) stressed the effective relationship between a specifications list and recipes to ensure consistency of quality food products; since recipes should take
into account the specifications of the items which will be purchased. He further added that changes in ingredients should not be made unless the quality of product will be the same or improved, otherwise the recipe should be changed completely.

Strangely, respondents who were found not using a specifications list for their food items declared that it was quicker for them to order what they want from suppliers verbal. These situations will impact directly the consistency of their food quality offered since there is no written specification for the food items used in production.

**Lack of a standard recipe for every single item produced in hotel food operations**

Chon and Sparrowe, 2000; Shiring et al., 2001; Hayes and Ninemeier, 2006 emphasized the importance of the availability of a written standard recipe for every single item in the menu as a way of ensuring consistent food quality, and as a tool of communication between kitchen staff to ensure consistency of food quality (Amjadi and Hussain, 2005). However majority of respondents declared that they had standard recipes but not for all food items produced in the hotel food production area, especially buffet menus, set menus, and the specialties of the day. Surprisingly, three respondents (R5, R10, and R12) indicated that they did not have standard recipes for their food products. Since, they were found reliant on the experience of their chefs shying away from following a standard recipe when producing food. I strongly believe that this issue has a major impact on the consistency of food quality within hotel food operations. Therefore chefs should write down the recipe of every single food items produced within hotel food operations.
production area and encourage their kitchen staff to follow these recipes regularly when producing food to ensure consistent level of food quality from all kitchen staff.

**Tension between a standard format of food presentation and passion for cooking**

Conformance of food appearance with its picture and description on the menu results in food-quality consistency. However most of respondents did not have pictures for all food items produced. Food presentation pictures promote consistency but some chefs shy away from getting a standard format of food presentation believing it stifles their passion for cooking and creativity. I suggest that if all food items have a standard format of presentation and a picture, the consistency of food quality will be achieved directly.

6.4 **Contributions of thesis:**

The current study does have contribution to theory, practice and methodology as illustrated and discussed below:

10.4.1 **Contributions to theory**

The study contributes to the understanding of the various issues related to food quality management in hotel food production. Through its pragmatic interpretation of the review of literature, it has added to the growing academic literature a deep understanding of quality issues in hotel food production operations. It contributes to the
knowledge of the Welsh hotel catering context with regard to consistency of food quality within food production operations. The study contributed to the theory by presenting the best practice conceptual framework to achieve consistent food quality in hotel food production operations to be taken into account while managing food quality through food production processes.

A consistent hotel food production quality system should comprise all five major interlinked and connected areas of a system which begins with system development through system documentation, system implementation, system maintenance and ends with system improvement elements based on ISO 9001 (2008). This conceptual framework reflects and integrates these major areas. A holistic and comprehensive utilization of this conceptual model will in turn achieve a consistent level of food quality through food production processes from food purchasing till food presentation in the hotel food production area.

6.4.2 Contributions to practice

This research contributes to practice through developing an operational system for consistent food quality in hotel food production operations which covers all five major areas of the ISO quality management system 9001 (2008). Full adherence to that cyclical system holistically and comprehensively will lead to that aim. According to Oakland (2003) and Skidmore and Eva (2004) the main contribution of a good quality management system is to provide consistent quality products, as a great demand for customer expectation (Castle, 1996 and O'Neill and Black, 1996). Therefore the
The proposed operational model for consistent quality in hotel food production is a result of studying different issues related to food quality in hotel food production operations. It was very significant to discover the reasons for inconsistent quality food in hotel food operations. The study highlighted major issues which affecting the consistency of food quality in hotel food production operations and proposed a number of recommendations which enables hotel food production operatives to ensure a consistent level of food quality through food production processes. These major issues involved for instance overcoming the tension between creativity and consistency through effective documentation for creativity.

The operational model for consistent food quality in hotel food production operations must be: consistent with best practice; based on a consistent standard; easy to implement through incorporating simple practical steps to meet standard requirements; based on wide implications of food quality not just food safety practices; based on full management commitment to quality; focused on customers’ requirements and feedback; based on clear objectives; supporting for a clear quality policy; based on competent staff following a consistent standard through team working; based on effective and systematic ongoing training to all food production employees; based on effective communication between employees, between peer managers, and between managers and employees; based on effective leadership; based on staff involvement in quality issues development; based on clear organizational structure; based on suitable work equipment; based on effective documentation (i.e. minimum effort for maximum utility).
through considering simplicity, avoiding repetition and controlling its documents; based on consistent food production practices and procedures; based on good relationship with food suppliers; maintained through undertaking regular quality audits and controlling their records; based on controlling of test and measuring equipment; based on clear and consistent corrective and preventive actions procedures; reviewed continually to ensure its effectiveness; based on documenting any change to ensure consistency and staff should be informed with these changes.

6.5 Research limitations:

According to Ivonkova et al. (2006) and Sosulski and Lawrence (2008) that a key limitation of mixed methods design is the long time associated with it to collect and analyze quantitative and qualitative data in one study. Acquiring information related to food quality in hotel food production operations is quite difficult and challenging matter. Since the researcher spent a long time persuading respondents to participate in this research through sending them many e-mails and contacting them through many phone calls. Thus, seven respondents out of 20 respondents who completed the online survey declined to be involved. Reasons for refusing to participate in this research varied which included that they did not want to help at all, they did not have time because they were very busy, or they would fear that the information gained may be used for official purposes. Therefore the population of the study was only 13 hotels that consented to conducting semi-structured interviews. Only six hotels out of these 13 hotels allowed the researcher to distribute staff attitude questionnaires over food production staff.
No more than I would have expected only one hotel allowed the researcher to conduct a compliance audit through the hotel food production processes. The other 12 hotels refused to conduct this audit for different reasons, e.g. most of respondents said that the food production area is critical area and it is not allowed for just anyone to come and do observations and the policy of their hotel would not allow external persons to conduct that observation. Unfortunately, the findings coming from conducting that audit in the only one hotel revealed that there was a major disparity between what was said by the operations manager of that hotel (R9) regarding consistency of food quality through food production processes and what was actually found when conducting the audit.

In addition, one of the cases (R10) the operations manager refused to distribute the staff attitude questionnaires or conduct the observation as he frankly indicated when he was contacted by phone:

We actually face a big issue in quality in the food production area and we cannot allow any external person to audit it

(R10)

Due to time and other constraints there were number of limitations. For instance, the hotels approached were only in and around the Cardiff area. Thus, the researcher has not approached different hotels within the same chain to investigate the consistency of food quality for a group of hotels within the same chain. Additionally, the proposed operational model for consistent quality in hotel food production operations has not been tested yet. Another limitation was inherent with this study that this model is focusing only on the food production processes starting from food purchasing and ending with food presentation on the dish or the display on buffets. To ensure a holistic approach of hotel
food quality management system, it should be linked with the service part in hotel food operations. However, there are many studies addressed the SERVQUAL approach in hotels, but did not consider how to ensure consistent service quality in hotel food operations. To ensure a holistic approach for a consistent level of food quality in hotel food operations, the hotel food QMS should consider all quality issues from farm to customers’ fork.

Finally, it was found during the research journey that despite the attention given to quality management in hospitality, relatively little academic research has addressed the topic of food quality in hotels. This echoed what has been stated by Andaleeb and Conway (2006) that little attention had been paid to the study of food quality in restaurant operations which was found seriously under-researching.

6.6 Opportunities for further research:

This research offers several opportunities for potential further investigation as highlighted below:

- The future research could address more hotels across the UK. Since it could investigate independent versus chain hotels or investigate a group of hotels within the same chain to identify the issues of branding and quality via the operational model for consistent quality in hotel food production management system.
Chapter Ten: Conclusions and Final Overview

- The academic literature related to ensuring consistent quality in hotel food production operations needs to be expanded, since the researcher suffered from lack of literature in this subject.
- The proposed operational model for consistent quality in hotel food production operations should be tested within the same hotels approached or through other hotels in the UK or could be tested in number of hotels in Egypt which is the country of the researcher to make a comparison between the UK hotels and Egypt hotels.
- Future research could focus on linking the proposed model with the service part in hotel food operations. Additionally it could obtain information from customers of hotel restaurants regarding the consistency of food quality within hotel food operations.
- Future investigations could concentrate on a holistic approach from farm to customers’ fork relating to consistency of food quality within hotel food operations.
- Future research could focus on the product itself not the processes of production through conducting empirical research via choosing some food items within hotel food production and investigating them from receiving to presentation to identify what affecting ensuring a consistent level of food quality in hotel food production operations.
- The applicability of the proposed model could be investigated for independent restaurant food production operations.
6.7 Personal reflections:

I have learnt from this study about quality management in hotel food production; about the research process; about presenting papers in conferences; designing posters; about writing research papers; about how to work under pressure and stress. However, mostly I have learnt about myself. I feel personally that accomplishing this study it is not the end, since I still look forward to continue researching in the same which is my passion. I am very interested in continuing to improve my research skills through post-doctoral study.

