



Cape Peninsula
University of Technology

**THE ROLE OF PERFORMANCE MEASURES IN THE FAST FOOD FRANCHISEE
INDUSTRY TO SUSTAIN POSITIVE GROWTH: CAPE METROPOLE – SOUTH AFRICA.**

by

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DECLARATION

I, Lindiwe Albertina Mabesele, declare that the contents of this thesis represent my own unaided work, and that the thesis has not previously been submitted for academic examination towards any qualification. Furthermore, it represents my own opinions and not necessarily those of the Cape Peninsula University of Technology.

Lindiwe Albertina Mabesele

Signed

11 November 2009

Date

ABSTRACT

The Faculty of Business at the Cape Peninsula University of Technology conducts research in the niche area: “The Effective Management of SMMEs” as identified by the National Research Foundation of South Africa.

The research contained within the ambit of this thesis, has as its objective to establish the current position of performance measures utilised daily in the business activities by fast food franchisees, to raise awareness of future performance drivers (i.e. the critical success factors or non-financials aspects), and to highlight the importance of measuring the key performance areas of both financials and non-financial indicators as significant contributors to sustainability and growth of an enterprise.

The challenge managers is currently faced with pertain to the managing of businesses for results i.e. identifying the drivers of financial success, finding a balance to measure financial and non-financial performances, appraising and compensating people's performance. Lacking such tools, businesses have encountered difficulties managing what they could not describe or measure, or that are exposed to the risk of failure. Financial accounting (historic information) does not provide details about factors that actually help grow market share and profits (the main drivers of future performance).

The questions which should be asked, are: Are the managers of fast food franchisees able to identify critical information or articulate factors that are important to actually help grow market share and profits? What tools are utilized to measure and drive value in real-time? To what level is performance measured, and what is the role and purpose of the utilised measures in the fast food franchisees? Most importantly, to what extent are franchisees in the fast food industry equipped by franchisors through a franchise “package”? This remains problematic as the need to identify and understand information critical for decision making in the fast food industry becomes imperative for the growth and sustainability of the organization. To answer these questions, the performance measures actually used by franchisees, will be surveyed.

The proposed study will involve the collection, compilation, and analysis of both financials and non-financials performance measures using survey data from fast food franchisees within the Cape Metropolis. Quantitative data will be collected through opened and closed ended questionnaires (distributed to owners/managers of outlets) to document the existing performance measures and resulting perceived benefits.

The outcome of this thesis will help franchisees to identify critical success factors and raise awareness with franchisors on inadequacies in the franchise package, so as to contribute to the effective management of small businesses. Furthermore, the research will be of importance in empowering the fast food sector to take advantages of alternative performance measures, improve their business efficiencies and increase their capacity to grow and be sustainable.

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GLOSSARY OF TERMS

Terms	Definition/Explanation
<i>Financial performance measure</i>	Any information that is expressed in South African Rand value and indicates aspects of performance.
<i>Franchisee</i>	The newcomer to business ownership (the outlet)
<i>Franchising</i>	A business arrangement when an existing business/brand (franchisor) grants a license to the newcomer to business ownership (franchisee) to use the trade name and an entire business format (Futuse, 2007:9).
<i>Franchisor</i>	Head office for the existing franchise group. A business arrangement when an existing business/brand (franchisor) grants a license to the newcomer to business ownership (franchisee) to use the trade name and an entire business format. This business format is usually considered a recipe for success (Futuse, 2007:9).
<i>Non-financial performance measure</i>	This relates to any information that is not expressed in South African Rand value and indicates aspects of performance
<i>Performance measure</i>	A measure designed to indicate performance and so provide information for decision- making. This enables managers to manage the business effectively and indicate good and bad performance and compare against benchmarks. A performance measure can be defined as a metric used to quantify the efficiency and/or effectiveness of an action (Neely, Gregory & Platts, 2005:1229).
<i>SMME</i>	The different sizes of small, medium and micro enterprises as defined according to their turnover, number of employees or asset value The Small Business Act no 102 of 1996 and Amendment Act of 2003 subdivide small enterprises into small and very small categories.

CHAPTER ONE

INTRODUCTION AND BACKGROUND

1.1 INTRODUCTION

In this thesis, the aim is to research the role of Performance Measures (PM) utilised by fast food franchisees for effective management of day-to-day activities of the outlets. It will evaluate the management information available to the managers in real time, through existing performance measurement systems, and the ability of managers to articulate critical success factors of the outlets. Furthermore, the research will evaluate various areas of performance measured by managers in their daily activities. More specific this study has as its primary objective, to evaluate whether the managers of fast food outlets utilise accurate management information through current PM for decision-making.

The unit of analysis that have been used for this study have been taken from the fast food franchise industry. It consists of franchisees as identified from the Franchise Association of South Africa list of members. The franchisee enters into an agreement to utilise the franchisor's 'tried and tested' recipe/formula, and sells the franchisor's products, they are not totally autonomous and self governing, therefore full freedom to determine and control the performance of the outlet, is limited. Furthermore, it is of importance to note that fast food franchisees operate under a restricted dispensation by the franchisors. In terms of this restricted dispensation, franchisees receive various services and assistance from the franchisor. Such a complex relationship between franchisor and franchisee business may directly impact on the competitiveness and success of a franchise (Hynes, 1998:1). The franchisor operates within the context of providing an environment to create sustainable franchisees, as well as economic wealth through the franchise package and transfer of business skills.

This chapter provides background to the research and the aims and objectives thereof. More specific, in this chapter the research will be introduced to provide the reader with a holistic perception of the research problem and how it will be mitigated as a result of the research.

1.2 AIMS AND OBJECTIVES OF THE STUDY

Companies are reported to have been using performance measures as a control mechanism with success and the number of literature and academic journals in this respect describing the process has grown exponentially. Not enough evidence exists however of performance

measure utilisation by SMMEs. The aim of this empirical research is, to establish the current position of performance measures utilised daily in business activities by fast food franchisees, to examine whether the performance measures as prescribed in the franchise package enabling the owners/managers to performance measure their daily activities in a balanced manner, to raise awareness of future performance drivers, and to highlight the importance of measuring the key performance areas of both financials and non-financial indicators as significant contributors to sustainability and growth of SMMEs.

By examining the performance measures and then cross-tabulating them with the management information critical for effective management of outlets, it is hoped that this will result in a report on information, indicating the average levels of what is measured compared to what should be measured in accordance with the literature review conducted in Chapter 2. This type of management information will help the franchisees with the required skills in identifying critical success factors and raise awareness with franchisors on inadequacies in the franchise package for improvement, so as to contribute to the effective management of small businesses. Secondly, this study will be of importance in empowering the fast food franchisee sector, to take advantage of alternative performance measures, improve their business efficiencies and increase their capacity to grow and be sustainable.

1.3 BACKGROUND TO THE RESEARCH PROBLEM

The manager or owner of a franchise must be able to articulate the critical success factors of the business through relevant information generated from the daily activities. The information must highlight areas and drivers of these factors, to help ensure that:

- The franchisee is not under threat of bankruptcy.
- The franchisee implements the controls, which will ensure that the organisation is pursuing strategies and actions, which will enable the achievement of its goals.

The measurement of performance is central to controls, which are encapsulated within the context of the following four questions:

- What has happened?
- Why has it happened?
- Is it going to continue?
- What are we going to do about it?

The information age environment require service organisations to have the capabilities for competitive success (Kaplan and Norton, 1996:3). The manager of a franchise business furthermore needs to have the ability to measure performance for both financial and non-

financial aspects of the business and this is often lacking due to too much reliance on the analysis of financial statements.

1.4 STATEMENT OF RESEARCH PROBLEM

The research problem to be researched within the ambit of this thesis, reads as follows:
 “There is a high probability of the risk of failure of fast food franchisees due to the fact that they do not operate their businesses using accurate management information measures”

1.4.1 Research question, sub-questions and objectives

For ease of reference, the research sub-questions, research methods and associated objectives are contained within the ambit of Table 1:

Table 1.1

Research Question		
What management information is critical for franchisees in the fast food industry, to ensure sustainability?		
Research Sub Questions	Research Method (s)	Objectives
What information related to accounting is contained in stock standard franchise packages?	Questionnaire underpinned by descriptive, inferential statistical analysis and literature review	To determine to what extent the franchise package caters for matters related to financial accounting
What measures do franchisees use to measure performance?	Questionnaire underpinned by descriptive and inferential statistical analysis	To determine the existing performance measures in place to mitigate the risk of failure
What performance measures are critical for the success of the franchisees industry?	Questionnaire underpinned by descriptive and inferential statistical analysis, literature review	To determine if the manager/owner can identify the critical success factors of the franchisees
To what extent are critical success factors utilised by franchisees?	Questionnaire underpinned by descriptive and inferential statistical analysis, literature review	To establish if the franchisees are using the critical success factors

1.5 CURRENT STATUS OF THE RESEARCH AREA

In South Africa, franchising represents a business model that has spurred growth in the country’s small and medium enterprises. The franchising sector has managed to achieve exponential growth in operating franchise brands, increasing turnover and the number of outlets, which includes by implication, job creation. Franchises are viewed as having the

potential to make a significant contribution to the country's economy and its citizens, because of their ability to create new jobs. According to the latest survey conducted by Standard Bank Franchise Factor, the number of local franchise brands has grown by 49 percent to 470 since March 2004. The number of outlets increased to 25870. The turnover of the franchises increased from R127 billion to R188 billion. Franchisees currently employ 412428 people (Futuse, 2007:9).

The Franchise Association of Southern Africa cited by Futuse (2007:9), reported that the failure rate of franchises is between 15 and 25 percent lower than for start up businesses. Furthermore, US and European statistics show that 60 percent of all new businesses fail in the first two to three years. Recent media articles reported that MacDonal'd's one of the blue chip franchises closed 15 of their 103 outlets in South Africa. This represents 14.56 percent of their total stores in the country. If such a big franchise can experience failures, so can many franchise initiatives, especially newly established ones, which are more vulnerable to risk and failure than blue chips initiatives (Mc Alphine, 2006:2).

There are a plethora of valid business reasons which can be listed for the failure in the fast food franchise industry, the majority of which points to the lack of certain competencies on the part of managers who manage the outlets. Managers of fast food franchises invariably rely on financial statements as the only single element to measure the performance of the business, adding to the failure potential of the business initiative.

The preliminary research findings based on a research paper presented by this researcher at the Western Cape Regional SAAA Conference held at the CPUT Hotel School, 8th November 2007 (Mabesele, 2007:Conference Paper), resulted in the following analogies being drawn:

- Franchisees do not comprehensively performance measure their activities.
- No plan is evident as to what is measured.
- Much reliance on lagging financial information from financial statements is evident.
- Floor managers or similar are not specifically trained to measure performance.
- Franchise "package" agreements do not appear to contain elements of performance management frameworks or models.
- An obvious gap exists for the generation of essential information required for effective management.

Traditional' financial measures are not that suitable to capture the essence of a company's relationships with such important constituencies as customers, employees and suppliers. Furthermore, they shed little light on the key source of future revenue and profit in a firm, namely the state of product innovation (Deloitte, 2004:Online). Management accounting,

which is the preferred source of financial measure, has lost its relevance (Johnson & Kaplan, 1987:256-260). The question however is if new business initiatives actually can manage their business effectively by measuring only the financial elements of their business, or does the measuring of non financials equally play a part?

Following the criticism of traditional performance models, which focused on financial measures, multidimensional and balanced models were created to support the development of the organisation and management of companies (Sinclair & Zairi, 2000:145-168). The balanced and multidimensional models are defined as models that adopt different perspectives of analysis, and manage them in a co-ordinated way.

Specific research on the adoption of the Balanced Scorecard (BSC) by SMMEs (particularly franchisees) in South Africa is not common, serving as one of the reasons which mooted this empirical research study. However, media articles report that some small and medium companies' owner/managers use methods with certain elements similar to the BSC (Maseko, 2006:6-7). Large businesses are benefiting from using a BSC. A recent survey by Deloitte (2004:7), returned that 92 percent of management agreed that financial indicators alone cannot adequately capture the company's strengths and weaknesses. Non-financial factors are as important as financial ones in achieving organisational success.

As a rule, franchise business plans (recipes for success) is 'lacking' and inadequate to highlight important sections of accounting information needed for business success, thus setting the franchise initiative up for failure. The following open questions which should be asked, are: How can the franchisees check if there are gaps? Do they have a back up? Does the franchise package (the so called 'success recipe') provide franchisees with the mechanisms to measure and drive value in real-time? Are the managers of franchises able to identify critical information or articulate factors that are critical to actually help grow market share and profits? To what levels are performance measured and the role and purpose of the utilised measures clarified? These issues remain problematic as the need to identify and understand information critical for decision making in the running of a franchise becomes imperative for the growth and sustainability of the organisation.

1.6 RESEARCH DESIGN

1.6.1 The empirical study

A positivist approach will be used for this empirical research to answer the research questions by involving the owner/manager of franchises in the fast food sector as part of the

social world. 'Empirical' research is based on or guided by the result of observation or experiment of what is happening, from which conclusions can be drawn, and which are frequently associated with the 'positivistic' research paradigm, the latter commonly referred to as the 'quantitative' research paradigm (Leedy & Ormrod, 2001:101-102).

1.6.2 Sampling

Accidental sampling will be used to distribute 100 questionnaires by approaching any franchisee in the fast food industry serving as units of analysis, in various suburbs of the Cape Metropole. The selection in terms of accidental sampling is justified on the grounds that the units of analysis are located in areas accessible to the author and will help to capture a broadly representative sample of fast food franchises. An accidental sampling type is the most convenient collection of members of the population (units of analysis) that are near and readily available for research purposes (Kruger & Welman, 2004:62).

1.6.3 Data collection, analysis and interpretation

A questionnaire consisting of open and closed-ended questions will be used for the survey. The data consisting of 'quantitative' variables such as identification information regarding respondents, information to manage as well as independent and dependent variables such as business cycle activities and performance measures will be obtained (Collis & Hussey, 2003:152-154). Descriptive and inferential statistics will be used for the analysis and interpretation of data.

1.7 DELINEATION OF THE RESEARCH

The study will be de-limited to the managers/owners of franchises in the fast food industry situated within the Cape Metropole area only. This will ensure that the focus will only be centered on one particular area, as opposed to a wider approach (Collis & Hussey, 2003:128-129).

1.8 CONTRIBUTION OF THE RESEARCH

This empirical research attempts to establish the current position of performance measures utilised daily in business activities by fast food franchisees. Furthermore, to examine whether the franchise package enables the owners/managers to performance measure their daily activities in a balance manner, raise awareness of future performance drivers and to highlight

the importance of measuring the key performance areas of both financials and non-financial indicators as significant contributors to sustainability and growth of an enterprise.

Critical management information gleaned from the research will help the franchisees with skills in identifying critical success factors and raise awareness with franchisor on inadequacies in the franchise package for improvement, so as to contribute to effective management of small businesses. Secondly, this study will be of importance in empowering the fast food franchisee sector to take advantages of alternative performance measures, improve their business efficiencies and increase their capacity to grow and be sustainable.

1.9 LIMITATIONS AND CONSTRAINTS

When examining and reviewing previous studies on performance measures, it is evident that not enough evidence exists for performance measure utilisation by SMMEs. Current extensively documented multi-dimensional performance measurement models primarily focus on their application in large organisations. This aspect will be further elaborated upon in chapter 2. This however according to Andersen, Cobbold and Lawrie (2001:2), should not be taken as an indication that the implementation of multi-dimensional performance measurement models is only appropriate to large organisations. Therefore this lack of research on SMMEs performance measures means that only limited previous research will be considered when comparing studies.

It is also important to note that the sample in this study comes from one business segment only, namely the fast food franchisee section. The franchisees who took part in the survey consist of owner/managers who have a full impact on the performance of their outlets, culminating in the results of this research not reflecting performance measures across fast food industries in general.

Due to the nature of unit of analysis (managers or owners) and their busy work schedules, it was difficult to contact most of the targeted respondents to take part in the survey. Furthermore, due to the restrictions franchisees operate under, there was a general reluctance in the disclosure of outlets information in terms of available data.

In addition it is important to note that the respondents were advised in advance that they were taking part in a 'fast food franchisee survey'. As a result, there was firstly the possibility that some may have felt a social pressure of having to look like they were performance measuring their outlet. In order to counteract this, it was highlighted to the respondents that

all information would be handled in the strictest confidence and that no names would be made public.

Whilst every effort was made to target one hundred fast food franchisees and create a large sample, due to the fact that the franchisees operated under restrictions by franchisors, there was no way of ensuring that they would commit to the process. The sample group that resulted consisted of only fifty one fast food franchisees, which in itself is a very small number, however statistically significant.

It is of importance to recognise the potential of research bias arising from the limitations and constraints mentioned above, however this author is of the opinion that it would have been beneficial to include failed franchisees to the study, however data on these entities were not readily available.

This chapter highlighted some of the aims and objectives of the study as well as giving some background to the reasons for this research. In this document findings will be compared to a preliminary survey conducted by this author, which focused on the information critical for effective management of franchise.

CHAPTER TWO

LITERATURE REVIEW

2.1 INTRODUCTION AND BACKGROUND

Lack of critical management information severely handicaps decision makers and managers in all enterprises (Romney & Steinbart, 2000) cited by (Rudman, 2004:19). It has been established that there is not significant use of non-financial performance measures by managers of SMMEs in the Western Cape (Rudman, 2003:Conference).

Often, traditional financial accounting systems are used which is designed to provide information to users external to SMMEs such as lenders and tax authorities. However the same systems should provide management information internally to SMME managers for day-to-day operational decision-making. The internal users of these accounting systems often are without vital timely information needed to accomplish strategic planning, organizing, directing and controlling, which is critical for success (Baxendale, 2001:61).

In this chapter, the term SMME and franchising and the contribution made by franchises to the economy of South Africa will be discussed prior to defining performance measurements. This chapter will also focus on the performance measures, the balanced score card and its relevance relating to the fast food franchisees towards attainment of their objectives and vision.

In South Africa, franchising represents a business model that has spurred growth in the country's small and medium enterprises. The importance of SMMEs has been outlined by the International Organisation Development South Africa (IOD, 2000), as a vehicle of economic growth, which is motivated by macroeconomic concerns, such as improving the competitiveness of the economy, the provision of accessible consumer goods for the poor, and job-creation; which also serves as a vehicle of black economic empowerment. The organisation expressed the purpose of SMMEs as alleviating poverty through employment creation.