My research journey has not been easy and has taken longer than I have wished. But I have never lost the confidence in God and myself that nothing is impossible and one day I will achieve the progress of this thesis. At times when things have been particularly difficult I have valued the support of my family, friends, research colleagues, and supervisors. Some words which have helped me were offered by Professor Eleri Jones, my supervisor, are:

\textit{The darkest hour is before the dawn;}

\textit{The easiest way to eat an elephant is in small bites;}

\textit{Take the bull by the horns;}

\textit{You cannot see the wood for the trees;}

\textit{Less is more}

I kept these words on the desk in front of me and they spurred me during my studies. I look forward to returning to Helwan University, faculty of tourism and hotels, Cairo, Egypt where I am a lecturer in hotel management department and to sharing my
experiences and new-found knowledge with my colleagues and students, particularly my research students.
REFERENCES


References


References


References


References

[Accessed January, 30th, 2007].


Missing references:
APPENDICES

Appendix 1

Web-based questionnaire

CONFIDENTIAL

HOTEL SURVEY

Please answer the following questions by placing one or more ticks in the box (es) as necessary, and provide further information as appropriate in the spaces allowed.

1. What is the correct full name of your hotel?

2. Is your hotel accredited by the WTB or any other organization?
   Please specify:

3. What star and/or crown (or other) rating does your hotel have?
   Please specify:

4. How many rooms does your hotel have?
   Please specify:
5. How would you classify your hotel category?

- A single privately owned hotel □
- Part of privately owned company □
- Part of national hotel chain company □
- Part of international hotel chain company □
- Other (please specify) .................................................................

6. If your hotel is part of a privately owned, national or international company or chain, please indicate the number of hotels in your company or chain.
(please take ONE box only)

- 1 - 5 □
- 6 – 10 □
- 11 – 20 □
- 21 – 50 □
- 51 – 100 □
- > 100 □

Comments: .........................................................................................

7. What type of food & beverage outlets do you have in your hotel?
(please tick ALL that apply)

- None □
- Restaurant □
- Coffee shop □
- Bar □
- Snack bar □
- Takeaway □
- Room service □
- Other (please specify) □

Other (please specify) ..................................................................................
8. How many people that you normally serve food to in the hotel (excluding functions)? (please take ONE box only)

<table>
<thead>
<tr>
<th>Range</th>
<th>Box</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 – 10</td>
<td>☐</td>
</tr>
<tr>
<td>11 – 20</td>
<td>☐</td>
</tr>
<tr>
<td>21 – 50</td>
<td>☐</td>
</tr>
<tr>
<td>51 - 100</td>
<td>☐</td>
</tr>
<tr>
<td>101 - 150</td>
<td>☐</td>
</tr>
<tr>
<td>151 – 200</td>
<td>☐</td>
</tr>
<tr>
<td>201 - 250</td>
<td>☐</td>
</tr>
<tr>
<td>&gt; 250</td>
<td>☐</td>
</tr>
</tbody>
</table>

Comments: ...........................................................................................................
........................................................................................................
........................................................................................................

9. Do you cater for functions in your hotel?

Yes ☐

No ☐

Comments: ...........................................................................................................
........................................................................................................
........................................................................................................

If no, please go direct to Q.13.

10. If yes, what type of functions do you cater for in your hotel? (please tick ALL that apply)

- Banquets ☐
- Conferences ☐
- Weddings ☐
- Private parties ☐
- Special events ☐
- Other (please specify) ☐

Other (please specify)........................................................................................................
........................................................................................................
........................................................................................................
11. How many functions do you cater for in any given month?  
(Please take ONE box for summer and ONE box for winter)

<table>
<thead>
<tr>
<th></th>
<th>Never</th>
<th>Once a week or less</th>
<th>5 – 10 a month</th>
<th>more than 10 a month</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Summer</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>B. Winter</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

Comments: ........................................................................................................................................
........................................................................................................................................
........................................................................................................................................

12. Which type of function meals are regularly served in your hotel?  
(please tick ALL that apply)

- Finger buffets ☐
- Fork buffets ☐
- Hot and cold buffets ☐
- Sit – down set menu meals ☐
- Sit – down a la cart menu ☐

Other (please specify) ........................................................................................................................
........................................................................................................................................
........................................................................................................................................

13. How many full-time, part-time or casual staff are employed in your hotel in the food production areas (including functions)?  
(please tick ONE box for each)

<table>
<thead>
<tr>
<th></th>
<th>Full-time</th>
<th>Part-time</th>
<th>Casual</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>1 – 10</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>11 – 20</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>21 – 30</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>&gt; 30</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

Comments: ........................................................................................................................................
........................................................................................................................................
........................................................................................................................................
14. Do you use quality management systems in the food production area in your hotel?

Yes □  No □

Please specify: …………………………………………………………………………………………………………
………………………………………………………………………………………………………
………………………………………………………………………………………………………

15. Is your hotel accredited with an ISO 9000 series, Investors In People (IIP) or similar award?

Yes □  No □

Please specify: …………………………………………………………………………………………………………
………………………………………………………………………………………………………
………………………………………………………………………………………………………

16. Does your hotel have any awards for its food and/or beverages?

Yes □  No □

Please specify: …………………………………………………………………………………………………………
………………………………………………………………………………………………………
………………………………………………………………………………………………………

17. How would you get feedback from customers concerning the quality of food served? (please tick ALL that apply)

- Guest comment cards □
- Employee feedback □
- Focus groups □
- Management observation □
- Sales data □
- Formal customer interviews □
- Mail, phone and in-person questionnaires □

Other (please specify)……………………………………………………………………………………………………
……………………………………………………………………………………………………
……………………………………………………………………………………………………

Appendices
18. Do you have a member of your management or staff responsible for “Quality” training?

Yes ☐         No ☐

If yes, please state their job title / position .................................................................
........................................................................................................................................
........................................................................................................................................
........................................................................................................................................

19. Do the food production areas in your hotel have quality manuals?

Yes ☐         No ☐

Comments: ...........................................................................................................................
........................................................................................................................................
........................................................................................................................................
........................................................................................................................................

20. Which areas are covered in the quality manuals?
(please tick ALL that apply)

- Purchasing ☐
- Receiving ☐
- Storing ☐
- Issuing ☐
- Preparation ☐
- Cooking ☐
- Presentation ☐
- None of these ☐

Other (please specify)........................................................................................................
........................................................................................................................................
........................................................................................................................................
........................................................................................................................................

21. Would you be prepared to discuss these issues further with me?

Yes ☐         No ☐

Comments: ...........................................................................................................................
........................................................................................................................................
........................................................................................................................................
........................................................................................................................................
Name of person responding to this questionnaire: ............................................................
............................................................................................................................................
Position: ..............................................................................................................................
Telephone No.: ...................................................................................................................
E-mail address: ...................................................................................................................

Qualifications:

- Degree ☐
- HND / C ☐
- National Diploma ☐
- Craft Certificate ☐
- Other (please specify).........................................................
  .................................................................................................................................
  .................................................................................................................................

THANK YOU FOR YOUR CO-OPERATION

If you would like to receive a summary of the main findings of this research, please tick the box bellow:

☐
Appendices

Appendix 2

Sample of semi-structured interview questions

**Food Quality Strategy:**
- Do you have a quality strategy or policy for food production within your hotel? And what is its main aim?
- Does management stress the quality of food products?
- What are current quality control practices or systems you apply in your hotel to achieve consistent quality product?
- How can you ensure food products first time?
- Do you have a mission statement?
- Is quality an explicit part of your mission statement?
- What is affecting producing consistent food quality?
- When customers inquired about quality assurance, was there a proper and prepared response?

**Quality Manuals:**
- Do you have a quality manual detailing food production steps? And is it up to date? (provide evidence)
- How effective is your quality manual?
- Who is involved in developing such quality manuals?
- Does your quality manual achieve consistent quality of food product?
- How do you ensure that such quality manuals achieve consistency?

**Training:**
- Have staff members trained to produce consistent quality food product?
- What training for quality assurance has been offered? To what level and frequency?
- Have staff members requested special quality assurance training?
- Are there well kept records for staff training?
- How can you improve training procedures for food quality?

**Staff Recruiting:**
- Do you find it is easy to recruit staff to food production roles?
- Do you recruit trained staff or do you prefer to train in-house?
- When recruiting new staff, what expectations do you have of them? (e.g. do you require them to have food hygiene certificate, or certificate of public health, or doctor certificate).

**Specifications:**
- Do you have a specifications list for all food items purchased and how can you ensure consistent level of quality food? (provide evidence)
- How effective is the specification list for food quality?

**Receipt and Storage:**
• Are receiving procedures clearly defined and documented?
• Are all documentations relating to food receiving well kept?
• Are there assigned staff for receiving and storing of food?
• Are storing procedures clearly defined and documented?
• Are all documentations for storing and issuing food well-kept?

Temperature monitory: (provide evidence)
• Is there well-kept documentation for monitoring temperatures of food items during food production steps?
• Is there a well kept documentation for monitoring temperatures of food storing appliances?

Standard Recipe: (provide evidence)
• Is there a standard recipe for all foods produced?
• Are all standard recipes easily accessible to all food production staff?
• How often do you review recipes?
• Are all standard recipes considering quality issues when developed?
• When standard recipes are changed or developed, are quality issues considered?
• Who is involved in changing standard recipes?
• Do all food production staff use and follow standard recipes during production?
• Are staff trained to use standard recipes when they are changed or developed?

Evaluating food presentation:
• How can you judge the appearance of final product in terms of its quality?

Quality Audit:
• Is regular internal audit examining quality assurance?
• How effective is quality audit?
• Who is involved in internal quality audit?
• What are the internal quality audit procedures?
• How can you implement the quality audit?
• Is there well-kept documentation for quality audits conducted?
• How do you review, monitor, and action any change?
• At the end could you tell me some recommendation for F&B Mangers of hotels to improve the quality and achieve consistent level of quality food products?
Appendices

Appendix 3

Management questionnaire

CONFIDENTIAL

MANAGEMENT QUESTIONNAIRE

This is a part of PhD study to identify approaches to Food Quality within Food Production in Hotels. (All responses will, of course, remain confidential)

Please rate the extent of your agreement with the following questions and provide further information as appropriate in the spaces allowed.

<table>
<thead>
<tr>
<th>Question</th>
<th>Never</th>
<th>Rarely</th>
<th>Sometimes</th>
<th>Often</th>
<th>V. Often</th>
</tr>
</thead>
<tbody>
<tr>
<td>How often do you refer to quality manuals?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>How often does management stress quality food product?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>How often do quality manuals achieve consistent level of quality?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>How often does food production staff training involve issues related to food quality?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>How often should staff be involved in developing quality systems/manuals?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>How often does staff use standard recipes when producing food items?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>How often do you review standard recipes?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>How often do you use specification list for all items purchased?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>How often is special training for quality needed?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>How often should accurate records of received, stored, and issued items be kept?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>How often should the appearance of food item be matching the picture and description on the menu?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>
Appendices

Appendix 4

Staff attitude questionnaires

CONFIDENTIAL

Staff Attitude Questionnaire

This is a part of PhD study to identify Staff Attitude with regard to Food Quality within Food Production in Hotels. *(All responses will, of course, remain confidential)*

Please rate the extent of your agreement with the following statements and provide further information as appropriate in the spaces allowed.

<table>
<thead>
<tr>
<th>I think that:</th>
<th>Strongly agree</th>
<th>Agree</th>
<th>Undecided</th>
<th>Disagree</th>
<th>Strongly disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>All staff should be committed to quality.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Comments:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All staff should be involved in the development of quality systems/ manuals.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Comments:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Training is not critical to quality.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Comments:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All staff should not be trained.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Comments:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Training should be carried out mainly on the job.</td>
<td>Strongly agree</td>
<td>Agree</td>
<td>Undecided</td>
<td>Disagree</td>
<td>Strongly disagree</td>
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<table>
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<tr>
<th>Training records should be kept for each staff member.</th>
<th>Strongly agree</th>
<th>Agree</th>
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<td>Comments:</td>
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| Communication is critical to quality                   |                |       |           |          |                   |
| Comments:                                              |                |       |           |          |                   |

| Follow-up is not critical to quality.                  |                |       |           |          |                   |
| Comments:                                              |                |       |           |          |                   |

<table>
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<tr>
<th>All food production procedures should be clearly defined and documented to all staff.</th>
<th>Strongly agree</th>
<th>Agree</th>
<th>Undecided</th>
<th>Disagree</th>
<th>Strongly disagree</th>
</tr>
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<tr>
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<table>
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<th>Temperatures of food appliances should be monitored and recorded regularly.</th>
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<th>Agree</th>
<th>Undecided</th>
<th>Disagree</th>
<th>Strongly disagree</th>
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<tr>
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<table>
<thead>
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<th>Temperatures of food items should be monitored and recorded at all stages of production.</th>
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<th>Agree</th>
<th>Undecided</th>
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<tbody>
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<tr>
<td>▪ Accurate records of received, stored and issued items should be kept.</td>
<td>Strongly agree</td>
<td>Agree</td>
<td>Undecided</td>
<td>Disagree</td>
<td>Strongly disagree</td>
</tr>
<tr>
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<tr>
<td>Comments:</td>
<td></td>
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<td></td>
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<tr>
<td>▪ The appearance of food items should be confirmed with the picture and description on the menu.</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Comments:</td>
<td></td>
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<td></td>
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<tr>
<td>▪ A standard format of presentation of different dishes should be available.</td>
<td></td>
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<tr>
<td>Comments:</td>
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<td></td>
</tr>
<tr>
<td>▪ A regular quality audit should be undertaken.</td>
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<tr>
<td>Comments:</td>
<td></td>
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<tr>
<td>▪ Each month a different member of staff should take responsibility for undertaking quality audits.</td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Comments:</td>
<td></td>
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</tr>
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</table>
Job Title: …………………………………………………………………………………

………………………………………………………………………………

………………………………………………………………………………

Length of time with the hotel: ……………………………………………………………

………………………………………………………………………………

………………………………………………………………………………

THANK YOU FOR YOUR COOPERATION

Contact Details:

Reda Gadelrab,
PhD Researcher, Cardiff School of Management, UWIC,
Colchester Avenue, CF23 9XR, Cardiff

Email: R.M.Gadelrab@uwic.ac.uk
       redahafz@hotmail.com

Mob. Phone: 07809155848
## Appendix 5

### Non-participant observation checklist

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
<th>Comments</th>
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<td>Is there a designated person responsible for receiving all commodities?</td>
<td>☐</td>
<td>☐</td>
<td></td>
</tr>
<tr>
<td>Is the receiving area well equipped with different kinds of scales?</td>
<td>☐</td>
<td>☐</td>
<td></td>
</tr>
<tr>
<td>Does the receiving area have different types of thermometers?</td>
<td>☐</td>
<td>☐</td>
<td></td>
</tr>
<tr>
<td>Is the receiving area well organized?</td>
<td>☐</td>
<td>☐</td>
<td></td>
</tr>
<tr>
<td>Is the receiving area clean?</td>
<td>☐</td>
<td>☐</td>
<td></td>
</tr>
<tr>
<td>Is the receiving area sanitized?</td>
<td>☐</td>
<td>☐</td>
<td></td>
</tr>
<tr>
<td>Is a detailed specification list of each item received available?</td>
<td>☐</td>
<td>☐</td>
<td></td>
</tr>
<tr>
<td>Are all received items checked immediately against its specification list?</td>
<td>☐</td>
<td>☐</td>
<td></td>
</tr>
<tr>
<td>Are all received items appropriately sealed / packed?</td>
<td>☐</td>
<td>☐</td>
<td></td>
</tr>
<tr>
<td>Are the temperature for all received food checked regularly</td>
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<td>☐</td>
<td></td>
</tr>
<tr>
<td>Storage Question</td>
<td>Yes</td>
<td>No</td>
<td>Comments</td>
</tr>
<tr>
<td>---------------------------------------------------------------------------------</td>
<td>-----</td>
<td>----</td>
<td>-----------------------------------</td>
</tr>
<tr>
<td>Is the storage area equipped with mobile racks?</td>
<td>☐</td>
<td>☐</td>
<td></td>
</tr>
<tr>
<td>Is the storage area equipped with slotted trays?</td>
<td>☐</td>
<td>☐</td>
<td></td>
</tr>
<tr>
<td>Is the storage area equipped with bins?</td>
<td>☐</td>
<td>☐</td>
<td></td>
</tr>
<tr>
<td>Are all accepted foodstuffs stored immediately?</td>
<td>☐</td>
<td>☐</td>
<td></td>
</tr>
<tr>
<td>Is external packaging removed once foodstuffs have been delivered?</td>
<td>☐</td>
<td>☐</td>
<td></td>
</tr>
<tr>
<td>Are foodstuffs stored in properly containers?</td>
<td>☐</td>
<td>☐</td>
<td></td>
</tr>
<tr>
<td>Is received food correctly stored and rotated?</td>
<td>☐</td>
<td>☐</td>
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<tr>
<td>Are all frozen foodstuffs transferred immediately to freezer storage?</td>
<td>☐</td>
<td>☐</td>
<td></td>
</tr>
<tr>
<td>Are chilled foodstuffs placed into chilled storage without delay?</td>
<td>☐</td>
<td>☐</td>
<td></td>
</tr>
<tr>
<td>Are all fruits and Vegetables removed from packing cases before storing?</td>
<td>☐</td>
<td>☐</td>
<td></td>
</tr>
<tr>
<td>Are all fruits and Vegetables placed in clean, hygienic storage containers?</td>
<td>☐</td>
<td>☐</td>
<td></td>
</tr>
<tr>
<td>Are all fruits and Vegetables placed in a chilled storage with adequate ventilation?</td>
<td>☐</td>
<td>☐</td>
<td></td>
</tr>
<tr>
<td>Are dry goods placed off the floor?</td>
<td>☐</td>
<td>☐</td>
<td></td>
</tr>
<tr>
<td>Are dry foods placed away from walls?</td>
<td>☐</td>
<td>☐</td>
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<tr>
<td>Are dry foods placed into clean, dry and well ventilated storage immediately?</td>
<td>☐</td>
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<tr>
<td>Are perishable foodstuffs stored in small quantities and for short periods of time?</td>
<td>☐</td>
<td>☐</td>
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<tr>
<td>Are foodstuffs wrapped or covered before storage?</td>
<td>☐</td>
<td>☐</td>
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<tr>
<td>Are all produced items in the premises individually labeled and day dotted?</td>
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<td>☐</td>
<td></td>
</tr>
<tr>
<td>Question</td>
<td>□</td>
<td>□</td>
<td></td>
</tr>
<tr>
<td>------------------------------------------------------------------------</td>
<td>---</td>
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</tr>
<tr>
<td>Is refrigerator cabinet positioned near to heating units or high intensity lights?</td>
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<tr>
<td>Are the frequency and the length of time the refrigerator door is open minimized?</td>
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<tr>
<td>Are hot foods placed directly into the refrigerator?</td>
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<tr>
<td>Are cooked items stored away from raw materials or above raw food on separate, marked shelving to avoid cross contamination?</td>
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<tr>
<td>Are chill room doors self-closing and protected by locks or air curtains?</td>
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<tr>
<td>Is a record kept for monitoring temperatures of storage rooms?</td>
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Appendices