The small business sector has been noted to play a crucial role in world economies (Lefebvre, Lefebvre & Prefontaine, 1999:Conference). In the European Union, small to medium enterprises (SMEs) account for 99 percent of all organisations, and 72 percent of employment, while in Japan they represent 99 percent of all organisations, and 60 percent of GDP. In Canada, organisations with less than 100 employees account for 99 percent of all

businesses. Currently in South Africa between 60 and 70 percent of new employment is being created by SMMEs. In the Western Cape region, SMMEs are seen as crucial to job creation and contribute 53.9 percent to total local employment (Friedrich, 2004: Online).

Many people have the wrong impression about the revenue-generating potential of the SMME sector, and would probably be surprised to learn that many of the country's multi-million Rand companies employ fewer than 25 people. Companies employing 25–50 staff members are considered to be small enterprises, and those who employ between 50–100 employees, constitute a medium-sized enterprise (Traders Africa, 2002:3). SMMEs can be defined as formal businesses that are registered, motivated by opportunity, and employ less than 250 employees (Oxford & Wood, 2004:2-3).

2.1.1 SMME classification

The National Small Business Act (South Africa, 1996:20) defines four size classes of SMMEs in terms of numbers of employees, which are tabulated in Table 2.1 below:

Table 2.1: Defining four size classes of SMMEs by numbers of employees (South Africa, 1996:20)

Size Class	Micro Less than	Very Small Less than	Small Less than	Medium Less than
Number of employees	5	10	50	100

Small Medium and Micro enterprises (SMMEs) contribute 40 percent of the South Africa's Gross Domestic Product (GDP) and employ almost 60 percent of the private sector labour force. The importance of the small business sector therefore cannot be ignored (DTI, 2001).

2.2 THE CONTRIBUTION OF FRANCHISING TO THE ECONOMY

The franchising sector has managed to achieve exponential growth in operating franchise brands, increased turnover, number of outlets, and job creation. Franchisees are viewed as having the potential to make a significant contribution to the country's economy and its citizens, because of their ability to create new jobs.

The latest survey conducted by the Standard Bank Franchise Factor returned that the number of local franchise brands has grown by 49 percent to 470 since March 2004. The number of outlets increased to 25870. The turnover of the franchises increased from R127 billion to R188 billion (Futuse, 2007:9). Franchisees currently employ 412428 people (see Figure 2.1) (Gordon, 2006:23).

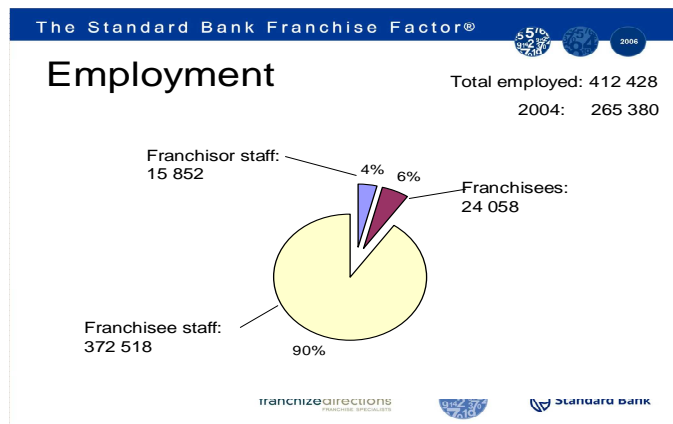


Figure 2.1: Employment statistics. **Source:** Gordon (2006:23)

The franchising sector as part of SMMEs are seen as crucial to job creation in the Western Cape region as they contribute 53.9 percent to total employment (Friedrich, 2004:Online). Recent reports returned that the franchising section has a growth of R256 billion turnover and the creation of 70 000 new jobs over the previous two years (Verduyn, 2009:9). According to the Entrepreneur magazine (2009:38), the total income generated by fast food/takeaway outlets was R607,1 million in June 2007 and has increased to R637,7 million in June 2008.

A recent article in UK newspaper The Time (2008) on global recession, as quoted by the Entrepreneur Magazine (2009:38), reported that the fast food industry is one of the rare sectors to thrive in the economic downturn. FASA (2009:10), reports that franchising enjoys a sustainability rate of almost 96 percent and the sector contribution to GDP is 12,57 percent.

2.3 THE CONCEPT OF FRANCHISING ANALYSED

The historical development and conceptualisation of franchising possibly started as early as the 1850's and modern franchising began in the 1930's, however, South Africa joined the franchise movement in mid 1960. Fast food outlets and restaurants were the first to use franchising as a vehicle for expansion. Sibeko and Tambani (2000:Online), provides the following insight into the concept of franchising:

2.3.1 Franchising defined

In broad terms, franchising is a business arrangement wherein one party namely the franchisor, enters into a contractual relationship with another party, the franchisee, granting the franchisee rights to use the franchisor/s trade name and trademarks and to conduct a business in accordance with a specified format. The contractual relationship usually involves

an exchange of fees and contractual responsibilities on the part of the franchisor and franchisee alike (Sibeko & Tambani, 2000:7). This definition is supported by FASA; Futuse (2007:9). Franchising is applied across a number of industries and in a variety of formats. Taking into consideration the different reasons and applications behind franchising, it is appropriate for the purposes of this analysis to define the two main types of franchising, namely the ‘business format franchising’ and ‘product / trade name franchising’.

‘Business format franchising’ occurs when a franchisor has developed a proven business system and grants franchisees a licence to use the trade name, sell specified products and services and utilise prescribed marketing and business systems, for example, fast food outlets. The franchisee is usually required to pay the franchisor franchise fees, for the licensed right, in the form of up-front franchise fee, ongoing royalties or management services fees (usually calculated as a percentage of the franchisees turnover), and a marketing or advertising levy. Business format franchising is a modern day form of franchising, which requires a far closer working relationship between franchisor and franchisee in the form of training and regular business support (Sibeko & Tambani, 2000:7).

‘Product / Tradename franchising’ is a traditional form of franchising, where a franchisor grants a franchisee a licence to use the tradename and sell specified products and services, for example, motor car dealers and petroleum / service stations. The franchisee is usually required to pay the franchisor, franchise fees for the licensed rights. These payments are made in the form of an up-front franchise fee or ongoing royalties (usually calculated as a percentage of the franchisee/s turnover) and a marketing or advertising levy as in the case of business format franchising. The main distinction of this form of franchising to the former, is that there are limited standards and procedures imposed by the franchisor on the franchisee, consequently the extent of training and business support is limited.

2.3.2 Advantages of franchising

Experts in the field of franchising list the following advantages of franchising, which are tabulated in Table 2.2 for ease of reference.

Table 2.2: Pros and cons of franchising vs independent business (Source: Which Franchise, 2007: Online)

Consideration	Franchise	Independent Business
Trade Name	As a franchisee, you have the right to use an established trade name, marks, logo and style. Your unit will be indistinguishable from others in the network. However, customers could - and should – be made aware of local ownership	You will need to establish your own name. This can take a long time, and as they say: “in business, time is money”. The name will not be national, but customers will be aware of local ownership.

Known Product or Service	Your product/service will have public acceptance. It is a major benefit if the network as a whole has a sound reputation, but could be a drawback if other franchisees within the network perform badly.	It takes a long time to establish a product/service that meets the needs of its target customer base and build up public acceptance.
Training	Training is essential, especially but not only if you are changing career. It provides you with the ability to use new technology, handle financial and staff management and gives you the confidence and skills required to operate a business successfully.	Your business will be based round your skills or hobbies. Business results will depend entirely on your own capabilities and dedication – there will be nobody to guide you.
Proven Business	A solid franchise will offer irrefutable evidence that the business has worked well elsewhere. However, this does not guarantee that it will work everywhere. Every franchisor should have carried out a viability study in your target market.	Your business will be new and unproven – the onus is on you to establish the likelihood of success.
Package	You are investing in a complete business franchise format that has been proven elsewhere and possibly even has an established following in your target territory.	As you will have little external support, your business is likely to start small and will require time to develop. In the meantime, overheads are building up, not to speak of lost opportunities costs.
Advertising	National advertising is the responsibility of the franchisor while local advertising will be undertaken by you. However, the franchisor is likely to offer guidance and even provide advertising materials.	This is entirely down to you. You have to devise and produce your own material and are responsible for media selection. Moreover, you are unlikely to qualify for discounts often offered to large groups.
Sourcing	Franchisors will specify the range of products and/or services you will carry. On occasion, franchisors may be the sole source of certain supplies. Either way, you should be able to benefit from bulk discount arrangements negotiated by the franchisor on the network's behalf.	You are free to determine the range of products and/or services you wish to offer. Moreover, you can shop around to get the best deals. However, as you will be buying in small quantities, initially at least, you are unlikely to receive substantial discounts.
On-going Help & Support	You have access to an operations and procedures manual. In appropriate circumstances, a trouble shooting service may also be available. Moreover, a field service consultant (FSC) will visit you and offer on-site assistance.	You are on your own – the buck stops with you every time. You could hire an outside consultant – at a price – but he is unlikely to be familiar with your specific needs.
Location	The franchisor should assist with the selection of the optimal location for the business. In any event, the franchisor will reserve the right to approve the site.	You are free to make good or bad choices in site selection, and have to live with the consequences. Expert advice may be available – at a price – but it is unlikely that the expert understands your needs fully.
Ownership	Although you own the business, operation is subject to the clauses contained in the franchise agreement. Among other things, your right to sell the business is likely to be limited. The franchisor may reserve the right to purchase the business from you, or approve the incoming franchisee. Keep in mind that franchises are usually granted for a fixed period, with a right to renew,	You are free to sell or dispose of the business at any time to anyone. No one else has the right to terminate the business for as long as it is solvent.
Selling the business	Should you wish to sell the business, the franchisor may be prepared to purchase it from you, or may have a buyer lined up.	You have to find your own buyer.

2.3.3 Disadvantages of becoming a franchisee

Franchising also has drawbacks, and it is important to understand them fully before two parties i.e. the franchisor and franchisee enters into any binding commitment (Which Franchise, 2007:Online). These drawbacks fall into three categories, namely;

- Limitations on independence,
- inflexibility, and
- risk associated with the network's overall performance.

2.3.4 Limitations on Independence

An important feature of franchising is that every aspect of the business format is defined. Not everyone will be happy to operate a business under such constraints, and one needs to consider this carefully. Furthermore, it should be kept in mind that in the SMME environment, and indeed in any business, "independence" is a relative term. No matter what business one is in, and even if one operates it independently, market realities, including the whims of major customers, can – and often will – influence the way a business operate (Which Franchise,2007:Online).

2.3.5 Discipline

Which Franchise (2007:Online), believes that being a franchisee requires a great deal of self-discipline. On the one hand as the owner "the boss" or manager of an outlet, no-one will control your routine movements. The owner or manager needs to be able to put in the required hours and the necessary enthusiasm to ensure the success of the business. On the other hand, owners or managers of outlets are working within a system in which there is little scope for creativity. Almost every aspect of operating the business is laid down in the operations and procedures manual. To exacerbate matters, franchisor representatives are appointed to ensure adherence to the proven guidelines.

Franchisor representatives have the objective to protect one against rushing into decisions one may regret later. Moreover, recent developments especially in the USA point toward a move away from the concept of "the franchisee as a blind follower", towards "the franchisee as the regional developer of the brand". This trend is sure to be followed in South Africa. Once this happens, networks that follow this paradigm will offer franchisees who can demonstrate commitment to the brand almost limitless opportunities for growth. There is a need to identify a system that offers a good culture fit and is prepared to accommodate the abilities as well as the aims and ambitions of the franchisee.

2.3.6 Monitoring by the franchisor

Initially, almost every franchisee welcomes visits by the franchisor's field service representatives, however this approach is soon viewed as unnecessary interference. The

owners or managers of fast food outlets often see no need for the representatives to come into the outlet and criticize the way the outlet is run, once they are able to do their own trouble-shooting, Which Franchise (2007:Online), explains that this is human nature but shortsighted nonetheless. Furthermore, the owner invests in a franchise precisely because it functions like a proverbial 'well-oiled machine', however question whether it is not fair and reasonable, then, that the franchisor expects the owner/manager to stick to the network's proven systems and procedures once they become a franchisee?

Several issues are at stake:

- The franchisor supplies the franchisee with a blueprint for business success. Unless the franchisee use the blueprint as intended, its efficacy becomes suspect.
- The brand's followers 'the franchisees/customers' do business with the franchisor precisely because of the perceived brand promise. Any deviation from the network's standards places the perceived brand promise under scrutiny. Not only would this impact negatively on the business performance of ones own unit, but also would impact negatively on the reputation of other members of the network.
- Having made a substantial investment into their business units, other members of the network expect the franchisor to protect their business interests. They would protest should the franchisor stand idly by while damage is done to the reputation of the brand.

2.3.7 Franchise fees

During the early stages of the franchise relationship, the franchisee depends on the franchisor's assistance and usually does not mind paying ongoing fees. As time goes by however, the franchisee is likely to become more self-sufficient. Eventually, the franchisee may resent paying these fees.

2.3.8 Reputation

Each outlet operating under the network's brand, regardless of whether it is operated by the franchisor or a franchisee, has the capacity to affect the reputation of the whole system. If there is a wide disparity in service quality from one outlet to the next, it will harm the reputation of the brand. This can affect the business performance of ones unit and one has little power to change it.

In certain circumstances, franchising can be an inflexible method of doing business. As a franchisee, one is bound by the franchise contract to operate the business in a carefully prescribed manner. Although the franchisor will have reserved the right to respond to changes in the market, this is unlikely to happen without a process of consultation. This tends to make the introduction of changes to the system, for example changes to the business format, the corporate identity or the product range, a slow process. It can be frustrating for individual franchisees not to be able to respond swiftly to the emergence of new trends in the local market, or the arrival of a local competitor.

On the positive side, it protects the franchisee against responding to fads that lack staying power. This prevents one from implementing 'knee-jerk reactions', which could upset suppliers, staff and long-standing customers for no good reason and may be costly to rectify (Which Franchise, 2007:Online).

2.4 FAILURE RATES (SMMEs INCLUDING FAST FOOD FRANCHISEES)

The DTI (2001), reports that 60 percent of new SMMEs fail within first two years. This results in wasted capital and disillusioned entrepreneurs. According to the U.S. Small Business Administration (Longley, 2006:1), over 50 percent of small businesses fail in the first year, and 95% fail within the first five years.

The Franchise Association of Southern Africa cited by Futuse (2007:9), reported that the failure rate of franchises are between 15 and 25 percent lower than for start up businesses. The US and European statistics show that 60 percent of all new businesses fail in the first two to three years. Furthermore, statistics show that 80 percent of new businesses fail within their first two years as a result of poor yield management, low productivity, long process flows, old plant equipment, etc.

Recent media articles reported that MacDonalD's one of the blue chip franchises closed 15 of their 103 outlets in South Africa. This represents 15.6 percent of their total stores in the country. If such a big franchise can experience failures, so can many franchise initiatives, especially newly established ones, which are more vulnerable to risk of failure than blue chips initiatives (Mc Alphine, 2006:2). According to Gordon (2008:52), 6,5 percent of new franchises have failed in the past two years. The first step in a long process is job retention. When a job is lost in South Africa, approximately 15 to 23 people in the worker's extended family are affected. Before one can create jobs, one first needs to stabilise the business (Geldenhuys: 2002:1).

Several studies have been undertaken to determine the reasons for the failures of franchise enterprises. Amongst the most important reasons pointed to the lack of managerial capabilities such as identification of critical information for decision-making, and the experience of the managers.

There are a plethora of valid business reasons, which can be listed for the failure in the fast food franchise industry, the majority of which points to the lack of certain competencies on the part of managers who manage the outlets. Managers of fast food franchises invariably rely on financial statements as the only single element to measure the performance of the business, adding to the failure potential of the business initiative.

The risk of business failure is high amongst SMMEs. International research returned that the major causes for business decline and/or failure are internal factors especially lack of financial control, poor cash flow management, high gearing levels, inadequate management competence, poor production planning and control and insufficient marketing, rather than external factors such as economic and competitive changes. Unless there is experience and understanding of the management information critical for effective management and sustainability of fast food franchisee sector, the warning signals associated with business decline will go undetected (DTI, 1998:11).

2.4.1 Risks and controls

All organisations are constantly exposed to many threats and assume risk in achieving their goals. Some risks are inherent and cannot be limited, others are avoidable and may be limited by a good designed and maintained system of internal control (Grobler, Rudman & Smith, 1998:1). The extent to which the goals are achieved, how well the organisation is being managed, and the proper use of the money within the organisation, needs to be monitored on an ongoing basis. The information generated by the monitoring is given to management to use to manage better. In a larger business, the management of the organisation have the responsibility to monitor activities in the course of operations, and through separate evaluations.

The scope and sequence of separate evaluations depends on the assessment of risks and effectiveness of on-going monitoring of controls and procedures basis as graphically depicted in Figure 2.2. For this reason, typically an internal auditor is employed within an organisation to assist the management in performing this monitoring function.

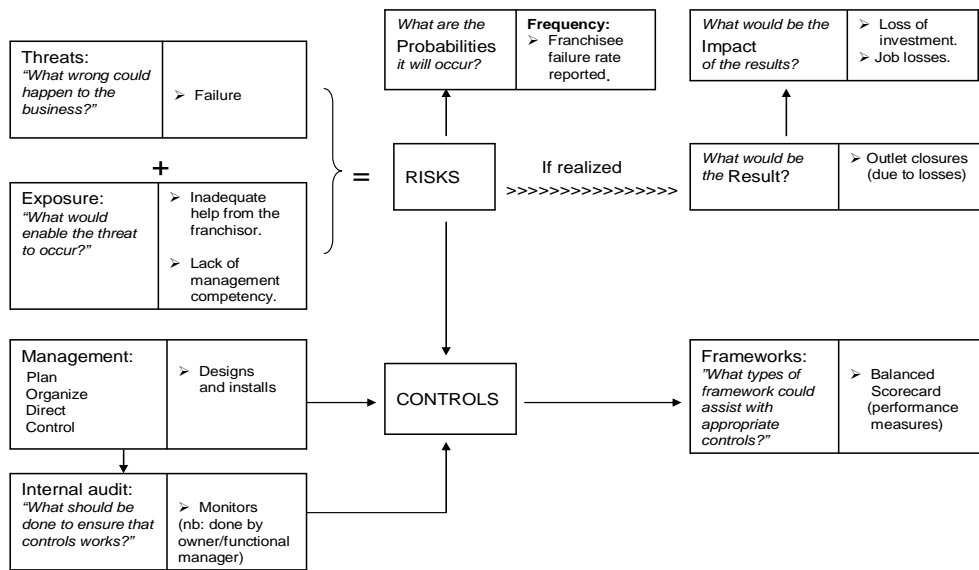


Figure 2.2: The risks and controls formula (Source: Adapted from Grobler *et al.*, 1998:10)

Figure 2.2 is based on the original concept mooted by Rao Vallibineni, and which was expanded upon by Grobler *et al.* (1998), in CPUT Internal Auditing Notes 1998, and which is now adapted by this author to suit the fast food franchisees.