App. - 17
<table>
<thead>
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<th>Question</th>
<th>Yes</th>
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<tr>
<td>Are the food preparation areas generally clean and in good state of repair?</td>
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<td></td>
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<tr>
<td>Are firm’s standards formalized in writing?</td>
<td>☐</td>
<td>☐</td>
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<tr>
<td>Are all fresh fruit and vegetables washed thoroughly?</td>
<td>☐</td>
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<tr>
<td>Is there a designated sink used only for washing fruits and vegetables?</td>
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<td>Are fruit and vegetables ever washed in the wash-hand basin?</td>
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<td>Are frozen foods thoroughly defrosted prior to cooking by placing in the refrigerator overnight?</td>
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<tr>
<td>Are dried foods checked for any kind of insect infestation?</td>
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<tr>
<td>Is the date code on the top of all packets checked to ensure that any product has not exceeded its shelf life?</td>
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<tr>
<td>Are all waste food and packaging arising from the preparation process properly disposed off?</td>
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<td>Are temperature checks made on the food during the course of preparation stages?</td>
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<td>Are prepared food awaiting cooking stored under refrigeration?</td>
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<td>Are hot foods cooled before placing in the refrigerator?</td>
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<td>Are foods handled as little as possible?</td>
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<td>Are tongs used in preference to hands when preparing foods?</td>
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<tr>
<td>-------------------------------------------------------------------------</td>
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<tr>
<td>Are standardized recipes written and followed for cooking directions?</td>
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<tr>
<td>Is consistent portion control applied?</td>
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<tr>
<td>Is the size of food suitable for the cooking method?</td>
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<tr>
<td>Is overcooking avoided for all food items?</td>
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<td>Are the cooked items that will not be served immediately cooked to less than well done?</td>
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<td>Are the degrees of meat doneness followed accurately?</td>
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<tr>
<td>Is undercooking avoided to for food items?</td>
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<tr>
<td>Is the right method of cooking chosen to suit the type and size of food?</td>
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<tr>
<td>Are the right tools and equipment used for cooking the right items?</td>
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### Holding

<table>
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<td>Are food products held for a minimal amount of time?</td>
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<td>☐</td>
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<tr>
<td>Are hot items cooked to order whenever possibly?</td>
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<tr>
<td>Are held hot items’ internal temperature checked regularly?</td>
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<tr>
<td>Are held hot liquid items stirred frequently?</td>
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<tr>
<td>Are leftover foods stored in the refrigerator, covered tightly, labeled and dated?</td>
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<tr>
<td>Are leftover foods stored in the refrigerator, used within 24 hours?</td>
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### Regeneration

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<td>Are hot food items regenerated to reach the temperature of 75C?</td>
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<tr>
<td>Are food items handled to be in good presentation?</td>
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<tr>
<td>Are held hot items’ internal temperature checked?</td>
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<tr>
<td>Are hot food items reheated in hot-holding equipment?</td>
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<tr>
<td>Is leftover batch mixed with fresh batch of food?</td>
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<tr>
<td>Are hot food items reheated more than once?</td>
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<tr>
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<td>Comments</td>
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<tr>
<td>-------------------------------------------------------------------------</td>
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<td>----</td>
<td>-------------------</td>
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<tr>
<td>Are hot food items served hot?</td>
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<td>☐</td>
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<tr>
<td>Are hot food items served on hot plates?</td>
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<td>☐</td>
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</tr>
<tr>
<td>Are cold food items served cold?</td>
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<td></td>
</tr>
<tr>
<td>Are cold food items served on cold plates?</td>
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<td>Does plate size suit the portion size of food served?</td>
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<td>Are food items overcrowded on the plate?</td>
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<tr>
<td>Are food items hanging over the edge of plate?</td>
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<td>☐</td>
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<tr>
<td>Do liquid foods run over the edge of plate?</td>
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<tr>
<td>Is there any broken and misshapen vegetables?</td>
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<tr>
<td>Are fried items soggy?</td>
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<td>☐</td>
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<tr>
<td>Is there any obvious oil / grease on plate?</td>
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<tr>
<td>Is the plate garnish fresh and does it suit the food served?</td>
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<td>☐</td>
<td></td>
</tr>
<tr>
<td>Does the appearance of food always match the pictures and descriptions of the items on the menu?</td>
<td>☐</td>
<td>☐</td>
<td></td>
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</tbody>
</table>
Appendices

Appendix 6

Tables of correlations for management questionnaires

Table 1: Correlation between how often quality manuals are referred to and the extent to which management stressed food quality

<table>
<thead>
<tr>
<th>Spearman's rho</th>
<th>How often do you refer to quality manuals?</th>
<th>Correlation Coefficient</th>
<th>.255</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
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<td>.401</td>
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<td></td>
<td>N</td>
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</table>

Table 2: Correlation between questions 1 & 2 and how often quality manuals achieve consistent levels of quality

<table>
<thead>
<tr>
<th>Spearman's rho</th>
<th>How often do you refer to quality manuals?</th>
<th>Correlation Coefficient</th>
<th>.721(**)</th>
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<tbody>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
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<td>.005</td>
</tr>
<tr>
<td></td>
<td>N</td>
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<td>13</td>
</tr>
<tr>
<td>How often does management stress quality food product?</td>
<td>Correlation Coefficient</td>
<td>.163</td>
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</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
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<td>.239</td>
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<tr>
<td></td>
<td>N</td>
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</table>

** Correlation is significant at the 0.01 level (2-tailed).

Table 3: Correlation between questions 1 to 3 and how often food production staff training involves issues related to food quality

<table>
<thead>
<tr>
<th>Spearman's rho</th>
<th>How often do you refer to quality manuals?</th>
<th>Correlation Coefficient</th>
<th>.194</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
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<td>.524</td>
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<tr>
<td></td>
<td>N</td>
<td></td>
<td>13</td>
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<tr>
<td>How often does management stress quality food product?</td>
<td>Correlation Coefficient</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td></td>
<td>.232</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td></td>
<td>13</td>
</tr>
<tr>
<td>How often do quality manuals achieve consistent levels of quality?</td>
<td>Correlation Coefficient</td>
<td>.223</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
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<td>.464</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td></td>
<td>13</td>
</tr>
</tbody>
</table>
### Table 4: Correlation between questions 1 to 4 and how often staff should be involved in developing quality systems/manuals

<table>
<thead>
<tr>
<th>Spearman's rho</th>
<th>How often do you refer to quality manuals?</th>
<th>How often should staff be involved in developing quality systems/manuals?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spearman's rho</td>
<td>How often does management stress quality food product?</td>
<td>Correlation Coefficient .366</td>
</tr>
<tr>
<td>Spearman's rho</td>
<td>How often do quality manuals achieve consistent levels of quality?</td>
<td>Correlation Coefficient .178</td>
</tr>
<tr>
<td>Spearman's rho</td>
<td>How often does food production staff training involve issues related to food quality?</td>
<td>Correlation Coefficient .280</td>
</tr>
<tr>
<td>Spearman's rho</td>
<td>How often should staff be involved in developing quality systems/manuals?</td>
<td>Correlation Coefficient .561</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Correlation Coefficient</th>
<th>Sig. (2-tailed)</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>How often do you refer to quality manuals?</td>
<td>.366</td>
<td>.219</td>
<td>13</td>
</tr>
<tr>
<td>How often does management stress quality food product?</td>
<td>.178</td>
<td>.561</td>
<td>13</td>
</tr>
<tr>
<td>How often do quality manuals achieve consistent levels of quality?</td>
<td>.280</td>
<td>.354</td>
<td>13</td>
</tr>
<tr>
<td>How often does food production staff training involve issues related to food quality?</td>
<td>.561</td>
<td>.292</td>
<td>13</td>
</tr>
</tbody>
</table>

### Table 5: Correlation between questions 1 to 5 and how often staff use standard recipes when producing food

<table>
<thead>
<tr>
<th>Spearman's rho</th>
<th>How often do you refer to quality manuals?</th>
<th>How often do staff use standard recipes when producing food items?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spearman's rho</td>
<td>How often does management stress quality food product?</td>
<td>Correlation Coefficient .570(*)</td>
</tr>
<tr>
<td>Spearman's rho</td>
<td>How often do quality manuals achieve consistent levels of quality?</td>
<td>Correlation Coefficient .563(*)</td>
</tr>
<tr>
<td>Spearman's rho</td>
<td>How often does food production staff training involve issues related to food quality?</td>
<td>Correlation Coefficient .292</td>
</tr>
<tr>
<td>Spearman's rho</td>
<td>How often should staff be involved in developing quality systems/manuals?</td>
<td>Correlation Coefficient .199</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Correlation Coefficient</th>
<th>Sig. (2-tailed)</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>How often do you refer to quality manuals?</td>
<td>.570(*)</td>
<td>.042</td>
<td>13</td>
</tr>
<tr>
<td>How often does management stress quality food product?</td>
<td>.563(*)</td>
<td>.045</td>
<td>13</td>
</tr>
<tr>
<td>How often do quality manuals achieve consistent levels of quality?</td>
<td>.292</td>
<td>.332</td>
<td>13</td>
</tr>
<tr>
<td>How often does food production staff training involve issues related to food quality?</td>
<td>.199</td>
<td>.074</td>
<td>13</td>
</tr>
<tr>
<td>How often should staff be involved in developing quality systems/manuals?</td>
<td>.511</td>
<td>.514</td>
<td>13</td>
</tr>
</tbody>
</table>

*Correlation is significant at the 0.05 level (2-tailed).
### Table 6: Correlation between questions 1 to 6 and how often standard recipes are reviewed

<table>
<thead>
<tr>
<th>Spearman's rho</th>
<th>How often do you refer to quality manuals?</th>
<th>How often do you review standard recipes?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Correlation Coefficient: .738(**)</td>
<td>Correlation Coefficient</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed): .004</td>
<td>Sig. (2-tailed)</td>
</tr>
<tr>
<td></td>
<td>N: 13</td>
<td>N: 13</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>How often does management stress quality food product?</th>
<th>How often do quality manuals achieve consistent levels of quality?</th>
<th>How often does food production staff training involve issues related to food quality?</th>
<th>How often should staff be involved in developing quality systems/manuals?</th>
<th>How often do staff use standard recipes when producing food items?</th>
<th>How often do you review standard recipes?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Correlation Coefficient: .478</td>
<td>Correlation Coefficient: .522</td>
<td>Correlation Coefficient: .537</td>
<td>Correlation Coefficient: .308</td>
<td>Correlation Coefficient: .674(*)</td>
<td>Correlation Coefficient: .012</td>
</tr>
<tr>
<td>Sig. (2-tailed): .098</td>
<td>Sig. (2-tailed): .067</td>
<td>Sig. (2-tailed): .058</td>
<td>Sig. (2-tailed): .306</td>
<td>Sig. (2-tailed): .674(*)</td>
<td>Sig. (2-tailed): .012</td>
</tr>
</tbody>
</table>

* Correlation is significant at the 0.05 level (2-tailed).

** Correlation is significant at the 0.01 level (2-tailed).

### Table 7: Correlation between questions 1 to 7 and how often a specification list is used for all food items purchased

<table>
<thead>
<tr>
<th>Spearman's rho</th>
<th>How often do you refer to quality manuals?</th>
<th>How often do you use a specification list for all items purchased?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Correlation Coefficient: .453</td>
<td>Correlation Coefficient</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed): .120</td>
<td>Sig. (2-tailed)</td>
</tr>
<tr>
<td></td>
<td>N: 13</td>
<td>N: 13</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>How often does management stress quality food product?</th>
<th>How often do quality manuals achieve consistent levels of quality?</th>
<th>How often does food production staff training involve issues related to food quality?</th>
<th>How often should staff be involved in developing quality systems/manuals?</th>
<th>How often do staff use standard recipes when producing food items?</th>
<th>How often do you review standard recipes?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Correlation Coefficient: .502</td>
<td>Correlation Coefficient: .392</td>
<td>Correlation Coefficient: .613(*)</td>
<td>Correlation Coefficient: .301</td>
<td>Correlation Coefficient: .632(*)</td>
<td>Correlation Coefficient: .619(*)</td>
</tr>
<tr>
<td>Sig. (2-tailed): .081</td>
<td>Sig. (2-tailed): .185</td>
<td>Sig. (2-tailed): .026</td>
<td>Sig. (2-tailed): .317</td>
<td>Sig. (2-tailed): .632(*)</td>
<td>Sig. (2-tailed): .024</td>
</tr>
</tbody>
</table>

* Correlation is significant at the 0.05 level (2-tailed).
Table 8: Correlation between questions 1 to 8 and how often a special training for quality is needed

<table>
<thead>
<tr>
<th>Spearman's rho</th>
<th>How often do you refer to quality manuals?</th>
<th>How often is a special training for quality needed?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Correlation Coefficient</td>
<td>.037</td>
</tr>
<tr>
<td></td>
<td>How often does management stress quality food product?</td>
<td>Correlation Coefficient</td>
</tr>
<tr>
<td></td>
<td>How often do quality manuals achieve consistent levels of quality?</td>
<td>Correlation Coefficient</td>
</tr>
<tr>
<td></td>
<td>How often does food production staff training involve issues related to food quality?</td>
<td>Correlation Coefficient</td>
</tr>
<tr>
<td></td>
<td>How often should staff be involved in developing quality systems/manuals?</td>
<td>Correlation Coefficient</td>
</tr>
<tr>
<td></td>
<td>How often do staff use standard recipes when producing food items?</td>
<td>Correlation Coefficient</td>
</tr>
<tr>
<td></td>
<td>How often do you review standard recipes?</td>
<td>Correlation Coefficient</td>
</tr>
<tr>
<td></td>
<td>How often do you use a specification list for all items purchased?</td>
<td>Correlation Coefficient</td>
</tr>
</tbody>
</table>
Table 9: Correlation between questions 1 to 9 and how often accurate records of received, stored and issued items should be kept

<table>
<thead>
<tr>
<th>Spearman's rho</th>
<th>How often should accurate records of received, stored and issued items be kept?</th>
</tr>
</thead>
<tbody>
<tr>
<td>How often do you refer to quality manuals?</td>
<td>Correlation Coefficient</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
</tr>
<tr>
<td></td>
<td>N</td>
</tr>
<tr>
<td>How often does management stress quality food product?</td>
<td>Correlation Coefficient</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
</tr>
<tr>
<td></td>
<td>N</td>
</tr>
<tr>
<td>How often do quality manuals achieve consistent levels of quality?</td>
<td>Correlation Coefficient</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
</tr>
<tr>
<td></td>
<td>N</td>
</tr>
<tr>
<td>How often does food production staff training involve issues related to food quality?</td>
<td>Correlation Coefficient</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
</tr>
<tr>
<td></td>
<td>N</td>
</tr>
<tr>
<td>How often should staff be involved in developing quality systems/manuals?</td>
<td>Correlation Coefficient</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
</tr>
<tr>
<td></td>
<td>N</td>
</tr>
<tr>
<td>How often do staff use standard recipes when producing food items?</td>
<td>Correlation Coefficient</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
</tr>
<tr>
<td></td>
<td>N</td>
</tr>
<tr>
<td>How often do you review standard recipes?</td>
<td>Correlation Coefficient</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
</tr>
<tr>
<td></td>
<td>N</td>
</tr>
<tr>
<td>How often do you use a specification list for all items purchased?</td>
<td>Correlation Coefficient</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
</tr>
<tr>
<td></td>
<td>N</td>
</tr>
<tr>
<td>How often is a special training for quality needed?</td>
<td>Correlation Coefficient</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
</tr>
<tr>
<td></td>
<td>N</td>
</tr>
</tbody>
</table>
Table 10: Correlation between questions 1 to 10 and how often the appearance of food should match the picture and description on the menu

| Spearman's rho | How often do you refer to quality manuals? | Correlation Coefficient | .706(**)
| | | Sig. (2-tailed) | .007
| | | N | 13
| | How often does management stress quality food product? | Correlation Coefficient | .192
| | | Sig. (2-tailed) | .531
| | | N | 13
| | How often do quality manuals achieve consistent levels of quality? | Correlation Coefficient | .768(**)
| | | Sig. (2-tailed) | .002
| | | N | 13
| | How often does food production staff training involve issues related to food quality? | Correlation Coefficient | .369
| | | Sig. (2-tailed) | .215
| | | N | 13
| | How often should staff be involved in developing quality systems/manuals? | Correlation Coefficient | .190
| | | Sig. (2-tailed) | .535
| | | N | 13
| | How often do staff use standard recipes when producing food items? | Correlation Coefficient | .580(*)
| | | Sig. (2-tailed) | .038
| | | N | 13
| | How often do you review standard recipes? | Correlation Coefficient | .567(*)
| | | Sig. (2-tailed) | .043
| | | N | 13
| | How often do you use a specification list for all items purchased? | Correlation Coefficient | .523
| | | Sig. (2-tailed) | .067
| | | N | 13
| | How often is a special training for quality needed? | Correlation Coefficient | -.062
| | | Sig. (2-tailed) | .839
| | | N | 13
| | How often should accurate records of received, stored and issued items be kept? | Correlation Coefficient | .425
| | | Sig. (2-tailed) | .148
| | | N | 13