Control is about risk management and can help the organisation achieve its objectives, as effective control will provide reasonable assurance that the organisation will achieve its objectives (Grobler *et al.*, 1998:10). Whether in a developed or developing economy, franchising is designed to mitigate risk. A franchised operation is part of a larger support network with a proven business track record, in which the franchisor provides continuous assistance with respect to all aspects of the business (Business in Africa, 2005:Online). According to Barrett (2008:1), managing and mitigating risk is a problem in itself, however managers either ignore, do not manage it properly or are ill-equipped to use the necessary tools for the job.

In terms of the dispensation applicable to SMME fast food franchisees the payment of extra support such as acquiring the services of an internal auditor (to perform or assist in the monitoring function) contributes to extra cost incurred, thereby further contributing to non-achievement of goals. When an owner goes through financial hardship, they should remain as a small entity until stabilised before they expand.

2.5 FRANCHISE RELATED LEGISLATION

Intellectual property rights and primacy of contract are important aspects of a successful franchise sector, with South Africa the only country in Africa to have franchise related legislation. To place it into an international context, only 13 countries have franchise related legislation and North American courts are still trying to clarify the relationship between the franchisor and the franchisee (Business in Africa, 2005:Online).

2.5.1 Acts governing franchising

As such there is no specific law governing franchising in South Africa. The franchise relationship is vested in law as a combination of various legal transactions while the franchise agreement can contain varied and apparently unrelated rights and obligations. The franchise agreement serves as an instrument to express such unrelated rights and obligations and is therefore viewed in South African law as an ordinary commercial agreement and governed primarily by the Law of Contract. In addition to the Law of Contract and various acts of parliament, there are distinct 'bodies' which have an influence on franchising in South Africa (FASA, 2007:Online).

It is clear that the development of a vibrant and healthy franchise sector should be encouraged and appropriately supported by Government. Currently, the inadequacies on the regulatory front do not support the development of a protective and enabling regulatory climate for franchising. To achieve optimum growth, certain interventions are needed to improve the regulatory and support environments for current and potential participants in the sector. A strategy was proposed to bring about support measures to stimulate growth in the franchising industry, and to provide the regulatory environment required to optimise the impact of these measures in contributing to South Africa's macro economic objectives (Sibeko & Tambani, 2000:4).

Recent developments are that the Consumer Protection Bill is soon to become law, calling for franchisors to adhere to a strict Code of Ethics and Business Practises to ensure the success of franchising (FASA, 2009:10).

2.6 PROMOTING SMMEs IN SOUTH AFRICA

In line with the objectives of economic policy, growth in employment can be enhanced through Government support to small, medium- and micro-sized enterprises. The institutional framework of support for such enterprises calls for fundamental restructuring.

The Government will determine appropriate support policies, which will be both focused and sectorally differentiated. Support to this sector will best be decided by the Government, the private sector and NGOs acting in collaboration. The key areas of support to small and medium-sized enterprises will include according to Visagie (1997:660-667), the following:

- Access to advice.
- Favourable amendments to legislative and regulatory conditions.
- Access to marketing and procurement.
- Access to training.
- Access to appropriate technology.
- Encouragement of interfirm linkages.

2.7 BARRIERS TO THE SUCCESS OF SMMEs

In particular, the franchising fast food entities operate under a restricted setup by the franchisor, and are supposed to receive numerous services and help from the franchisor. Such a complex relationship between franchisor and franchise outlet business may directly affect the competitiveness and success of fast food entities (Hynes, 1998:Online).

Several factors contribute to the lack of sustainable institutions in the South African context, including lack of capacity, overhead and administrative expense, lack of staff training, information, and access to technology that would make programmes more effective.

Franchisees lack knowledge in various areas, which impair their success. These include amongst others:

- Franchising in general,
- how to evaluate and select a franchise,
- general managerial skills, and
- where to ask for information and where to lodge complaints

Franchisors in some instances also lack knowledge in the areas of:

- How to develop, manage and sustain franchise systems.
- How to support franchisees.
- Franchisors in some instances fail to provide franchisees with sufficient training and general business support.
- Franchise systems, which lack formal communication mechanisms to allow for effective communication to flow between franchisors and franchisees have been found to exist.
- Franchisors operating franchise systems without owning operational units, which compromises research and development, system enhancement and skills transfer.

One of the major trends for the new millennium is time and convenience. Consumers are placing more importance than ever on these factors. This means that anything that provides consumers with a time save option will have a good chance of success. This translates into anything from delivery services and house calls, to drive-thru windows and easy-access express locations, especially for service establishments that are traditionally inconvenient. As people are becoming more and more health conscious, there is a greater opportunity for fast food franchisees.

2.8 HISTORY OF MANAGEMENT ACCOUNTING PERFORMANCE MEASURES

Performance measures are defined as parameters used to quantify efficiency and effectiveness of business actions, intended to provide feedback to managers regarding achievement of desired outcomes (Niven, 2002:112-114). Traditional performance measures in many companies are primarily financial and are represented by the output of management accounting systems. Management accounting was developed in the 1920s, however business systems and practices have changed exponentially since then, particularly in the last two decades, but accounting systems have not kept up with developments. Some specific shortcomings of traditional, accounting-based performance measures are evident.

2.9 FINANCIAL VERSUS NON-FINANCIAL MEASURES

Financial indicators are said to reflect the capital market's obsession with profitability as the sole indicator of corporate performance. Critics of this approach suggest that it encourages management to take a number of actions, which focus on the short term at the expense of investing for the long term. Management should realize the importance of the non-financial performance measurement and be aware that, 'the less you understand the business, the more you rely on accounting numbers' and 'the nearer you get to operations, the more non-financial performance indicators you realise could be valuable aids to better management'. Non-financial measurements can warn about downside risks (Deloitte, 2004:10).

Mr Gary Benanav, of New York Life, cited by Deloitte (2004:19), believed that executive directors are the one's that are driving the emphasis on non-financial measurement, however the pressure from investors are much more on financial performance and no real pressure is applied to get into the details of non-financial matters.

Mr Laurent Beaudoin of Bombardier, the Canadian maker of aircraft and trains and by Deloitte (2004:19), is of the opinion that when they report financial results and discuss them at the

board meetings, the non-financial matters which caused the results to be good or not so good are raised at the same time, but without specific measurement of them.

Mr Jay Lorsch, a Harvard Business School professor by Deloitte (2004:9), believes that there are a lot of American directors who would like to look at long term health (non-financials), rather than the short term stock price, but the pressures to meet investors financial expectations from one quarter to the next, pushes the emphasis on financial data.

A recent survey by Deloitte and the Economist Intelligence Unit returned that 78 percent of corporate directors stated that financial indicators alone do not adequately capture their companies' strengths and weaknesses. Furthermore, Dr Walter Massey, a member of the board at McDonald's, commented that customers have greater power than before, and companies are finding they need to learn more about customer's needs and desires, in addition the ranks of the ecologically minded, social minded consumer are growing, and companies run considerable risk if they don't pay attention (Deloitte & Touche Tohmatsu, 2007:Online).

SMMEs have to work harder and manage on their own to achieve financial goals. Due to their size and nature, SMMEs tend to be adaptive and innovative (DTI, 1995:Online). Owners or managers of fast food franchises have the time and can benefit from adopting the approach of measuring both financials and non-financial areas of their outlets.

2.10 DISENCHANTMENT WITH FINANCIAL ACCOUNTING (1987 – 1992)

Management accounting, which is the preferred source of financial measure, has lost its relevance (Johnson & Kaplan, 1987:256-260). According to Eccles (1991:131-137), the information is unbalanced, and mainly relates to the past and requires special skills to interpret. Those who do use performance measures, often extract them from financial accounting systems information.

'Traditional' financial measures are not that suitable to capture the essence of the company's relationships with such important constituencies as customers, employees and suppliers. Furthermore, they shed little light on the key source of future revenue and profit in a firm, namely the state of product innovation (Deloitte, 2004:Online). Too much reliance on financial statements have proved to be ineffective and inadequate, which points to the fact that they are historic, provides a summary of the performance, and lacks to assist in identifying areas requiring corrective action in real- time (Rudman, 2004:18).

The effective management of franchisees is not only a question of financial measures of performance, which is a necessary condition but not a sufficient one, but also of various other measures of a non-financial nature. The question however is if new business initiatives actually can manage their business effectively by measuring only the financial elements of their business, or does the measuring of non-financials, equally play a part?

2.11 PERFORMANCE MEASUREMENT FRAMEWORKS AND MODELS

Following the criticism of traditional performance models, which focusses on financial measures, multidimensional and balanced models were created to support the development of the organisation and management of companies (Sinclair & Zairi, 2000:145-168). Balanced and multidimensional models are defined as models that adopt different perspectives of analysis, and manage them in a co-ordinated way.

All the models developed after the mid-1980's, focus on a more balanced approach. However scholars take different approaches to balance, with some writing about the balance between internal and external measures, some propose balancing measures related to all the different organizational levels, some pay attention to the result-determinants relationship, and some propose balancing four different perspectives based on both the nature of the measures (financial and non-financials) and the object of the measures (internal and external) (Bititci, Garengo & Biazzo, 2005:32).

The most popular performance measurement models are elaborated upon below:

- **Performance Measurement Matrix:** A framework which seeks to integrate different dimensions of performance using terms 'internal', 'external', 'cost' and 'non-cost' for simplicity and to enhance its flexibility (Keegan, Eiler & Jones, 1989:38-43). However, it is sometimes criticized due to the fact that the model does not consider some perspectives and relationships highlighted by the Balanced Scorecard (Neely, Adams & Kennerley, 2002:291-8).

- **Performance Pyramid:** Represents a pyramid built on four levels, showing the links between corporate strategy, strategic business units and operations. The strategic objectives are translated from the company vision using a top-down approach. Furthermore, the measure is balanced in that it measures stakeholder satisfaction and operational activity (Lynch & Cross, 1991) cited by (Bititci *et al.*, 2005:38).

- **Balanced Scorecard:** This framework aims to provide management with balanced measures based on four perspectives namely a financial perspective (the company's ability to make profits e.g. return on capital, cash flow, profitability), a customer perspective (evaluating the customer opinions regarding the company's image, products/service, satisfaction and analysis on market share and customer retention), an internal process perspective (linking the lead measures to the organizational process, which the company must excel it to achieve a competitive advantage), and an innovation and learning perspective (the company's ability to develop continuous improvement and add value using continuous learning). Furthermore, each of these perspectives is linked to the different types of organizational objectives, measures and activities supporting improvement (Kaplan & Norton, 1992:71-79; 1996:75-85).

- **Integrated Performance Measurement System:** This information system enables the performance management process to function effectively and efficiently. The concept underlines two main facets of the performance measurement system, namely 'integrity' (to measure whether the information system does promote the integration of various areas of business), and 'deployment' (refers to deployment of business objectives and policies thorough-out four levels namely: corporate, business units, business process and activities (Bititci, Carrie & McDevitt, 1997:46-53).

- **Six Sigma:** A statistical analysis tool and management system designed to streamline business processes by eliminating defects. The implementation of the methodology aims to improve and sustain quality, eliminate waste and increase profit. It places more emphasis on understanding and managing customer needs, adapting the business to meet those needs, using data analysis to minimise variation in those processes to quickly improve existing processes using sustainable practices (Bylinskly, 1998:Online).

- **Integrated Performance Measurement for Small Firms:** This model was specifically designed to be used by SME's. It is based on seven main dimensions of measures, classified as two external dimension (financial performance and competitiveness) and five internal dimensions (costs, production factors, activities, products and revenues) connected by a causal chain. The internal dimensions are used to monitor the whole production process, and the external dimensions are used to monitor the company's position in its competitive context (Laitinen, 2002:65-99).

- **Performance Prism:** Represents a three-dimension model, developed at the UK based Cranfield University, which aims to measure performance of the whole organization. A prism graphically represents the architecture of the model with each face of the prism

corresponds to a specific areas and analysis namely; stakeholders satisfaction, strategies, process, capabilities and stakeholders' contribution (Neely, Adams & Kennerley, 2002:291-8).

2.12 THE 'BALANCED SCORECARD' (BSC)

The BSC was first mooted as a result of a study conducted in 1990 based on the belief that much reliance on financial accounting as performance measure was becoming obsolete. This could be attributed to the fact that financial accounting as a performance measure provides a summary of financial performance therefore lacked on providing detailed performance measure of the organization as a result.

The BSC as a framework was used by people wanting to measure performance based on the principle that a performance measurement system should provide managers with sufficient information from a number of perspectives. In this respect, see Figure 2.3.

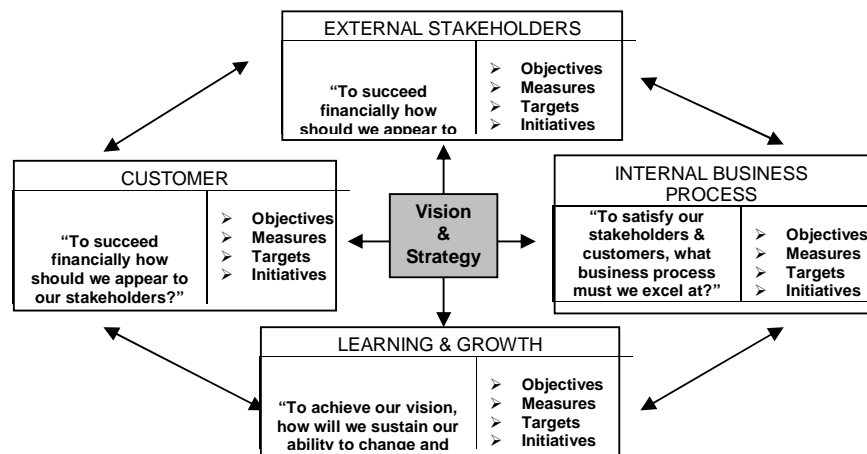


Figure 2.3: The balanced scorecard (Source: Kaplan & Norton, 1996:76)

Kurtzman (1997:128-130), found that 64 percent of the companies questioned were measuring performance from a number of perspectives in a similar way as the BSC.

The BSC is extensively documented in academic papers; its focus however is levelled on its application in large organisations drawing on case examples like e.g. Mobil and CIGNA (Kaplan & Norton, 1996; 2000). Although 50 percent of the Fortune 1000 companies currently use a BSC, few small businesses are using the mechanism. A review of the literature found no BSC related articles published in leading small business/entrepreneurship journals (ICSB, 2006:407). However, this fact should not be taken as an indication that the BSC is only appropriate for large organisations (Andersen *et al.*, 2001:2).

Specific research on the adoption of the BSC by SMMEs (particularly franchisees) in South Africa is not common, serving as one of the reasons which mooted this empirical research study. However, media articles report that some small and medium companies owner/manager use methods with certain elements similar to the BSC (Maseko, 2006:6-7).

2.13 HOW DOES THE BSC ENHANCE PERFORMANCE MEASURES?

The BSC (Kaplan & Norton, 1992; 1996), is considered to be the most popular model in practice today aimed at measuring whether the activities of a company are meeting its objectives in terms of the vision and strategy. By focusing not only on financial outcomes but also on the human issues, the BSC helps to provide a more comprehensive view of a business, which in turn helps organizations to act in their best own long-term interests (Anonymous, 2007:Online).

Furthermore the Balanced Scorecard is simply a concise report featuring a set of measures that relate to the performance of an organization. By associating each measure with one or more expected values (targets), managers of organizations can be alerted when organizational performance is failing to meet expectations (Anonymous, 2007:Online).

➤ BSC and Key Performance Indicators

Key Performance Indicators (KPI) are used in performance measurement systems such as the BSC. The ultimate purpose of KPI's is to drive future performance. The BSC provides the framework for capturing and reporting this performance. The best types of measurement provide more than score keeping, in that they help one understand what changes are needed to improve the score. Good measurement usually start with the core competencies of the organization i.e. understanding how the organization works.

The real sources of value; i.e. those elements that result in higher capacities for higher performance come from many sources. They include great customer service, great products, extremely efficient operations and ultimately the greatest source of value resides in the ability to innovate.

Examples of KPI's for specific measurement areas include: Measurement Area => Customer Service (Price, Delivery, Support, Satisfaction).

Examples of KPI's => Price comparisons to competition, number of on-time deliveries, response times, customer complaints, number of product returns, customer survey results, service awards, etc. Measurement Area=> Internal Operations (Efficiency, Costs, Production, Inventories).

Examples of KPI's => Cycle times, inventory turnovers, defect rates, plant utilization, targets met, unit cost compared to competition, overhead trends, etc. Measurement Area=> Innovation (New Products, Technology, R & D).

Examples of KPI's => Number of new products, number of patents, new technologies adopted, system improvements implemented, etc. Measurement Area=>Financial (Profitability, Growth, Value).

Examples of KPI's => Return on Equity, growth rate compared to industry growth rate, EVA, levels of operating cash flow, etc.

The ultimate purpose of KPI's is to drive future performance. The BSC provides the framework for capturing and reporting this performance. Peters (1997:427-452), in his book "The Circle of Innovation" points to the fact that 'innovation is what separates the men from the boys when it comes to value-creation'. By focusing on core competencies, strategic themes emerge to help one identify what areas of the business should be measured. In this manner, a set of KPI's can be formulated, which helps one to measure and report on the strategic areas that give the organization a competitive foothold in the marketplace.