* Correlation is significant at the 0.05 level (2-tailed).
** Correlation is significant at the 0.01 level (2-tailed).
Appendices

Appendix 7

Tables of correlations for staff attitude questionnaires

**Table 1: Correlation between statement 1 and 'all staff should be involved in the development of quality systems/manuals'**

<table>
<thead>
<tr>
<th>Spearman's rho</th>
<th>All staff should be committed to quality.</th>
<th>Training is not critical to quality.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spearman's rho</td>
<td>Correlation Coefficient: .436(**)</td>
<td>Training is not critical to quality.</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.001</td>
<td>.221</td>
</tr>
<tr>
<td>N</td>
<td>54</td>
<td>54</td>
</tr>
</tbody>
</table>

**Correlation is significant at the 0.01 level (2-tailed).**

**Table 2: Correlation between statements 1 & 2 and 'training is not critical to quality'**

<table>
<thead>
<tr>
<th>Spearman's rho</th>
<th>All staff should be committed to quality.</th>
<th>Training is not critical to quality.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spearman's rho</td>
<td>Correlation Coefficient: .239</td>
<td>Training is not critical to quality.</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.109</td>
<td>.221</td>
</tr>
<tr>
<td>N</td>
<td>54</td>
<td>54</td>
</tr>
</tbody>
</table>

**Table 3: Correlation between that statements 1 to 3 and 'all staff should not be trained'**

| Spearman's rho | All staff should be committed to quality. | All staff should not be trained. |
|----------------|------------------------------------------|---------------------------------
| Spearman's rho | Correlation Coefficient: .139 | All staff should not be trained. |
| Sig. (2-tailed) | .204 | .204 |
| N              | 54  | 54 |

**Correlation is significant at the 0.01 level (2-tailed).**

| Spearman's rho | All staff should be involved in the development of quality systems/manuals. | All staff should not be trained. |
|----------------|------------------------------------------|---------------------------------
| Spearman's rho | Correlation Coefficient: .149 | All staff should not be trained. |
| Sig. (2-tailed) | .199 | .199 |
| N              | 54  | 54 |

**Correlation is significant at the 0.01 level (2-tailed).**

| Spearman's rho | Training is not critical to quality. | All staff should not be trained. |
|----------------|------------------------------------------|---------------------------------
| Spearman's rho | Correlation Coefficient: .443(**) | All staff should not be trained. |
| Sig. (2-tailed) | .001 | .443(**) |
| N              | 54  | 54 |

**Correlation is significant at the 0.01 level (2-tailed).**
Table 4: Correlation between statements 1 to 4 and 'training should be carried out mainly on the job'

<table>
<thead>
<tr>
<th>Spearman's rho</th>
<th>Correlation Coefficient</th>
<th>Sig. (2-tailed)</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>All staff should be committed to quality.</td>
<td>-0.226</td>
<td>0.100</td>
<td>54</td>
</tr>
<tr>
<td>All staff should be involved in the development of quality systems/manuals.</td>
<td>-0.186</td>
<td>0.179</td>
<td>54</td>
</tr>
<tr>
<td>Training is not critical to quality.</td>
<td>-0.203</td>
<td>0.142</td>
<td>54</td>
</tr>
<tr>
<td>All staff should not be trained.</td>
<td>-0.341(*)</td>
<td>0.012</td>
<td>54</td>
</tr>
</tbody>
</table>

* Correlation is significant at the 0.05 level (2-tailed).

Table 5: Correlation between statements 1 to 5 and 'training records should be kept for each staff member'

<table>
<thead>
<tr>
<th>Spearman's rho</th>
<th>Correlation Coefficient</th>
<th>Sig. (2-tailed)</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>All staff should be committed to quality.</td>
<td>0.425(**)</td>
<td>0.001</td>
<td>54</td>
</tr>
<tr>
<td>All staff should be involved in the development of quality systems/manuals.</td>
<td>0.322(*)</td>
<td>0.018</td>
<td>54</td>
</tr>
<tr>
<td>Training is not critical to quality.</td>
<td>0.201</td>
<td>0.145</td>
<td>54</td>
</tr>
<tr>
<td>All staff should not be trained.</td>
<td>0.311(*)</td>
<td>0.022</td>
<td>54</td>
</tr>
<tr>
<td>Training should be carried out mainly on the job.</td>
<td>-0.354(**)</td>
<td>0.009</td>
<td>54</td>
</tr>
</tbody>
</table>

* Correlation is significant at the 0.05 level (2-tailed).
** Correlation is significant at the 0.01 level (2-tailed).
### Table 6: Correlation between statements 1 to 6 and 'communication is critical to quality'

<table>
<thead>
<tr>
<th>Spearman's rho</th>
<th>All staff should be committed to quality.</th>
<th>Communication is critical to quality.</th>
<th>Correlation Coefficient</th>
<th>Sig. (2-tailed)</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>.399(**)</td>
<td>.003</td>
<td>54</td>
</tr>
<tr>
<td></td>
<td>All staff should be involved in the development of quality systems/manuals.</td>
<td></td>
<td>.193</td>
<td>.162</td>
<td>54</td>
</tr>
<tr>
<td></td>
<td>Training is not critical to quality.</td>
<td></td>
<td>.400(**)</td>
<td>.003</td>
<td>54</td>
</tr>
<tr>
<td></td>
<td>All staff should not be trained.</td>
<td></td>
<td>.327(*)</td>
<td>.016</td>
<td>54</td>
</tr>
<tr>
<td></td>
<td>Training should be carried out mainly on the job.</td>
<td></td>
<td>-.175</td>
<td>.205</td>
<td>54</td>
</tr>
<tr>
<td></td>
<td>Training records should be kept for each staff member.</td>
<td></td>
<td>.517(**)</td>
<td>.000</td>
<td>54</td>
</tr>
</tbody>
</table>

* Correlation is significant at the 0.05 level (2-tailed).  
** Correlation is significant at the 0.01 level (2-tailed).

### Table 7: Correlation between statements 1 to 7 and 'follow up is not critical to quality'

<table>
<thead>
<tr>
<th>Spearman's rho</th>
<th>All staff should be committed to quality.</th>
<th>Follow up is not critical to quality.</th>
<th>Correlation Coefficient</th>
<th>Sig. (2-tailed)</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>.226</td>
<td>.100</td>
<td>54</td>
</tr>
<tr>
<td></td>
<td>All staff should be involved in the development of quality systems/manuals.</td>
<td></td>
<td>.118</td>
<td>.394</td>
<td>54</td>
</tr>
<tr>
<td></td>
<td>Training is not critical to quality.</td>
<td></td>
<td>.295(*)</td>
<td>.031</td>
<td>54</td>
</tr>
<tr>
<td></td>
<td>All staff should not be trained.</td>
<td></td>
<td>.294(*)</td>
<td>.031</td>
<td>54</td>
</tr>
<tr>
<td></td>
<td>Training should be carried out mainly on the job.</td>
<td></td>
<td>-.112</td>
<td>.419</td>
<td>54</td>
</tr>
<tr>
<td></td>
<td>Training records should be kept for each staff member.</td>
<td></td>
<td>.111</td>
<td>.423</td>
<td>54</td>
</tr>
<tr>
<td></td>
<td>Communication is critical to quality.</td>
<td></td>
<td>.334(*)</td>
<td>.014</td>
<td>54</td>
</tr>
</tbody>
</table>

* Correlation is significant at the 0.05 level (2-tailed).
Table 8: Correlation between statements 1 to 8 and 'all food production procedures should be clearly defined to all staff'

| Spearman's rho | All staff should be committed to quality. | Correlation Coefficient | .498(**) |
|               | | Sig. (2-tailed) | .000 |
|               | | N | 54 |

| Spearman's rho | All staff should be involved in the development of quality systems/manuals. | Correlation Coefficient | .180 |
|               | | Sig. (2-tailed) | .193 |
|               | | N | 54 |

| Spearman's rho | Training is not critical to quality. | Correlation Coefficient | .341(*) |
|               | | Sig. (2-tailed) | .012 |
|               | | N | 54 |

| Spearman's rho | All staff should not be trained. | Correlation Coefficient | .422(**) |
|               | | Sig. (2-tailed) | .001 |
|               | | N | 54 |

| Spearman's rho | Training should be carried out mainly on the job. | Correlation Coefficient | -.246 |
|               | | Sig. (2-tailed) | .072 |
|               | | N | 54 |

| Spearman's rho | Training records should be kept for each staff member. | Correlation Coefficient | .439(**) |
|               | | Sig. (2-tailed) | .001 |
|               | | N | 54 |

| Spearman's rho | Communication is critical to quality. | Correlation Coefficient | .657(**) |
|               | | Sig. (2-tailed) | .000 |
|               | | N | 54 |

| Spearman's rho | Follow up is not critical to quality. | Correlation Coefficient | .341(*) |
|               | | Sig. (2-tailed) | .012 |
|               | | N | 54 |