➤ **Balanced Scorecard strengths**

The BSC meets some of the requirements of an ideal system of performance measurement, because it encourages the use of both financial and non-financial measures from different perspectives. Furthermore, the BSC describes the current business position through relatively few measures for each business unit and for enterprise as a whole; and focuses management attention on factors that are crucial to the accomplishments of the business strategy.

The key to the BSC, is that it helps managers to find a balance between short term and long terms objectives, financial and non-financial measures, lagging and leading indicators, internal and external performance perspective when performance measuring the organization.

➤ **Balanced Scorecard weaknesses**

The BSC approach has many problems associated with its use. Although it encourages balance among measures, it does not provide a bottom line score or a unified view with clear recommendations; it is simply a list of metrics. Too many measurements, too much emphasis on financials, too few leading indicators, disregard for human resource capital, all represent fundamental reasons why so many BSC's are 'out-of-balance'. One of the primary biggest problems is excessive measurement.

According to Brown (1996:240-54), it can be worse to have too many measurements than to have no measurements at all, however recommends that the overall organization have no more than 20 measurements. Another challenge within the BSC is 'detail vs summary'. How much detail to include depends upon what is required for decision-making? The BSC should provide sufficient information so that people can act on unacceptable performance. The ability to drill down and see what is going on, is important for problem solving.

2.14 ORGANISATIONS WHO BENEFITED FROM USING BSC

Large businesses are benefiting from using a BSC. A recent survey by Deloitte (2004:7), returned that 92 percent of management agreed that financial indicators alone cannot adequately capture the company's strengths and weaknesses, non-financial factors are as important as financial ones in achieving the organization success.

At Sun Life of Canada for example, top executives receive written transcripts of customer complaints and can listen to audio recordings of specific complaints while the risk-management committee of the board focuses on customer complaints (Deloitte, 2004:14). At Brinks in the United States, the company places a high priority on employee commitment and holds what is called a 'speak-out' at each branch every month. The employees are asked to voice their complaints, which are then transcribed with no names attached. The CEO reads all the speak-out minutes and follow-up to see that employee concerns are acted upon (Deloitte, 2004:14).

According to ICSB (2006:407), small businesses can also benefit from using a BSC, as demonstrated by Susan Johnson, president at Futura Industries in the United States who stated the following: "We had all the financial metrics, lots of customer measures, and got ISO accredited three years ago so we had internal processes focused on quality, but it is our employees that differentiate us from all other extrusion companies".

At Hyde Park Electronics for example, new products sales are used to measure development effectiveness. The company tracks what they are spending on new product development and time to market. New product sales are an indication of whether those investments are paying off. The company measures of customer satisfaction are increased sales and increased income that would result from product acceptance and the generation of repeat customers. Other key customer metrics that drive customer satisfaction are related to product shipment and whether the customer gets the product on the date they requested (ICSB, 2006:407).

2.15 WHY IS THE BSC APPROPRIATE FOR FAST FOOD INDUSTRY?

The BSC designs in large enterprises normally include an elaborate process for identifying measures selected to inform management about the organisation's progress towards achievement of its goal (Olve, Roy & Wetter, 1999:320-8) (Andersen *et al.*, 2001:5). As discussed above, financial measures are not enough for any business, the BSC can be used with five or 5,000 employees working toward the same goals (Green, Garrity, Gumbus & Lyons, 2002:30-36).

In SMMEs (particularly fast food franchisees), the utility of formal measure definition is lower. The limited size and complexity of the organization means that the managers are well aware (at least collectively) of all performance related issues (Mintzberg, 1981:103-116) (Andersen *et al.*, 2001:5).

The BSC stands out in the popular literature as a very popular and practical instrument from which a multi-dimensional strategic management tool can be developed. Such a strategic management tool can be adopted by fast food franchisee and thereafter customized (see Figure 2.4), to suit their respective outlets for effective management of the daily activities. The model is based upon the terms 'balance' and 'measurement', the latter is elaborated upon by the founders, Kaplan and Norton as: "If you can't measure it, you can't manage it" (Kaplan & Norton, 1996:21).

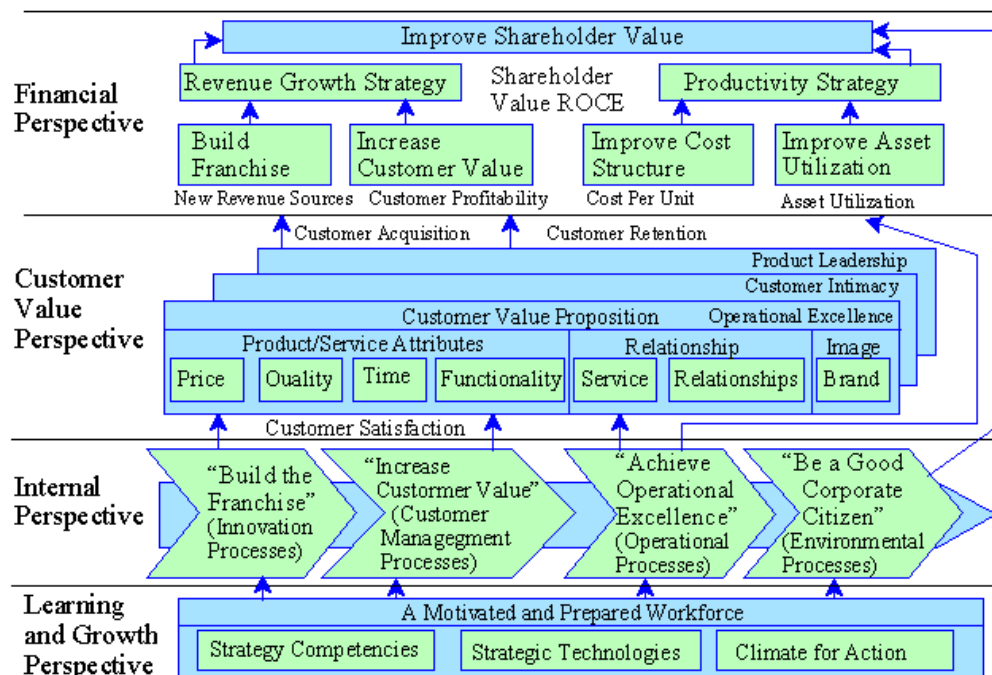


Figure 2.4: The BSC Generic Strategy Map (Source: Kaplan & Norton, 1996:96)

The term balance is exemplified by four desirable balances, namely:

- Between short and long-term goals,
- between financial and non-financial measures,
- between indicators of activities and results, and
- the balance between the internal and external perspectives.

The strategies of the organization are followed-up by measuring from four perspectives: customer, processes, development and finances. The idea being that if the first three perspectives develop as desired, then long term financial success should result. The four perspectives are linked in a hierarchical cause-effect chain. Learning and development strengthen the competence of the employees. This is thought to support the realization and development of internal processes, which in turn leads to better customer relations, increased loyalty from the customers, and in financial success.

Defining the right measures is critical in achieving the desired results. When deciding on what to measure, the process starts with the entity's purpose namely; the visions, mission statement and strategic goals (refer Figure 2.4). The entity's measures should link directly to the strategic objectives. As the strategic objectives are deployed and cascade down to intermediate and lower level goals, they define what the performance measures should be for the lower levels in the organization. Once the objectives or expected results for each organizational unit such as departments, work centres or individuals are defined, the performance measures can be established. The managers are to indicate the critical success factors, including resources, capabilities, processes, and results for achieving the outlets' goals (Manoochehri, 1999:Online).

As a rule, franchise business plans (recipes for success) is 'lacking' and inappropriate to highlight important sections of accounting information needed for success, thus setting a trap for failure. How can the franchisees check if there are gaps? Do they have a back up? The open questions which should be asked are the following: Does the franchise package (the so called 'success recipe') provide franchisees with the mechanisms to measure and drive value in real-time? Are the managers of franchises able to identify critical information or articulate factors that are critical to actually help grow market share and profits? To what levels are performance measured and the role and purpose of the utilised measures clarified? These issues remain problematic as the need to identify and understand information critical for decision making in the running of a franchise becomes imperative for the growth and sustainability thereof.

2.16 BSC APPROPRIATENESS FOR FRANCHISOR AND FRANCHISEE?

➤ Franchisor perspective

Many franchisors are involved in businesses that meet consumer needs – retail goods, petrol sales, fast food and other entertainment and are expected to enlarge their operations as long as the economy remains buoyant. There is a constant need for people to open their own businesses in order to overcome unemployment, however business failure remains a major problem (Macqueen, 2006:Online).

The Franchise Association of Southern Africa believes that a franchise model, by taking away the isolation of business-owners, overcomes lack of business skills. Furthermore, the franchisor would want to know the franchisee progress and whether franchisee is following the plan (success recipe). As demonstrated, has been stated that financial accounting is inadequate therefore the BSC should be included within the franchise package (recipe for success) and would help ensure the support required to empower (through prescription) the franchisee with the monitoring tool, thereby ensuring the achievement of goals as promised.

➤ Franchisee perspective

Macqueen (2006:Online), who is the chairperson of FASA, speaking at a First National Bank seminar, stated that at least 80 percent of new businesses in South Africa fail within the first year, citing business management skill as a major factor attributing to this. Furthermore, Macqueen stated that business-owners are also extremely 'lonely' and often the decision-making is done on one's own, without any sort of support. The franchisee wishing to monitor progress, typically perform as promised by the franchisor and check the integrity of information, through the accounting system prescribed and obtained from the franchise package the managers often use 'diluted' financial accounting measures, and as a result, operate 'in the dark'.

Those who wish to survive in times of non-growth incur unnecessary costs to obtain monitoring methods and contribute further to non-achievement of the goal. The franchisees need enhanced accounting information to identifying the drivers of financial success and performance measure as in the instance of the BSC. The challenges facing managers of franchises include tackling the tough job of managing businesses for results i.e. identifying the drivers of financial success and performance measuring these factors. Lacking such tools, managers of franchises can encounter difficulties managing what they cannot describe or measure, and thereby causing the franchisees to fail.

Measuring customer, operational efficiency, learning, and growth all contribute to bottom line profitability. In this respect, Kaplan and Norton (2001:Online) elaborate upon these issues as they pertain to the BSC as follows:

- **Promotes growth:** The focus on long-term strategic outcomes, not just short-term operational results.
- **Tracks performance:** Individual and collective results tracking against targets in order to correct and improve.
- **Provides focus:** The BSC provides focus on what is important to the company by aligning measures to a few critical strategies.
- **Alignment to goals:** Measures which are truly important to success become linked and support each other across the organization.
- **Goal clarity:** Helps clarify whether daily activities contribute to the goals of the enterprise.
- **Accountability:** Individuals are assigned owners of metrics for the results.

2.17 PRELIMINARY INDUSTRY FINDINGS

Preliminary research findings based on a research paper presented by this author at the Western Cape Regional SAAA Conference held at the CPUT Hotel School, 8th November 2007 (Mabesele, 2007:Conference Paper) returned the following:

➤ **Profile of fast food franchisee respondents**

A total of 100 questionnaires were distributed with 40 fully completed questionnaires being returned. The non-franchise respondents were then deleted from the sample leaving 22 questionnaires, from which conclusions were drawn. It was found that 36 percent of the outlets were run by owner-manager with 16 years experience on average and 55 percent by managers (not owners) with four years experience.

➤ **Financial reports**

Most franchisees indicated the reasons for preparation of financial statements (depicted in Figure 2.5 for ease of reference), as follows:



Figure 2.5: The purpose for preparation of financial reports (Source: Mabesele, 2007:Conference)

Figure 2.5 reflects highlight the following: A total of 43.75 percent of respondents indicated that the purpose for the preparation of financial statements is for tax purposes, while 31.25 percent of the respondents believed that financial statements are used for determining profit. Twenty five percent of respondents use financial statements for control purposes, while 43.75 percent of respondents use it to determine business growth.

➤ The performance measures utilised in the business cycle

The unit of analysis response-to-measurement for purpose of providing information for effective management was grouped into the major fast food franchise activities and the extent to which areas of activities are performance measured are reflected in Figure 2.6.

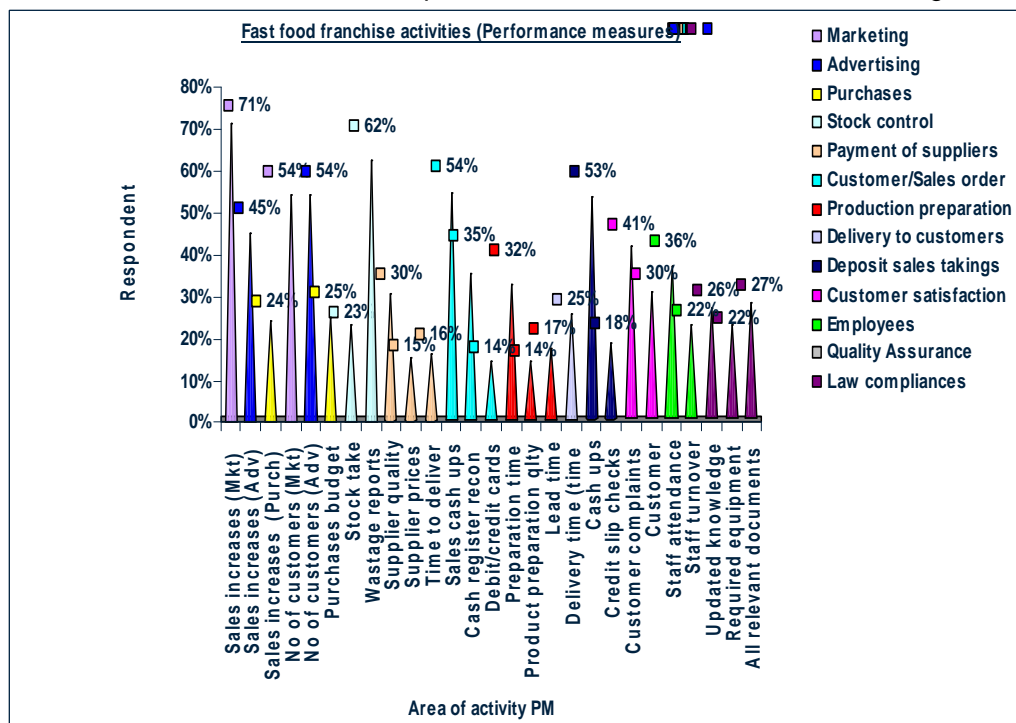


Figure 2.6: The areas of activities performance measured

(Source: Mabesele, 2007:Conference)

Figure 2.6 highlights the most commonly and least performance measured areas of activities, which are expanded upon below for ease of reference:

Areas most performance measured:

Marketing,
Advertising,
Stock,
Customer/sales order, and
Delivery sales takings.

Areas least performance measured:

Purchases,
Payments of suppliers,
Product preparation,
Delivery to customer, and
Customer satisfaction.

➤ **The vision of the franchisees**

The aspects, areas and measures, which were identified by the respondents to be important for the description and measurement of vision of the franchisee are depicted in Figure 2.7, Figure 2.8 and Figure 2.9.

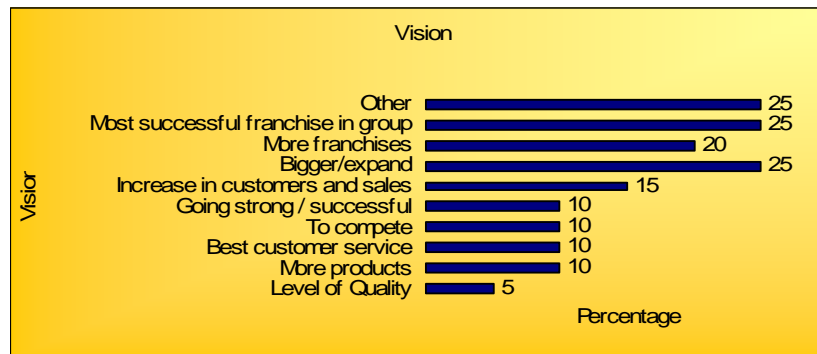


Figure 2.7: Description of the vision by manager and owner/manager
(Source: Mabesele, 2007:Conference)

Figure 2.7 reflects that expansion and most successful franchise in group were the most important aspect used to describe the vision of franchisee.

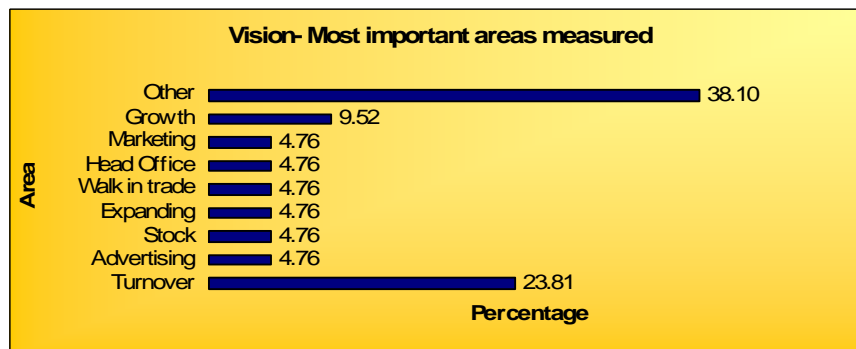


Figure 2.8: Most important areas used for achievement of the vision
(Source: Mabesele, 2007:Conference)

Figure 2.8 illustrates that turnover and growth were the most important areas used to measure the franchisees' ability to achieve the vision.

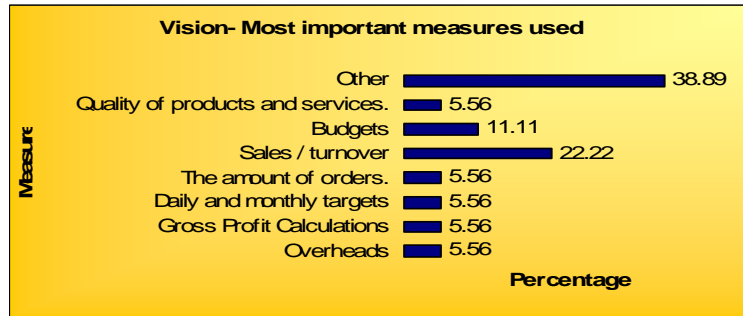


Figure 2.9: Most important measures used for achievement of the vision
(Source: Mabesele, 2007:Conference)

Figure 2.9 reflects that sales and turnover were the most used measures for achievement of the vision.

➤ **The mission statement**

When questioned about their mission statement, areas and measures used to measure achievement of the mission, the percentages which were returned are reflected in Figure 2.10.

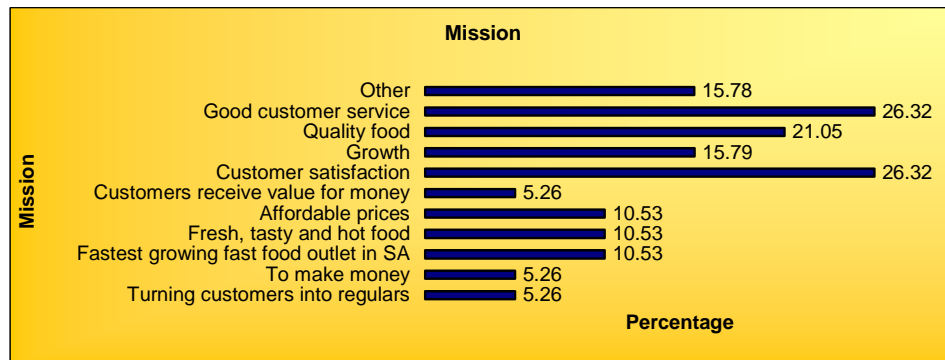


Figure 2.10: Description of the mission by manager and owner/manager
(Source: Mabesele, 2007:Conference)

Figure 2.10 illustrates that good customer services, customer satisfaction and quality food were mainly used as a measure for achievement of the mission of franchisees.

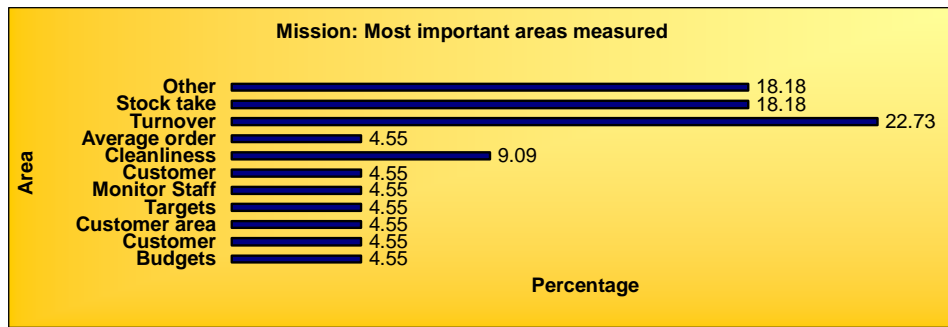


Figure 2.11: Most important areas used for achievement of mission
 (Source: Mabesele, 2007:Conference)

Figure 2.11 illustrates that turnover, stock take and cleanliness were the most important areas used to measure the franchisees' ability to achieve the mission.

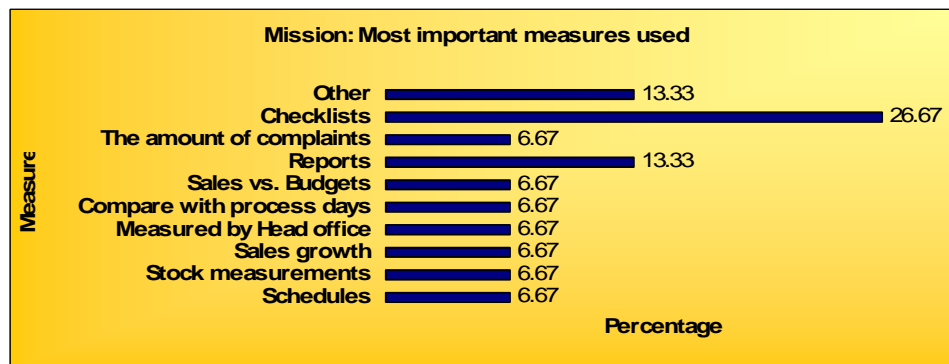


Figure 2.12: Most important measures used for achievement of mission
 (Source: Mabesele, 2007:Conference)

Figure 2.12 illustrates that checklists and reports were the mostly used measures for achievement of the vision.

From the conducted research, the following analogies were drawn:

- Franchisees do not comprehensively performance measure their activities.
- In terms of plans, none represent any measurement
- Most owners/managers rely on lagging financial information for decision making.
- Floor managers or similar are not specifically trained to do their jobs.
- Franchise 'package' agreements do not appear to contain even elements of performance measurement frameworks or models.
- An obvious gap exists for the generation of essential information required for effective management.

The primary objective of the preliminary study was to establish the current position of the performance measures used by franchises in the fast food industry. A clear need was established to utilize performance measures for both financial and non-financials in the fast food industry, enabling the franchises to effectively manage their businesses, grow and be sustainable.

Based on the above preliminary study, it was recommended that further research be conducted into performance measures utilization by fast food franchisees in South Africa and to determine the benefits thereof to the industry. The franchisees in the fast food sector need to become aware of the benefits and the various ways to measure performance in their business activities, and the owners and management of fast food franchises should be provided with training in performance measures, enabling them to manage the businesses effectively.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 INTRODUCTION

Leedy, Newby and Ertmer (1997:9), explain that methodology dictates the data gathered, the approach to be adopted so that meaning that lies below the surface of such data manifest, and draws conclusions that lead to the expansion of knowledge. This chapter provides an overview of the data collection design and methodology used in this study to gather the relevant primary data and examines the statistical and analytical tools that have been applied to conduct the analysis.

Through the literature study conducted within the ambit of Chapter 2, it has become evident that performance measurement is critical to ensure the success of an organization. It enables the business to identify strengths and weaknesses, aligns the strategies, vision, mission, objectives, and ensures a balance in measuring financial and non-financial matters.

To bridge the gap of the plethora of diverse factors impacting on performance measurement of a business, a BSC model would serve as basis on which fast food franchisees can adopt and improve their ability to identify the management information, which is critical for the performance measurement of their outlets. The factors included in the model are exemplified by the following four elements, namely:

- The difference between short and long-term goals
- The difference between financial and non-financial measures
- The difference between indicators of activities and results
- The difference between the internal and external perspectives

3.2 AIM OF THIS CHAPTER

The aim of this chapter and the survey contained therein is to determine what management information is critical and are utilized by managers for effective management of fast food franchisees. The primary objective being to solve the research problem as defined in Chapter 1, Paragraph 1.4, and which reads as follows:

“There is a high probability of the risk of failure of fast food franchisees due to the fact that they do not operate their businesses using accurate management information measures”.

3.3 RESEARCH QUESTIONS

Collis and Hussey (2003:125) citing Kerlinger (1986), suggest that good research questions for quantitative research should, "... express a relationship between variables, be stated in unambiguous terms in question form, and imply the possibility of empirical testing". Furthermore, it is usual to begin the research questions with 'what' or how' (Collis & Hussey, 2003:127).

The research question forming the crux of this thesis, reads as follows: *What management information is critical for franchisees in the fast food industry, to ensure sustainability?*

The following investigative questions will be researched in support of the research question:

- What information related to accounting is contained in stock standard franchise packages?
- What measures do franchisees use to measure performance?
- What performance measures are critical for the success of the franchisees industry?
- To what extent are critical success factors utilized by franchisees?

3.4 SURVEY ENVIRONMENT

Due to imbalance of existing performance management systems, the concept has become an essential part of business success around the world. This has culminated in businesses seeking improved and balanced techniques and strategies to effectively manage their organizations. Furthermore, the majority of SMME managers, which for the purpose of this research study include fast food franchisees who lack the necessary skills to articulate the performance requirements of their organisations in real time. Certain managers still use financial information (lagging indicator), while those who can afford it, turn to outsourcing which can result in cost ineffectiveness, high reliance on franchisor feedback (lack of control) or seek independent advice, which will address their specific need (Baard, 2004:Online) cited by (Chambers, 2005:73). It is therefore evident that there is a need to assist SMMEs in adopting other modes of performance measurement and the viability of utilising both financials and non-financial measures.

As a result, it was therefore a requirement to determine what the role of performance measures in the fast food franchisees industry is, highlight the information lacking in existing performance measurement systems, and suggest the adoption of an alternative BSC model to assist SMMEs to improve their ability to identify and manage critical success factors of the

organisations. Cooper and Schindler (2003:55), define a model as, "...a representation of a system that is constructed to study some aspect of that system or the systems as a whole".

The food service sector consists of various franchised (franchisee owned) and non-franchised (independent) outlets, each with a unique purpose in the consumer food service. The various fast food franchisees, which will serve as the research environment, include the following:

- Cafés/bars,
- full-service restaurants,
- fast food outlets,
- 100% Home delivery/takeaways, and
- self-service cafeterias.

3.5 RESEARCH METHODS

3.5.1 Preliminary pilot study

Prior to this research study, a preliminary pilot study was conducted during 2007 by the author using a questionnaire which contained both open and closed ended questions. The questionnaire format allowed for a list of themes for establishing relevant points, personal opinions and perceptions. The objective of the preliminary survey was to collect, analyze and utilise the findings for an earlier degree and at the same time serve as basis and impetus for the research undertaken in this thesis. The results of the preliminary pilot study were expanded upon in item 2.17 of the previous chapter.

To fully understand the quality and nature of performance measure data, the specific requirements for each statistical method must be understood before adopting a particular research approach.

3.5.2 Quantitative approach

Struwig and Stead (2001:7-8), define quantitative research as: "...a form of conclusive research, involving large representative samples and fairly structured data collection procedures." With quantitative research, the emphasis is placed on the methodology, since it relies on the measurement and analysis of statistical data to determine relationships between entities, which could ultimately culminate in quantifiable conclusions. According to Collis and Hussey (2003:10-15), quantitative research involves collecting and analyzing numerical data and applying statistical tests.

Due to the size of samples analyzed through quantitative approaches, it is essential to fully understand the nature of the elements required to produce high quality outputs, before starting a survey of a quantitative nature. Struwig and Stead (2001:7) and Cooper and Schindler (2003:148), respectively claim that the most common methods used to conduct quantitative research involve exploratory, descriptive and experimental approaches.

3.5.3 Qualitative Approach

Qualitative refers to the meaning or definition of something being described, as opposed to the exact numerical measurement of that something, as in the quantitative approach. In layman's terms, qualitative refers to meaning of a research area, while quantitative assumes the meaning of the research area and refers to a measure of it (Cooper & Schindler, 2003:152). Qualitative research is often used in studies that involve the management science, sociology, anthropology, social work, education, history, etc.

Several authors believe that the qualitative approach appears to serve as a methodology of verification rather than discovery (Struwig & Stead, 2001:7; Cooper & Schindler, 2003:152). To conduct qualitative research, a researcher could make use of a variety of approaches, which will be elaborated upon in Paragraph 3.8 below.

3.6 RESEARCH DESIGN

To conduct this study an empirical research with quantitative methods for collecting data was deployed, with the unit of analysis being the managers or owners of fast food outlets.

3.7 CHOICE OF SAMPLING METHOD

The food service sector consists of various franchised (franchisee owned) and non-franchised (independent) outlets, each with a unique purpose in the consumer food service. The various fast food franchisees, which will serve as the individual strata for the survey, include the following:

- Cafés/bars,
- full-service restaurants,
- fast food outlets,
- 100% Home delivery/takeaways, and
- self-service cafeterias.

To ensure that each identifiable strata of the population were taken into account (Collis & Hussey, 2003:157) (Easterby-Smith, Thorpe & Lowe, 2002:239-59), various respondents were selected from a list extracted from FASA website (Appendix A).

According to Collis and Hussey (2003:155-160), a 'sample' is made up of some of the members of a 'population' namely, a body of people or any other collection of items under consideration for the purpose of the research, furthermore sampling can be categorized as 'probability sampling' or 'non-probability sampling'.

Within the context of probability sampling the researcher can in advance determine that each segment of the population will be represented in the sample. The most popular methods of probability sampling are:

- Random sampling,
- systematic sampling, and
- stratified sampling.

Within the context of non-probability sampling the researcher has no way of forecasting or guaranteeing that each element of the population will be represented in the sample. The three methods of non-probability sampling are:

- Convenience 'accidental' sampling,
- quota sampling, and
- purposive sampling.

3.8 THE TARGET POPULATION

With any survey, it is necessary to clearly define the target population, which Collis and Hussey (2003:55), define as follows:

"A population is any precisely defined set of people or collection of items which is under consideration".

The 'sampling frame' defined by Vogt (1993:213-220), as 'a list or record of the population from which all the sampling units are drawn. For this survey, 100 fast food franchisees, randomly selected from FASA list of franchisees represent the sampling frame. This transposes in 100 managers or owner-and-manager from different fast food franchisee outlets in the Cape Metropole (Appendix B) being randomly selected.

The target population was specifically chosen in order to validate the practicality of the concepts as presented here. The risk of bias, which cannot be statistically eliminated, is recognised by the author based on the very definition of the target population as well as the number of respondents selected.

3.9 DATA COLLECTION DESIGN

According to Emory and Cooper (1995), three primary types of data collection (survey) methods can be distinguished namely:

- Personal interviewing.
- Telephone interviewing.
- Self-administered questionnaires/surveys.

While personal interview method was used to guide the respondents on the requirements for completion of the survey, the primary data collection method used in this survey is the self-administered questionnaires/surveys, described by Leedy and Ormrod (2001:196), as:

“...simple in design: The researcher poses a series of questions to willing participants; summarizes their responses with percentages, frequency counts, or more sophisticated statistical indexes; and then draws inferences about a particular population from the responses of the sample”.

The data collection method used in the survey, falls within the context of a survey, defined by Collis and Hussey (2003:60), as:

“A sample of subjects being drawn from a population and studied to make inferences about the population”

More specific, the survey conducted in this thesis falls within the ambit of the ‘descriptive survey’ as defined by Ghauri, Grønhaug and Kristianslund (1995:60).

The data collection method used fall within the ambit of both the definitions attributed to the concepts ‘survey’ and ‘field study’. ‘Survey’, according to Gay and Diebl (1992:238), is an attempt to collect data from members of a population in order to determine the current status of that population with respect to one or more variables, while Kerlinger (1986:372), define ‘field study’ as non-experimental scientific inquiries aimed at discovering the relations and interactions among ... variables in real ... structures. As in the case of most academic research, the collection of data forms an important part of the overall thesis content.

3.10 MEASUREMENT SCALES

The survey will be based on the Likert-style rating scale, whereby respondents were asked to respond to questions or statements (Parasuraman, 1991:410). The reason for choosing the Likert scale, the fact that the scale can be used in both respondent-centred (how responses differ between people) and stimulus-centred (how responses differ between various stimuli) studies, most appropriate to glean data in support of the research problem in question (Emory & Cooper, 1995:180-181). The advantages in using the popular Likert scale according to Emory and Cooper (1995:180-181), are:

- Easy and quick to construct.
- Each item meets an empirical test for discriminating ability.
- The Likert scale is probably more reliable than the Thurston scale, and it provides a greater volume of data than the Thurston differential scale.
- The Likert scale is also treated as an interval scale.

According to Remenyi, Money and Twite (1995:224), interval scales facilitate meaningful statistics when calculating means, standard deviation and Pearson correlation coefficients.

3.11 THE DEMAND FOR A QUALITATIVE RESEARCH STRATEGY

While this author acknowledges that a number of strategies can be applied in similar research projects, the well-known concepts of objectivity, reliability etcetera, inherited from the empirical analytical paradigm, is suggested for business research in more or less the traditional way. Quoting Thorndike and Hagen, these concepts are defined by Emory and Cooper (1995:156), as follows:

- **Practicality:** Practicality is concerned with a wide range of factors of economy, convenience, and interpretability.
- **Validity:** Validity refers to the extent to which a test measures what we actually wish to measure. Smallbone and Quinton (2004:154) citing Yin (2003) identified 3 subsets to the concept validity, namely: construct validity, internal validity and external validity.
- **Reliability:** Reliability has to do with the accuracy and precision of a measurement procedure.

3.12 SURVEY DESIGN

Collis and Hussey (2003:39), is of the opinion that, 'if research is to be conducted in an efficient manner and make the best of opportunities and resources available, it must be organised. Furthermore, if it is to provide a coherent and logical route to a reliable outcome, it

must be conducted systematically using appropriate methods to collect and analyse the data.

A survey should be designed in accordance with the following stages:

- **Stage one:** Identify the topic and set some objectives.
- **Stage two:** Pilot a questionnaire to find out what people know and what they see as the important issues.
- **Stage three:** List the areas of information needed and refine the objectives.
- **Stage four:** Review the responses to the pilot.
- **Stage five:** Finalise the objectives.
- **Stage six:** Write the questionnaire.
- **Stage seven:** Re-pilot the questionnaire.
- **Stage eight:** Finalise the questionnaire.
- **Stage nine:** Code the questionnaire.

The survey design to be used in this instance is that of the descriptive survey as opposed to the analytical survey. The descriptive survey is according to Collis & Hussey (2003:66), frequently used in business research in the form of attitude surveys. The descriptive survey as defined by Ghauri, Grønhaug and Kristianslund (1995:60), has furthermore the characteristics to indicate how many members of a particular population have a certain characteristic. Particular care was taken to avoid bias in the formulation of the questions.

The statements within the survey have been designed with the following principles in mind:

- Avoidance of double-barrelled statements.
- Avoidance of double-negative statements.
- Avoidance of prestige bias.
- Avoidance of leading statements.
- Avoidance of the assumption of prior knowledge.

3.13 THE VALIDATION SURVEY QUESTIONS

The questionnaire included quantitative questions prepared and piloted to ensure they reflected a high degree of 'validity' (Easterby-Smith, Thorpe & Lowe, 2002:239-59). The structured questions were developed from the preliminary pilot study questionnaire (Appendix C), furthermore designed and compiled around the four perspectives of a balanced scorecard (Appendix D). To ensure clarity and validity of the questions contained, the questionnaire was processed through the following three phases, namely:

Phase 1: Design of criteria questions as instrument: Criteria 1

The purpose of this phase was to design and then test to evaluate the performance measures used by franchises in their daily activities position or the compositions/categories of the franchisees (Appendix E). This was further divided into four main sections elaborated upon below:

Section A: Franchisee background

The questions in this section focused on general information of the franchisee (to help determine the SMME classification in accordance with the Small Business Act of 1996 and Amendment Act of 2003), responsibilities for management information and other relevant aspects. In so doing, the questions 1-8 (see Appendix E) on the background of the franchisee could be answered.