* Correlation is significant at the 0.05 level (2-tailed).
** Correlation is significant at the 0.01 level (2-tailed).
### Table 9: Correlation between statements 1 to 9 and 'temperatures of food appliances should be monitored and recorded regularly'

<table>
<thead>
<tr>
<th>Specification</th>
<th>Correlation Coefficient</th>
<th>Sig. (2-tailed)</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>All staff should be committed to quality.</td>
<td>Correlation Coefficient</td>
<td>.293(*)</td>
<td></td>
</tr>
<tr>
<td>All staff should be involved in the development of quality systems/manuals.</td>
<td>Correlation Coefficient</td>
<td>.025</td>
<td>54</td>
</tr>
<tr>
<td>Training is not critical to quality.</td>
<td>Correlation Coefficient</td>
<td>.174</td>
<td></td>
</tr>
<tr>
<td>All staff should not be trained.</td>
<td>Correlation Coefficient</td>
<td>.132</td>
<td></td>
</tr>
<tr>
<td>Training should be carried out mainly on the job.</td>
<td>Correlation Coefficient</td>
<td>-.274(*)</td>
<td>54</td>
</tr>
<tr>
<td>Training records should be kept for each staff member.</td>
<td>Correlation Coefficient</td>
<td>.256</td>
<td>54</td>
</tr>
<tr>
<td>Communication is critical to quality.</td>
<td>Correlation Coefficient</td>
<td>.432(**)</td>
<td></td>
</tr>
<tr>
<td>Follow up is not critical to quality.</td>
<td>Correlation Coefficient</td>
<td>.169</td>
<td>54</td>
</tr>
<tr>
<td>All food production procedures should be clearly defined to all staff.</td>
<td>Correlation Coefficient</td>
<td>.493(**)</td>
<td></td>
</tr>
</tbody>
</table>

* Correlation is significant at the 0.05 level (2-tailed).
** Correlation is significant at the 0.01 level (2-tailed).
Table 10: Correlation between statements 1 to 10 and 'temperatures of food items should be monitored at all stages of production'

<table>
<thead>
<tr>
<th>Spearman's rho</th>
<th>Temperatures of food items should be monitored at all stages of production.</th>
</tr>
</thead>
<tbody>
<tr>
<td>All staff should be committed to quality.</td>
<td>Correlation Coefficient</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.020</td>
</tr>
<tr>
<td>N</td>
<td>54</td>
</tr>
<tr>
<td>All staff should be involved in the development of quality systems/manuals.</td>
<td>Correlation Coefficient</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.004</td>
</tr>
<tr>
<td>N</td>
<td>54</td>
</tr>
<tr>
<td>Training is not critical to quality.</td>
<td>Correlation Coefficient</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.042</td>
</tr>
<tr>
<td>N</td>
<td>54</td>
</tr>
<tr>
<td>All staff should not be trained.</td>
<td>Correlation Coefficient</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.191</td>
</tr>
<tr>
<td>N</td>
<td>54</td>
</tr>
<tr>
<td>Training should be carried out mainly on the job.</td>
<td>Correlation Coefficient</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.028</td>
</tr>
<tr>
<td>N</td>
<td>54</td>
</tr>
<tr>
<td>Training records should be kept for each staff member.</td>
<td>Correlation Coefficient</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.034</td>
</tr>
<tr>
<td>N</td>
<td>54</td>
</tr>
<tr>
<td>Communication is critical to quality.</td>
<td>Correlation Coefficient</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.013</td>
</tr>
<tr>
<td>N</td>
<td>54</td>
</tr>
<tr>
<td>Follow up is not critical to quality.</td>
<td>Correlation Coefficient</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.003</td>
</tr>
<tr>
<td>N</td>
<td>54</td>
</tr>
<tr>
<td>All food production procedures should be clearly defined to all staff.</td>
<td>Correlation Coefficient</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.011</td>
</tr>
<tr>
<td>N</td>
<td>54</td>
</tr>
<tr>
<td>Temperatures of food appliances should be monitored and recorded regularly.</td>
<td>Correlation Coefficient</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.018</td>
</tr>
<tr>
<td>N</td>
<td>54</td>
</tr>
</tbody>
</table>

* Correlation is significant at the 0.05 level (2-tailed).
** Correlation is significant at the 0.01 level (2-tailed).
## Table 11: Correlation between statements 1 to 11 and 'accurate records of received, stored and issued items should be kept'

<table>
<thead>
<tr>
<th>Spearman's rho</th>
<th>Accurate records of received, stored and issued items should be kept.</th>
<th>Correlation Coefficient</th>
<th>Sig. (2-tailed)</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>All staff should be committed to quality.</td>
<td></td>
<td>.488**(*)</td>
<td>.000</td>
<td>54</td>
</tr>
<tr>
<td>All staff should be involved in the development of quality systems/manuals.</td>
<td></td>
<td>.334(*)</td>
<td>.014</td>
<td>54</td>
</tr>
<tr>
<td>Training is not critical to quality.</td>
<td></td>
<td>.210</td>
<td></td>
<td>54</td>
</tr>
<tr>
<td>All staff should not be trained.</td>
<td></td>
<td>.143</td>
<td></td>
<td>54</td>
</tr>
<tr>
<td>Training should be carried out mainly on the job.</td>
<td></td>
<td>-.330(*)</td>
<td></td>
<td>54</td>
</tr>
<tr>
<td>Training records should be kept for each staff member.</td>
<td></td>
<td>.478**(*)</td>
<td></td>
<td>54</td>
</tr>
<tr>
<td>Communication is critical to quality.</td>
<td></td>
<td>.291(*)</td>
<td></td>
<td>54</td>
</tr>
<tr>
<td>Follow up is not critical to quality.</td>
<td></td>
<td>.305(*)</td>
<td></td>
<td>54</td>
</tr>
<tr>
<td>All food production procedures should be clearly defined to all staff.</td>
<td></td>
<td>.367**(*)</td>
<td></td>
<td>54</td>
</tr>
<tr>
<td>Temperatures of food appliances should be monitored and recorded regularly.</td>
<td></td>
<td>.237</td>
<td></td>
<td>54</td>
</tr>
<tr>
<td>Temperatures of food items should be monitored at all stages of production.</td>
<td></td>
<td>.749**(*)</td>
<td></td>
<td>54</td>
</tr>
</tbody>
</table>

* Correlation is significant at the 0.05 level (2-tailed).
** Correlation is significant at the 0.01 level (2-tailed).
Table 12: Correlation between statements 1 to 12 and 'the appearance of food items should be confirmed with the picture and description on the menu'

<table>
<thead>
<tr>
<th>Statements</th>
<th>Correlation Coefficient</th>
<th>Sig. (2-tailed)</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>All staff should be committed to quality.</td>
<td>.385(**)</td>
<td>.004</td>
<td>54</td>
</tr>
<tr>
<td>All staff should be involved in the development of quality systems/manuals.</td>
<td>.319(*)</td>
<td>.019</td>
<td>54</td>
</tr>
<tr>
<td>Training is not critical to quality.</td>
<td>.323(*)</td>
<td>.017</td>
<td>54</td>
</tr>
<tr>
<td>All staff should not be trained.</td>
<td>.342(*)</td>
<td>.011</td>
<td>54</td>
</tr>
<tr>
<td>Training should be carried out mainly on the job.</td>
<td>-.185</td>
<td>.181</td>
<td>54</td>
</tr>
<tr>
<td>Training records should be kept for each staff member.</td>
<td>.547(**)</td>
<td>.000</td>
<td>54</td>
</tr>
<tr>
<td>Communication is critical to quality.</td>
<td>.593(**)</td>
<td>.000</td>
<td>54</td>
</tr>
<tr>
<td>Follow up is not critical to quality.</td>
<td>.232</td>
<td>.091</td>
<td>54</td>
</tr>
<tr>
<td>All food production procedures should be clearly defined to all staff.</td>
<td>.413(**)</td>
<td>.002</td>
<td>54</td>
</tr>
<tr>
<td>Temperatures of food appliances should be monitored and recorded regularly.</td>
<td>.248</td>
<td>.070</td>
<td>54</td>
</tr>
<tr>
<td>Temperatures of food items should be monitored at all stages of production.</td>
<td>.468(**)</td>
<td>.000</td>
<td>54</td>
</tr>
<tr>
<td>Accurate records of received, stored and issued items should be kept.</td>
<td>.427(**)</td>
<td>.001</td>
<td>54</td>
</tr>
</tbody>
</table>

* Correlation is significant at the 0.05 level (2-tailed).
** Correlation is significant at the 0.01 level (2-tailed).
Table 13: Correlation between statements 1 to 13 and 'a standard format of presentation of different dishes should be available'  