Section B: Franchisor's franchise package

This section covered all aspects of the contents of the franchise package and was constructed to examine the promises made by the franchisor through the franchise package. The section questions were designed to answer the investigative question: 'What information related to accounting is contained in stock standard franchise packages?'. The purpose of questions 9 was to determine what tools were provided by the franchisor through the stock franchise package to ensure their success.

Section C: Management information of outlets

This section was made up of 6 quantitative questions that were based on Likert-style rating scale. The respondents were asked to indicate their responses to each of the questions as to 'what' and 'how' they conducted performance measuring. Questions 10 to 16 in this section were specifically tied to the business cycles of franchisees (see Appendix I), the four perspectives of the balance scorecard (see Appendix D and set to answer investigative questions:

- What measures do franchisees use to measure performance?
- What performance measures are critical for the success of the franchisees industry?

Section D: Perceptions on existing PM

This section consisted of 3 questions aimed at examining what the respondent perceived to be critical success factors for the quality of information provided by their existing performance measurement systems. These categories were constructed in line with the survey conducted by Deloitte in 2004 and 2007 to help answer the investigative question:

- To what extent are critical success factors utilized by franchisees?

A pilot survey was conducted to test the effectiveness and relativity of the questions in terms of criteria 1 (Appendix F). A questionnaire was analyzed by a willing fast food outlet owner/manager (the participant have the necessary information at his disposal to answer the questions) and re-tested by a statistician (Appendix G). The owner/manager is working as a lecturer at the author's institution and owned a franchise outlet at the time of the survey, while the statistician is familiar with the study of this thesis to help identify questions that might not be relevant to the study or required clarity.

Phase 2: Editing and testing of criteria questions as instruments: Criteria 2

After conducting Phase 1 (see Paragraph above), several issues became clear regarding the design of criteria1. Issues identified were then used to edit and improve the design of criteria 1 (see Appendix H).

Phase 3 – Final changes to criteria questions as instruments: Criteria 3

The third phase was used to implement the final changes identified through Phase 2 (see paragraph above). Sections and questions affected on the criteria list include:

Section A: Question 4 (Managerial experience)

The words 'Indicate year/months' was added to question 4 (see Appendix G) to provide a better understanding of what was required from the respondents.

Section A: Question 5 (Total revenue)

Due to the competitive nature of the fast food industry, the words 'optional' and 'Indicate Rand Value' were added to question 5 (see Appendix G) to reduce the effect of feeling compelled to disclose information deemed to be sensitive by respondent.

Section B: Question 6 (Franchise package)

The words 'Choose one or more options' were added to question 6 (see Appendix G) and question 8 of Section B (see Appendix G) for respondents to select various items received as a promise from franchisor as well as financial records generated.

Layout

A cover page was added to the questionnaire, which stated the purpose of the study, detailed steps involved to successfully complete the questionnaire and to ensure that ethical issues with reference to consent of participants right not to participate in the study and confidentiality of information concerns, were addressed. This page included also the instructions directed to respondents under heading 'Instructions for completion' (see Appendix E) to encourage them to give more open and honest response.

On the last page of the questionnaire, request for respondents' details were added, requiring the participant to specify the name of the outlet, position held by a person who completed the questionnaire, contact numbers and e-mail address. These were added to simplify the analysis process in case of possible errors occurring and ensure feedback to the respondents who indicated so.

These changes were then applied and the questionnaires were distributed mainly to the managers/owners of outlets through personal visits by the author. All franchisee outlets at the time of this study, were identified through a list extracted from FASA website and placed onto spreadsheet (see Appendix A) for use during distribution to identify the respondents to form part of the survey.

The validation of data occurred during the completion of questionnaire process where managers requested verification and clarity of questions for confirmation and attempts were made to ensure that the respondents complete the questions in own hand-writing wherever possible.

Due to the nature of unit of analysis (managers or owners) and their busy work schedules, it was difficult to endeavour to get most of the targeted respondents to take part in the survey. Furthermore, due to the restrictions franchisees operate under, there was a general reluctance for the disclosure of the outlets information in terms of raw data. There was little more that could be done to incentivise them to take part and therefore the survey ultimately rendered fifty one respondents taking part in the survey.

3.14 CONCLUSION

In this chapter, the 'performance measurement' survey design and methodology was address under the following functional heading:

- Survey environment.
- Aim of the chapter.
- Choice of sampling method.
- Target population.
- Data collection.
- Measurement scales.
- Demand for a qualitative research strategy.
- Survey sensitivity.
- Survey design.
- Survey questions.

In Chapter 4, results from the survey will be analysed in detail and conclusions drawn.

CHAPTER 4

DATA COLLECTION, ANALYSIS AND INTERPRETATION

4.1 INTRODUCTION

Data analysis is “the process of bringing order, structure and meaning to the mass of collected data” (de Vos 2002, 339). This chapter discusses the results of the data analysis of the survey conducted on the fast food franchise industry in Cape Metropole - South Africa. The aim of this study is to determine the role of performance measures in the fast food franchise industry to sustain positive growth. The data obtained from the completed questionnaires will be presented and analysed by means of various analyses (uni-variate, bi-variate and multi-variate) as it comes applicable.

The data has been analysed by using SAS software. As descriptive statistics, frequency tables are displayed in Paragraph 4.2, which shows the distributions of the statement responses. Descriptive statistics is used to summarize the data. As a measure of central tendency and dispersion, Table 4.3 shows the means and standard deviation of the variables that are continuous.

4.2 ANALYSIS METHOD

4.2.1 Validation survey results

A descriptive analysis of the survey results returned by the research questionnaire respondents are reflected below. The responses to the questions obtained through the questionnaires are indicated in table format for ease of reference. Each variable is tested to fall within the boundaries. The database in which the data was captured is developed, so that data validation is insured. This culminated in build in boundaries and rules so that the data capturer does not make mistakes. Other measures to insure data validity is to capture the information twice and then compare to see whether any mistakes were made and correct it. Data validation is the process of ensuring that a program operates on clean, correct and useful data. The construct validation however can only be taken to the point where the questionnaire measure what it is suppose to measure. Construct validation was addressed in the planning phase of the survey and when the questionnaire was developed. This questionnaire is purported to measure the performance measures of the fast food franchisee industry in Cape Metropole.

4.2.2 Data format

The data from the questionnaires was coded according to a predetermined coding scheme and captured on a database in Microsoft Access, which was developed for this purpose. It was then imported into SAS-format through the SAS ACCESS module.

4.2.3 Preliminary analysis

The reliability of the statements (items) in the questionnaire posted to the sample respondents drawn from the fast food industry in Cape Metropole - South Africa are tested by using the Cronbach Alpha tests. (See Paragraph 4.3.1). Descriptive statistics was performed on all variables; displaying means, standard deviations, frequencies, percentages, cumulative frequencies and cumulative percentages. This also includes simple graph analysis, which illustrates the descriptive statistics. These descriptive statistics are discussed in Paragraphs 4.3.2 and 4.3.3. (See also computer printout in Appendix L).

4.2.4 Inferential statistics

The following inferential statistics are performed on the data:

- Cronbach Alpha test to determine consistency of statements (items).
- T-tests to compare sample means of different groups.
- Chi-square test to determine associations.

4.2.5 Technical report with graphical displays

A written report with explanations of all variables and their outcome was compiled. A Cross analysis of variables where necessary was performed, attaching statistical probabilities to indicate the magnitude of differences or associations.

All inferential statistics are discussed in Paragraph 4.3.4.

4.2.6 Assistance to researcher

The conclusions made by the researcher, was validated by the statistical report. Help is given to interpret the outcome of the data. The final report written by the researcher was validated and checked by the statistician, to exclude any misleading interpretations.

4.2.7 Sample

The target population forming the sampling frame is made up out of managers or owners of all fast food industry franchisees in the Cape Metropole – South Africa. A convenient sample was drawn from the 100 questionnaires that were distributed on an accidental sampling tactic by approaching any franchisee in the fast food industry as unit of analysis, in various suburbs of the Cape Metropole. The number of respondents that completed the sample on the end was 51. Thus 51% of the original sample realized.

4.3 ANALYSIS

In total 51 respondents (managers or owners or both) of fast food franchisee in Cape Metropole answered the questionnaire posted to them. The items (statements) in the questionnaire will be tested for reliability in the following paragraph.

4.3.1 Reliability testing

Cronbach's Alpha is an index of reliability associated with the variation accounted for by the true score of the "underlying construct". Construct is the hypothetical variables that are being measured (Cooper & Schindler, 2001:216-217). More specific, it would be that Cronbach's alpha measures how well a set of items (or variables) measures a single uni-dimensional latent construct.

The reliability test (Cronbach's Alpha Coefficient) was done on all the items (statements) which represent the measuring instrument of this survey, with respect to the responses rendered in this questionnaire. The results are represented in Table 4.1.

TABLE 4.1: Cronbach's Alpha Coefficients (Source: Own Source)

Statements	Variable nr.	Correlation with total	Cronbach's Alpha Coefficient
SECTION B: SUPPORT FOR MANAGEMENT OF THE BUSINESS ACTIVITIES			
B8. What statements and reports are generated from the financial records and how often:			
B8.01 Cash flow statement.	B8_01	0.2440	0.9820
B8.02 Statement of changes in Equity	B8_02	0.2022	0.9821
B8.03 Income statement.	B8_03	0.2803	0.9819
B8.04 Balance sheet.	B8_04	0.2453	0.9820
B8.05 Bank reconciliation.	B8_05	0.2478	0.9820
B8.06 Analysis of cash register.	B8_06	0.0934	0.9822

Statements	Variable nr.	Correlation with total	Cronbach's Alpha Coefficient
B8.07 Stock variance reports.	B8_07	0.0280	0.9823
B8.08 Sales variance reports.	B8_08	0.0423	0.9822
B8.09 Debtors and Suppliers reports	B8_09	0.1131	0.9821
B8.10 Lead time reports.	B8_10	0.2731	0.9820
B9. Does the franchiser prescribe performance measures to evaluate the business performance in the following activities:			
B9.01 Marketing.	B9_01	0.1403	0.9819
B9.02 Advertising.	B9_02	0.1124	0.9819
B9.03 Purchases.	B9_03	0.2659	0.9819
B9.04 Stock Control.	B9_04	0.0728	0.9819
B9.05 Payment of suppliers.	B9_05	0.1269	0.9819
B9.06 Customer's Orders / Sales	B9_06	0.1193	0.9819
B9.07 Product Preparation.	B9_07	0.0988	0.9819
B9.08 Delivery to customers.	B9_08	0.0698	0.9819
B9.09 Deposit sales takings.	B9_09	0.2494	0.9819
B9.10 Customer satisfaction.	B9_10	0.1773	0.9819
B9.11 Employees.	B9_11	0.3463	0.9819
B9.12 Quality Assurance.	B9_12	0.1825	0.9819
B9.13 Law Compliance.	B9_13	0.1853	0.9819
SECTION C: BUSINESS CYCLES AND PERFORMANCE MEASURES			
C10. To what extend do you use performance measures in your business activities:			
C10.01 Marketing.	C10_01	0.3117	0.9819
C10.02 Advertising.	C10_02	0.1564	0.9821
C10.03 Purchases.	C10_03	0.1872	0.9819
C10.04 Stock Control.	C10_04	0.0718	0.9819
C10.05 Payment of suppliers.	C10_05	0.0143	0.9822
C10.06 Customer's Orders / Sales	C10_06	0.1142	0.9819
C10.07 Product Preparation.	C10_07	0.2069	0.9819
C10.08 Delivery to customers.	C10_08	0.2878	0.9819
C10.09 Deposit sales takings.	C10_09	0.1446	0.9820
C10.10 Customer satisfaction.	C10_10	-0.0552	0.9820
C10.11 Employees.	C10_11	-0.4191	0.9823
C10.12 Quality Assurance.	C10_12	-0.1333	0.9821
C10.13 Law Compliance.	C10_13	-0.1624	0.9822
C11. Which of the following areas of organisation performance are key drives of success for your outlet:			
C11.01 Customer satisfaction.	C11_01	0.4942	0.9818

Statements	Variable nr.	Correlation with total	Cronbach's Alpha Coefficient
C11.02 Product quality.	C11_02	0.6490	0.9818
C11.03 Product preparation.	C11_03	0.5780	0.9818
C11.04 Service quality.	C11_04	0.6167	0.9818
C11.05 Financial results.	C11_05	-0.5028	0.9821
C11.06 Employee commitment.	C11_06	0.7736	0.9817
C11.07 Quality of management processes.	C11_07	0.7162	0.9817
C11.08 Innovation.	C11_08	0.7718	0.9816
C11.09 Progress towards your vision.	C11_09	0.8049	0.9816
C11.10 Achievement of desired results in daily activities.	C11_10	0.5074	0.9818
C11.11 Quality of relationship with external stakeholders.	C11_11	0.7502	0.9816
C11.12 Impact on society and the environment.	C11_12	0.6620	0.9817
C11.13 Compliance with the laws performance.	C11_13	0.7847	0.9816
C11.14 Deposit sales takings.	C11_14	0.2142	0.9819
C11.15 Delivery to customer.	C11_15	0.4049	0.9818
C11.16 Customer orders and sales.	C11_16	0.4922	0.9818
C11.17 Stock activities.	C11_17	0.5234	0.9818
C11.18 Purchases activities.	C11_18	0.4224	0.9818
C11.19 Advertising activities.	C11_19	0.8009	0.9817
C11.20 Marketing activities.	C11_23	0.7582	0.9817
C12. Please rank you opinions of your organisation with regard to the following:			
C12.01 Financial measures used by the organisation.	C12_01	0.2814	0.9819
C12.02 Non-Financial measures used by the organisation.	C12_02	0.5025	0.9818
C12.03 Achieving the objectives and targets on a daily basis.	C12_03	0.6389	0.9817
C12.04 Ability to retrieve information anytime when required.	C12_04	0.8535	0.9815
C12.05 Organisation's ability to analyze weaknesses and strengths.	C12_05	0.8908	0.9814
C12.06 Sufficient feedback from franchisor.	C12_06	0.4938	0.9818
C12.07 Market share.	C12_07	0.7344	0.9816
C12.08 Awareness of what competitors are doing.	C12_08	0.6023	0.9817
C12.09 Compliance with laws and regulations requirements.	C12_09	0.5477	0.9818
C12.10 Clear definition and understanding of	C12_10	0.6881	0.9817

Statements	Variable nr.	Correlation with total	Cronbach's Alpha Coefficient
business objectives.			
C12.11 Customer perception on the business.	C12_11	0.9039	0.9814
C12.12 Ability of organisation to monitor customer complaints.	C12_12	0.7398	0.9817
C12.13 Measuring customer expectations.	C12_13	0.8436	0.9815
C12.14 Number of new customers.	C12_14	0.8655	0.9814
C12.15 Customers services.	C12_15	0.5115	0.9818
C12.16 Customer retention.	C12_16	0.7769	0.9815
C12.17 Customer delivery lead-time.	C12_17	0.7274	0.9816
C12.18 Alignment of employee to business vision.	C12_18	0.4700	0.9818
C12.19 Ability of employees to complete work on scheduled time.	C12_19	0.6358	0.9818
C12.20 Employees understanding of operational procedures.	C12_20	0.5942	0.9817
C12.21 Employees satisfaction / motivation.	C12_21	0.8369	0.9815
C12.22 Existing agreed performance standards.	C12_22	0.8358	0.9815
C12.23 Rewarding achievement of short term financial target.	C12_23	0.7555	0.9816
C12.24 Staff accountability of use of resources.	C12_24	0.5676	0.9817
C12.25 Monitoring learning and reporting capabilities.	C12_25	0.7457	0.9816
C12.26 Internal communication.	C12_26	0.6299	0.9817
C13. In your capacity as manager / owner, indicate the level of attention you give to each area:			
C13.01 Financial results.	C13_01	0.1299	0.9819
C13.02 Operational performance.	C13_02	0.5914	0.9818
C13.03 Employee commitment.	C13_03	0.8809	0.9816
C13.04 Customer satisfaction.	C13_04	0.3181	0.9819
C13.05 Product quality.	C13_05	0.6241	0.9818
C13.06 Service quality.	C13_06	0.6101	0.9818
C13.07 Innovation.	C13_07	0.8210	0.9816
C13.08 Quality of relationships with external stakeholders.	C13_08	0.8555	0.9816
C13.09 Impact of society and environment.	C13_09	0.8729	0.9816
C13.10 Brand strength.	C13_10	0.4370	0.9818
C13.11 Quality of governance and management processes.	C13_11	0.8264	0.9816

Statements	Variable nr.	Correlation with total	Cronbach's Alpha Coefficient
C14. What type of management mechanisms do you use:			
C14.01 Activity based costing.	C14_01	0.1672	0.9819
C14.02 Standard costing.	C14_02	0.3258	0.9819
C14.03 Breakeven Analysis.	C14_03	0.2681	0.9819
C14.04 Capital Budgeting.	C14_04	0.6833	0.9817
C14.05 Balanced Scorecard.	C14_05	0.6898	0.9817
C14.06 Management by objectives.	C14_06	0.5610	0.9818
C14.07 Performance Prism.	C14_07	0.7274	0.9817
C14.08 Ratio Analysis.	C14_08	0.2856	0.9819
C14.09 Six Sigma.	C14_09	0.6469	0.9817
C14.10 Total Quality Management.	C14_10	0.4526	0.9818
C14.11 Baldrige.	C14_11	0.7016	0.9817
C14.12 CRM Measurement Framework.	C14_12	0.6984	0.9817
C14.13 Leadership Driven Measurement.	C14_13	0.6305	0.9818
C14.14 Accountability Scorecard.	C14_14	0.7071	0.9817
C14.15 HR Scorecard.	C14_15	0.6753	0.9817
C15. How would you rate the quality of information as provided by your current performance measurement system to measure the following areas:			
C15.01 Price comparisons to competition.	C15_01	0.8741	0.9815
C15.02 Number of on-time deliveries.	C15_02	0.9096	0.9814
C15.03 Response times.	C15_03	0.8511	0.9815
C15.04 Customer complaints.	C15_04	0.8077	0.9815
C15.05 Number of products returns.	C15_05	0.7708	0.9816
C15.06 Customer survey results.	C15_06	0.9218	0.9814
C15.07 Service rewards.	C15_07	0.8801	0.9814
C15.08 Cycle times.	C15_08	0.7480	0.9816
C15.09 Inventory turnover.	C15_09	0.7871	0.9816
C15.10 Defect rates.	C15_10	0.8172	0.9815
C15.11 Resources utilization.	C15_11	0.8265	0.9815
C15.12 Target met.	C15_12	0.7211	0.9816
C15.13 Unit cost compared to competition.	C15_13	0.8434	0.9815
C15.14 Overhead trends.	C15_14	0.7005	0.9816
C15.15 Employee morale.	C15_15	0.9394	0.9814
C15.16 Market share.	C15_16	0.8626	0.9815
C15.17 Employee talent.	C15_17	0.9282	0.9814
C15.18 Number of new products.	C15_18	0.6578	0.9817
C15.19 Systems improvements implemented.	C15_19	0.8501	0.9815

Statements	Variable nr.	Correlation with total	Cronbach's Alpha Coefficient
C15.20 Number of patents.	C15_20	0.4782	0.9818
C15.21 New technologies adopted.	C15_21	0.8985	0.9814
C15.22 Cash balances.	C15_22	0.3670	0.9819
C15.23 Payment of payables.	C15_23	0.3003	0.9819
C15.24 Sales margins	C15_24	0.1899	0.9819
SECTION D: BARRIERS			
D16. How would you rate the quality of information as provided by your current performance measurement system to measure the following areas:			
C16.01 Too complicated.	C16_01	0.6546	0.9818
C16.02 Not suitable for daily activities.	C16_02	0.7604	0.9816
C16.03 Too focused on financials.	C16_03	0.7650	0.9816
C16.04 Difficulty measuring non-financials.	C16_04	0.7732	0.9816
C16.05 Lack of information.	C16_05	0.8665	0.9815
C16.06 Lack of knowledge on performance measured.	C16_06	0.7515	0.9816
C16.07 No one to consult.	C16_07	0.7791	0.9816
C16.08 Support more costly than expected.	C16_08	0.7552	0.9816
C16.09 Lack of readily available support.	C16_09	0.7143	0.9816
C16.10 Different from original promise.	C16_10	0.7288	0.9816
Cronbach's Coefficient Alpha for standardized variable			0.9819
Cronbach's Coefficient Alpha for raw variables			0.9822

According to the Cronbach's Alpha Coefficients (Table 4.1) for all the items in the questionnaire:

- 0.9822 for raw variables; and
- 0.9819 for standardized variables; which were more than the acceptable level of 0.70, this questionnaire proves to be reliable and consistent.

4.3.2 Descriptive statistics

Table 4.2 shows the descriptive statistics for all the variables in the questionnaire measuring performance, with the frequencies in each category and the percentage out of total number of questionnaires completed. It is of importance to note that the descriptive statistics are based on the total sample. In some cases there were no answers given (left blank) in the questionnaire. These are shown as "unknown". The computer printouts with the descriptive statistics are also shown in Appendix J, while table 4.2 is contained within the ambit of Appendix N.

TABLE 4.3: Descriptive statistics for continuous variables (Source: Own Source)

Variable	N	Mean	Standard Deviation	Range
1. Previous managerial experience	31	9.935	8.9179	36.0
2. Number of employees	50	25.500	22.5554	108.0
3. Turnover per annum	17	4033215.71	3911843.85	16500000.0

4.3.3 UNI-VARIATE GRAPHS

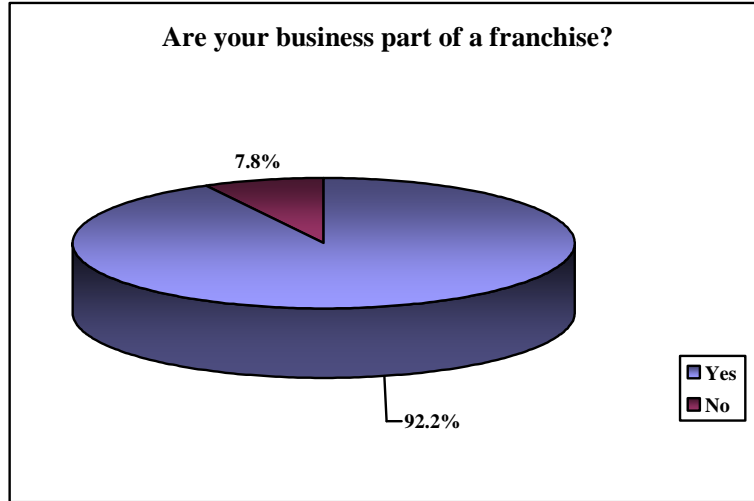


FIGURE 4.1: 3D - Pie chart for indicating franchise (Source: Own Source)

Most of the respondents indicated that their business is part of a franchise.

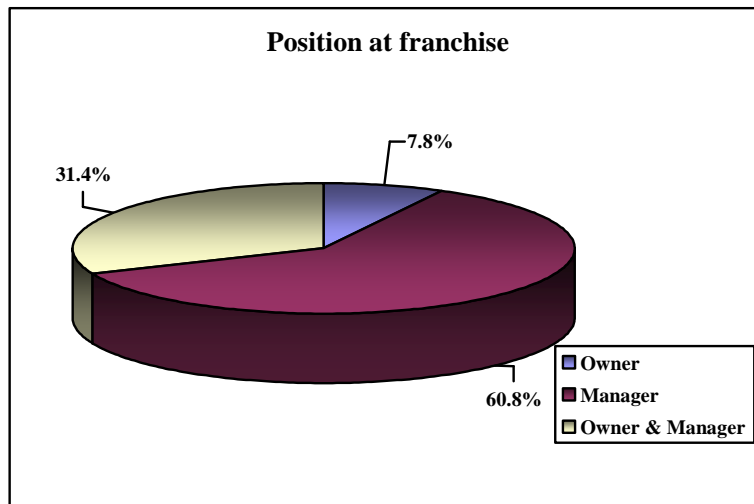


FIGURE 4.2: 3D - Pie chart for position at franchise (Source: Own Source)

Most of the respondents were the manager of the business.

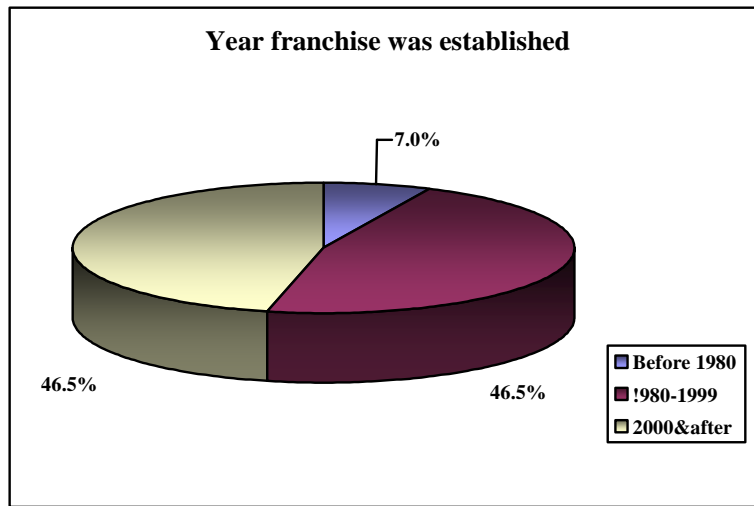


FIGURE 4.3: 3D - Pie chart for year franchise was established (**Source:** Own Source)

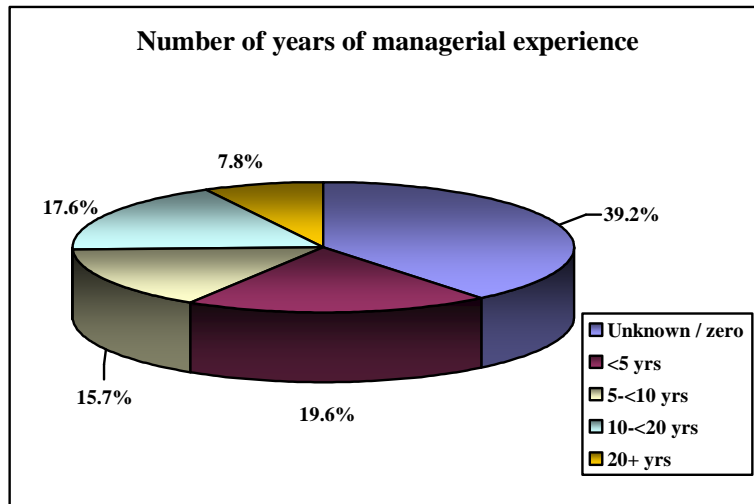


FIGURE 4.4: 3D - Pie chart for number of years with managerial experience (**Source:** Own Source)

Nearly 40% of the respondents had zero managerial experience or did not indicate their managerial experience.

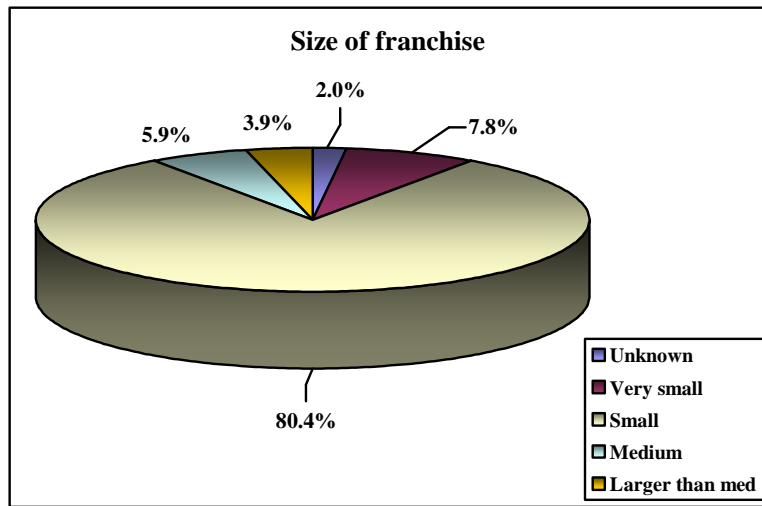


FIGURE 4.5: 3D - Pie chart for size of franchise (Source: Own Source)

As the graph illustrates this sample consists mostly out of small business franchises.

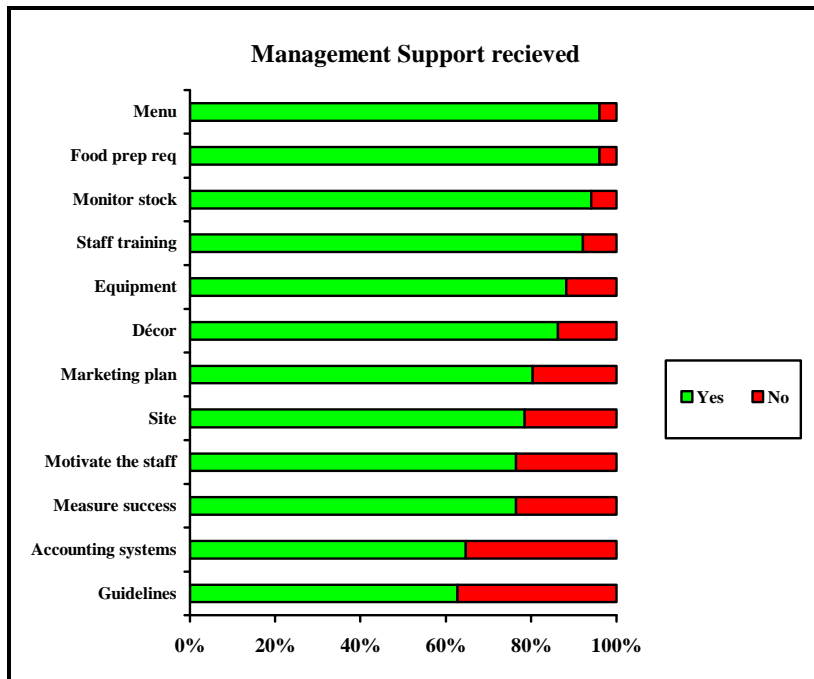


FIGURE 4.6: 100% stack bar for management support received (Source: Own Source)

Overall most of the respondents agreed with all of the statements to some degree. Although almost 40% of the respondents indicated that they did not receive “Guidelines on how to write up the books” or “Accounting systems”, it seems that most of the business activities were received by the franchises owner or manager when the franchise was acquired.

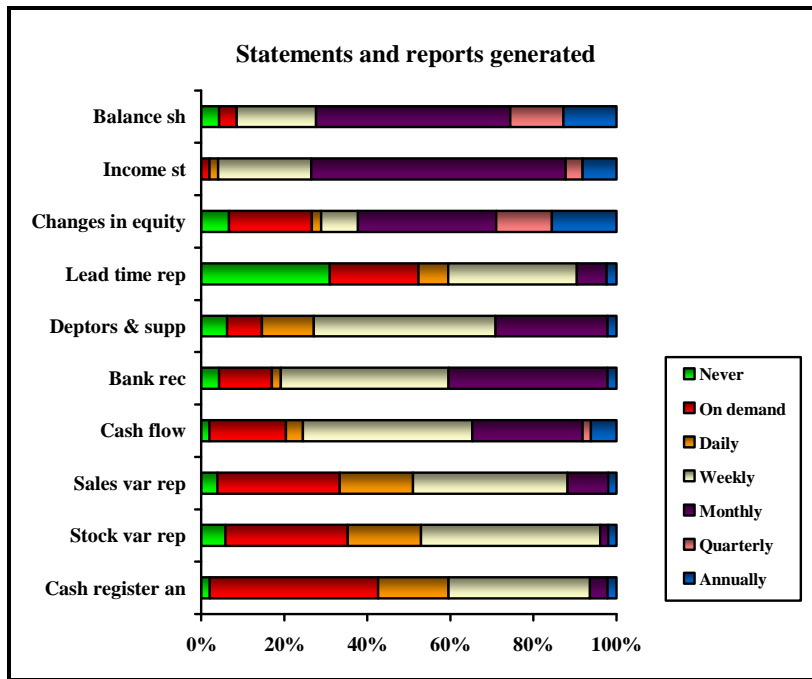


FIGURE 4.7: 100% stack bar for statements and reports generated (Source: Own Source)

According to the frequency distribution of the responses, the following statements or reports were generated from the financial records more frequently (On demand, daily, monthly and weekly):

- Analysis of cash register.
- Stock variance reports.
- Sales variance reports.
- Cash flow statement.
- Bank reconciliation.
- Debtors and suppliers reports.

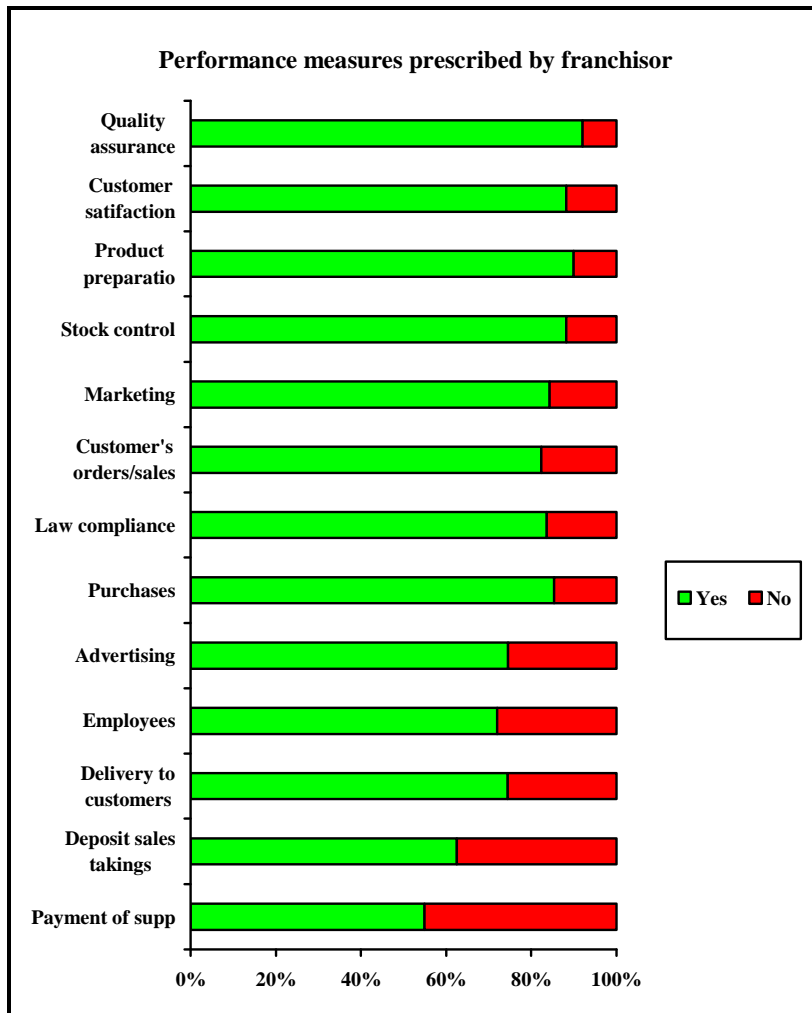


FIGURE 4.8: 100% stack bar for performance measures prescribed (**Source:** Own Source)

It seems that the performance measures prescribed by the franchise with the highest preference by the respondents are:

- Quality assurance.
- Customer satisfaction.
- Product preparation.
- Stock control.
- Marketing.
- Customer's orders or sales.
- Law compliance.
- Purchases.