<table>
<thead>
<tr>
<th>Spearman's rho</th>
<th>A standard format of presentation of different dishes should be available.</th>
</tr>
</thead>
<tbody>
<tr>
<td>All staff should be committed to quality.</td>
<td>Correlation Coefficient .343(*)&lt;br&gt;Sig. (2-tailed) .011&lt;br&gt;N 54</td>
</tr>
<tr>
<td>All staff should be involved in the development of quality systems/manuals.</td>
<td>Correlation Coefficient .296(*)&lt;br&gt;Sig. (2-tailed) .030&lt;br&gt;N 54</td>
</tr>
<tr>
<td>Training is not critical to quality.</td>
<td>Correlation Coefficient .025&lt;br&gt;Sig. (2-tailed) .855&lt;br&gt;N 54</td>
</tr>
<tr>
<td>All staff should not be trained.</td>
<td>Correlation Coefficient .098&lt;br&gt;Sig. (2-tailed) .482&lt;br&gt;N 54</td>
</tr>
<tr>
<td>Training should be carried out mainly on the job.</td>
<td>Correlation Coefficient -.217&lt;br&gt;Sig. (2-tailed) .114&lt;br&gt;N 54</td>
</tr>
<tr>
<td>Training records should be kept for each staff member.</td>
<td>Correlation Coefficient .389(**)&lt;br&gt;Sig. (2-tailed) .004&lt;br&gt;N 54</td>
</tr>
<tr>
<td>Communication is critical to quality.</td>
<td>Correlation Coefficient .277(*)&lt;br&gt;Sig. (2-tailed) .043&lt;br&gt;N 54</td>
</tr>
<tr>
<td>Follow up is not critical to quality.</td>
<td>Correlation Coefficient .210&lt;br&gt;Sig. (2-tailed) .128&lt;br&gt;N 54</td>
</tr>
<tr>
<td>All food production procedures should be clearly defined to all staff.</td>
<td>Correlation Coefficient .144&lt;br&gt;Sig. (2-tailed) .300&lt;br&gt;N 54</td>
</tr>
<tr>
<td>Temperatures of food appliances should be monitored and recorded.</td>
<td>Correlation Coefficient .091&lt;br&gt;Sig. (2-tailed) .513&lt;br&gt;N 54</td>
</tr>
<tr>
<td>Temperatures of food items should be monitored at all stages of production.</td>
<td>Correlation Coefficient .441(**)&lt;br&gt;Sig. (2-tailed) .001&lt;br&gt;N 54</td>
</tr>
<tr>
<td>Accurate records of received, stored and issued items should be kept.</td>
<td>Correlation Coefficient .552(**)&lt;br&gt;Sig. (2-tailed) .000&lt;br&gt;N 54</td>
</tr>
<tr>
<td>The appearance of food items should match the pictures and descriptions on the menu.</td>
<td>Correlation Coefficient .453(**)&lt;br&gt;Sig. (2-tailed) .001&lt;br&gt;N 54</td>
</tr>
</tbody>
</table>

* Correlation is significant at the 0.05 level (2-tailed).
** Correlation is significant at the 0.01 level (2-tailed).
Table 14: Correlation between statements 1 to 14 and 'a regular quality audit should be undertaken'

<table>
<thead>
<tr>
<th>Spearman's rho</th>
<th>All staff should be committed to quality.</th>
<th>Correlation Coefficient</th>
<th>A regular quality audit should be undertaken.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>All staff should be involved in the development of quality systems/manuals.</td>
<td>Correlation Coefficient</td>
<td>.198</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.151</td>
</tr>
<tr>
<td></td>
<td></td>
<td>N</td>
<td>54</td>
</tr>
<tr>
<td></td>
<td>Training is not critical to quality.</td>
<td>Correlation Coefficient</td>
<td>.359(**)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.008</td>
</tr>
<tr>
<td></td>
<td></td>
<td>N</td>
<td>54</td>
</tr>
<tr>
<td></td>
<td>All staff should not be trained.</td>
<td>Correlation Coefficient</td>
<td>.352(**)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.009</td>
</tr>
<tr>
<td></td>
<td></td>
<td>N</td>
<td>54</td>
</tr>
<tr>
<td></td>
<td>Training should be carried out mainly on the job.</td>
<td>Correlation Coefficient</td>
<td>-.344(*)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.011</td>
</tr>
<tr>
<td></td>
<td></td>
<td>N</td>
<td>54</td>
</tr>
<tr>
<td></td>
<td>Training records should be kept for each staff member.</td>
<td>Correlation Coefficient</td>
<td>.390(**)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.004</td>
</tr>
<tr>
<td></td>
<td></td>
<td>N</td>
<td>54</td>
</tr>
<tr>
<td></td>
<td>Communication is critical to quality.</td>
<td>Correlation Coefficient</td>
<td>.475(**)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>N</td>
<td>54</td>
</tr>
<tr>
<td></td>
<td>Follow up is not critical to quality.</td>
<td>Correlation Coefficient</td>
<td>.284(*)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.037</td>
</tr>
<tr>
<td></td>
<td></td>
<td>N</td>
<td>54</td>
</tr>
<tr>
<td></td>
<td>All food production procedures should be clearly defined to all staff.</td>
<td>Correlation Coefficient</td>
<td>.470(**)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>N</td>
<td>54</td>
</tr>
<tr>
<td></td>
<td>Temperatures of food appliances should be monitored and recorded</td>
<td>Correlation Coefficient</td>
<td>.201</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.145</td>
</tr>
<tr>
<td></td>
<td></td>
<td>N</td>
<td>54</td>
</tr>
<tr>
<td></td>
<td>Temperatures of food items should be monitored at all stages of production.</td>
<td>Correlation Coefficient</td>
<td>.412(**)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.002</td>
</tr>
<tr>
<td></td>
<td></td>
<td>N</td>
<td>54</td>
</tr>
<tr>
<td></td>
<td>Accurate records of received, stored and issued items should be kept.</td>
<td>Correlation Coefficient</td>
<td>.426(**)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.001</td>
</tr>
<tr>
<td></td>
<td></td>
<td>N</td>
<td>54</td>
</tr>
<tr>
<td></td>
<td>The appearance of food items should match the pictures and descriptions on the menu.</td>
<td>Correlation Coefficient</td>
<td>.663(**)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>N</td>
<td>54</td>
</tr>
<tr>
<td></td>
<td>A standard format of presentation of different dishes should be available.</td>
<td>Correlation Coefficient</td>
<td>.389(**)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.004</td>
</tr>
<tr>
<td></td>
<td></td>
<td>N</td>
<td>54</td>
</tr>
</tbody>
</table>

* Correlation is significant at the 0.05 level (2-tailed).

** Correlation is significant at the 0.01 level (2-tailed).
### Table 15: Correlation between statements 1 to 15 and 'each month a different member of staff should take responsibility for undertaking quality audits'

<table>
<thead>
<tr>
<th>Statement</th>
<th>Correlation Coefficient</th>
<th>Sig. (2-tailed)</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Each month a different member of staff should take responsibility for undertaking quality audits.</td>
<td>.149</td>
<td>.281</td>
<td>54</td>
</tr>
<tr>
<td>All staff should be committed to quality.</td>
<td>.404(**)</td>
<td>.002</td>
<td>54</td>
</tr>
<tr>
<td>All staff should be involved in the development of quality systems/manuals.</td>
<td>.149</td>
<td>.281</td>
<td>54</td>
</tr>
<tr>
<td>Training is not critical to quality.</td>
<td>.014</td>
<td>.919</td>
<td>54</td>
</tr>
<tr>
<td>All staff should not be trained.</td>
<td>.044</td>
<td>.755</td>
<td>54</td>
</tr>
<tr>
<td>Training should be carried out mainly on the job.</td>
<td>-.231</td>
<td>.093</td>
<td>54</td>
</tr>
<tr>
<td>Training records should be kept for each staff member.</td>
<td>.193</td>
<td>.163</td>
<td>54</td>
</tr>
<tr>
<td>Communication is critical to quality</td>
<td>.134</td>
<td>.333</td>
<td>54</td>
</tr>
<tr>
<td>Follow up is not critical to quality.</td>
<td>.030</td>
<td>.829</td>
<td>54</td>
</tr>
<tr>
<td>All food production procedures should be clearly defined to all staff.</td>
<td>.108</td>
<td>.438</td>
<td>54</td>
</tr>
<tr>
<td>Temperatures of food appliances should be monitored and recorded</td>
<td>.021</td>
<td>.879</td>
<td>54</td>
</tr>
<tr>
<td>Temperatures of food items should be monitored at all stages of production.</td>
<td>.365(**)</td>
<td>.007</td>
<td>54</td>
</tr>
<tr>
<td>Accurate records of received, stored and issued items should be kept.</td>
<td>.254</td>
<td>.064</td>
<td>54</td>
</tr>
<tr>
<td>The appearance of food items should match the pictures and descriptions on the menu.</td>
<td>.466(**)</td>
<td>.000</td>
<td>54</td>
</tr>
<tr>
<td>A standard format of presentation of different dishes should be available.</td>
<td>.302(*)</td>
<td>.026</td>
<td>54</td>
</tr>
<tr>
<td>A regular quality audit should be undertaken.</td>
<td>.494(**)</td>
<td>.000</td>
<td>54</td>
</tr>
</tbody>
</table>

* Correlation is significant at the 0.05 level (2-tailed).
** Correlation is significant at the 0.01 level (2-tailed).