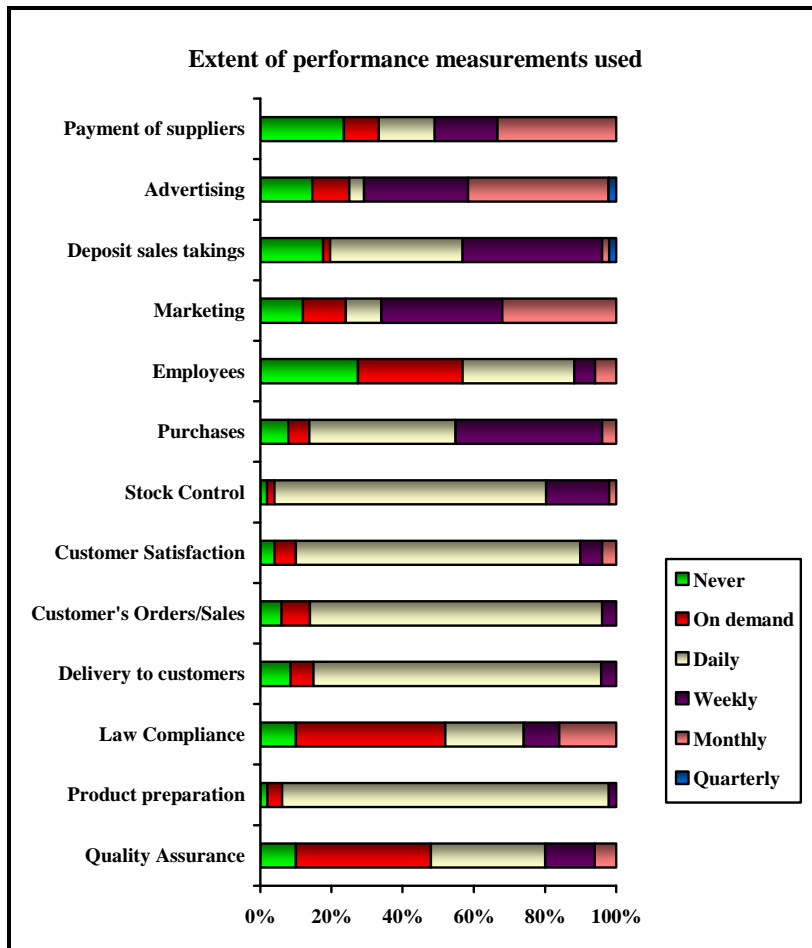


FIGURE 4.9: 100% stack bar for use of performance measurements (Source: Own Source)

The following performance measurements are used the most often:

- Delivery to customers.
- Customer's orders or sales.
- Customer satisfaction.
- Stock control.

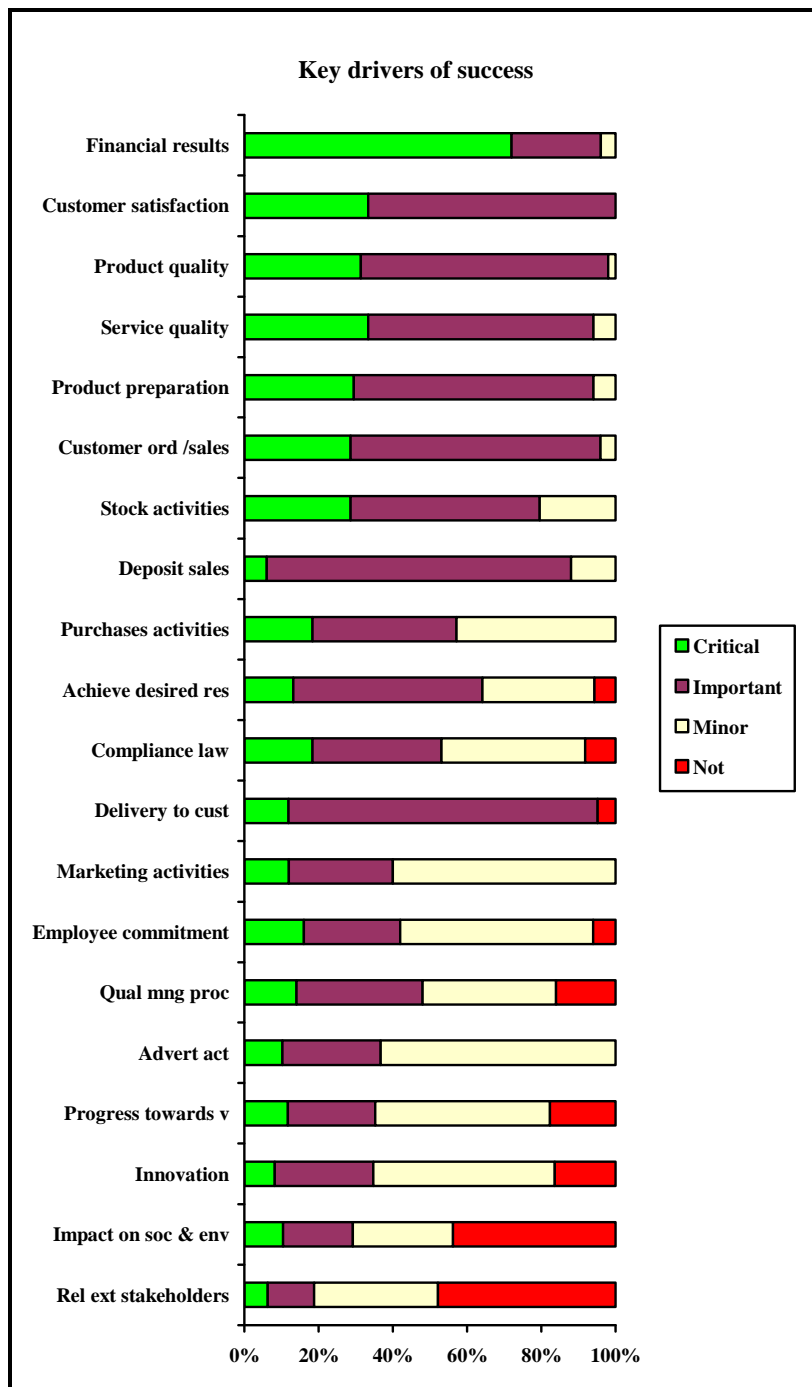


FIGURE 4.10: 100% stack bar for key driver of success (**Source:** Own Source)

The respondents indicated that financial results are the most critical driver of success, with the following drivers which follows directly:

- Customer satisfaction.
- Product quality.
- Service quality.
- Product preparation.
- Customer order / sales.

The following two graphs split the organisation- and operational performance items.

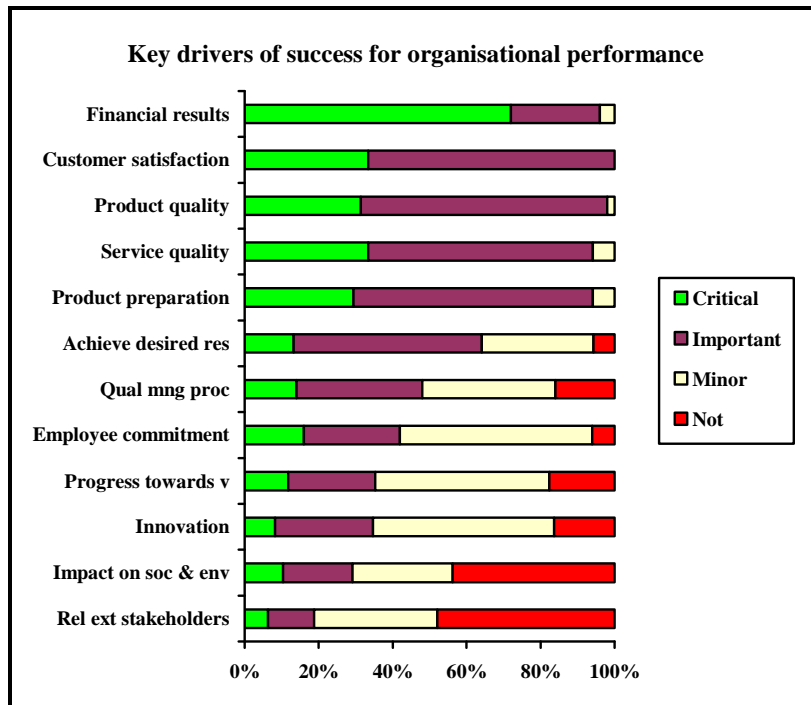


FIGURE 4.11: 100% stack bar for key driver of success for organisational performance
(Source: Own Source)

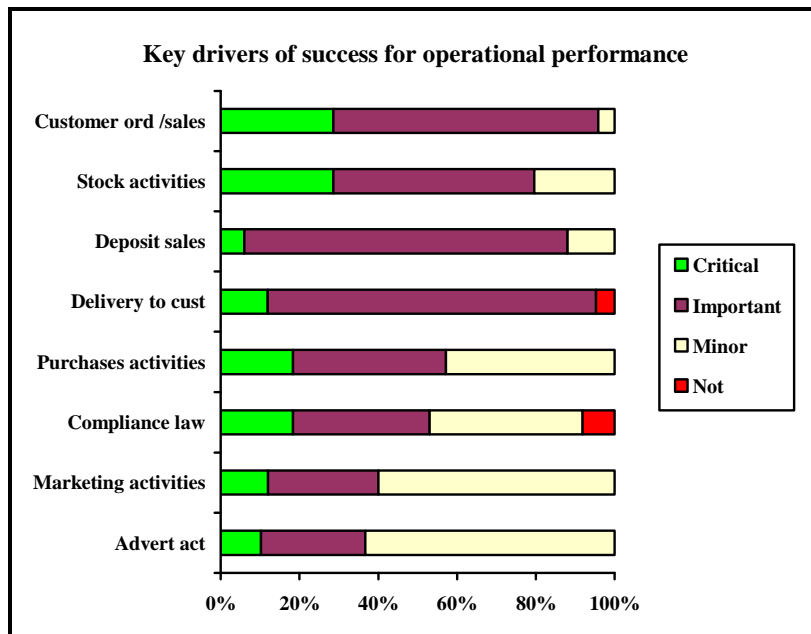


FIGURE 4.12: 100% stack bar for key driver of success for operational performance
(Source: Own Source)

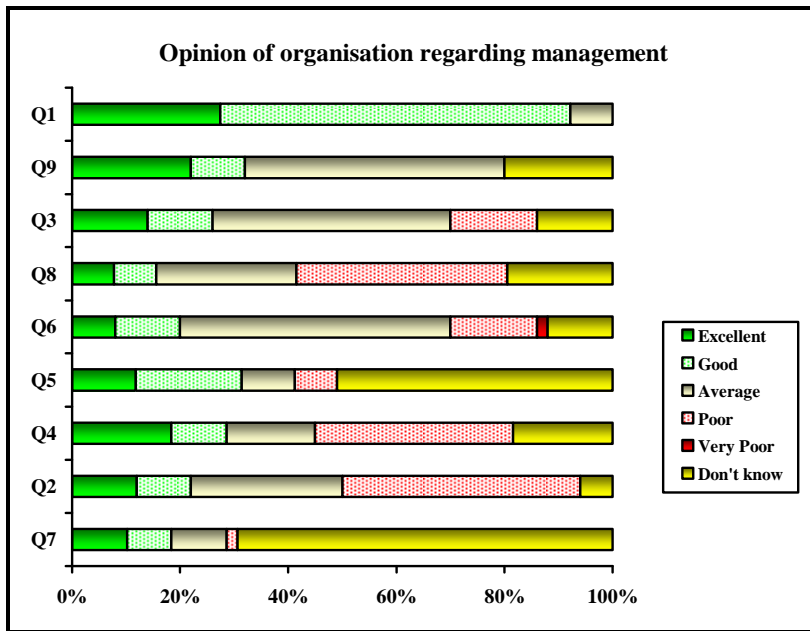


FIGURE 4.13: 100% stack bar for opinion regarding management (Source: Own Source)

The high unknown response of “Market share” and “Organisation’s ability to analyze weaknesses or strengths” indicates little knowledge of these factors and the high opinion of the respondents regarding “Financial measures used by the organisation” indicates a well used factor in measuring performance.

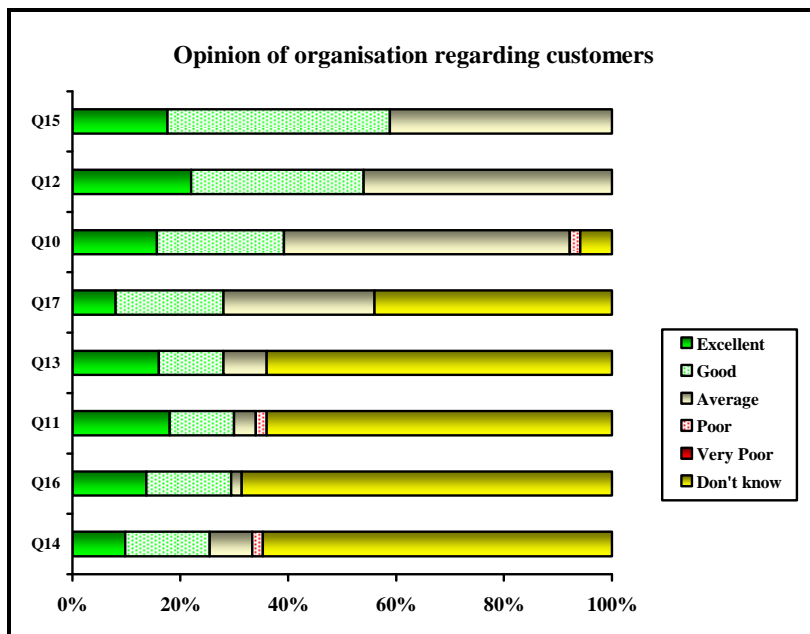


FIGURE 4.14: 100% stack bar for opinion regarding customers (Source: Own Source)

The following aspects were ranked as average to excellent:

- Customer services.
- Ability of organisation to monitor customer complaints.
- Clear definition and understanding of business objects.

The rest of the customer aspect had a very high unknown factor and thus it indicates not measuring it or little knowledge of it.

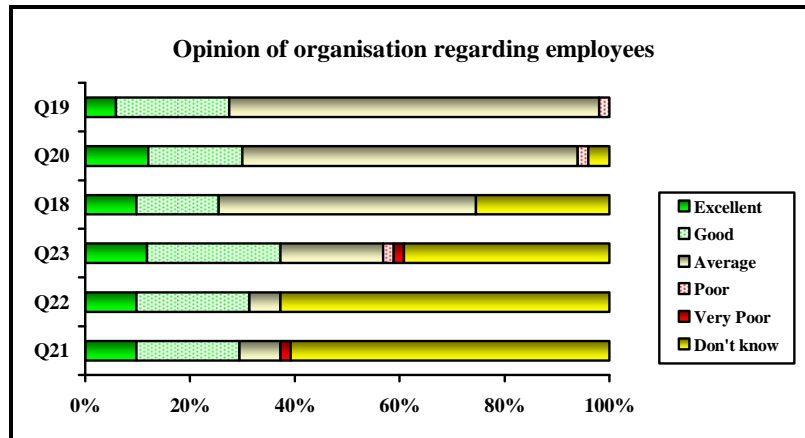


FIGURE 4.15: 100% stack bar for opinion regarding employees (Source: Own Source)

“Employee satisfaction/motivation” and “Existing agreed performance standards” have a high unknown factor and indicates little knowledge of these two aspects. The rest the opinions regarding employee aspects are ranked as average. Although there was a high unknown factor for “Rewarding achievement of short term financial targets”, this aspect has the most respondents ranked as good to excellent.

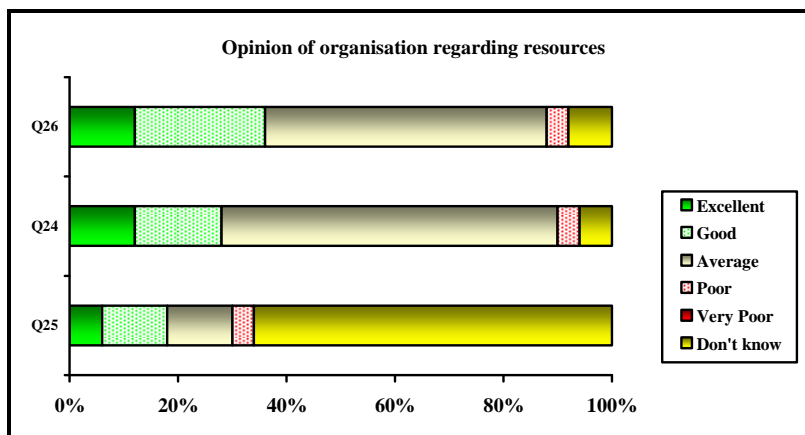


FIGURE 4.16: 100% stack bar for opinion regarding resources (Source: Own Source)

“Monitoring learning and reporting capabilities” has a high unknown factor and indicates little knowledge of this aspect. “Staff accountability for use of resources” and “Internal communications” are ranked as average.

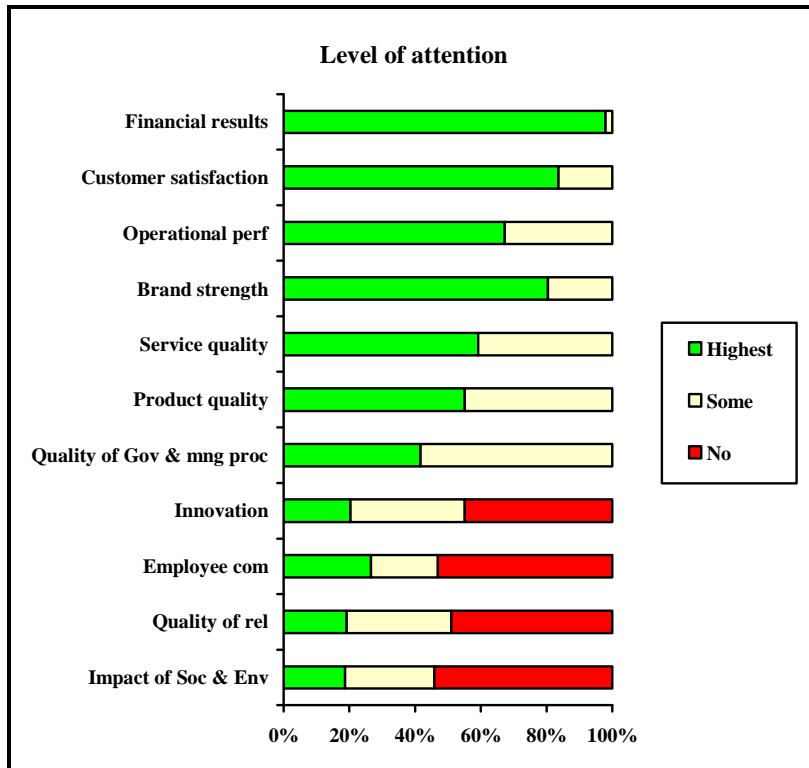


FIGURE 4.17: 100% stack bar for level of attention (Source: Own Source)

The following areas receive the highest level of attention by the managers and owners:

- Financial results.
- Customer satisfaction.
- Operational performance.
- Brand strength.

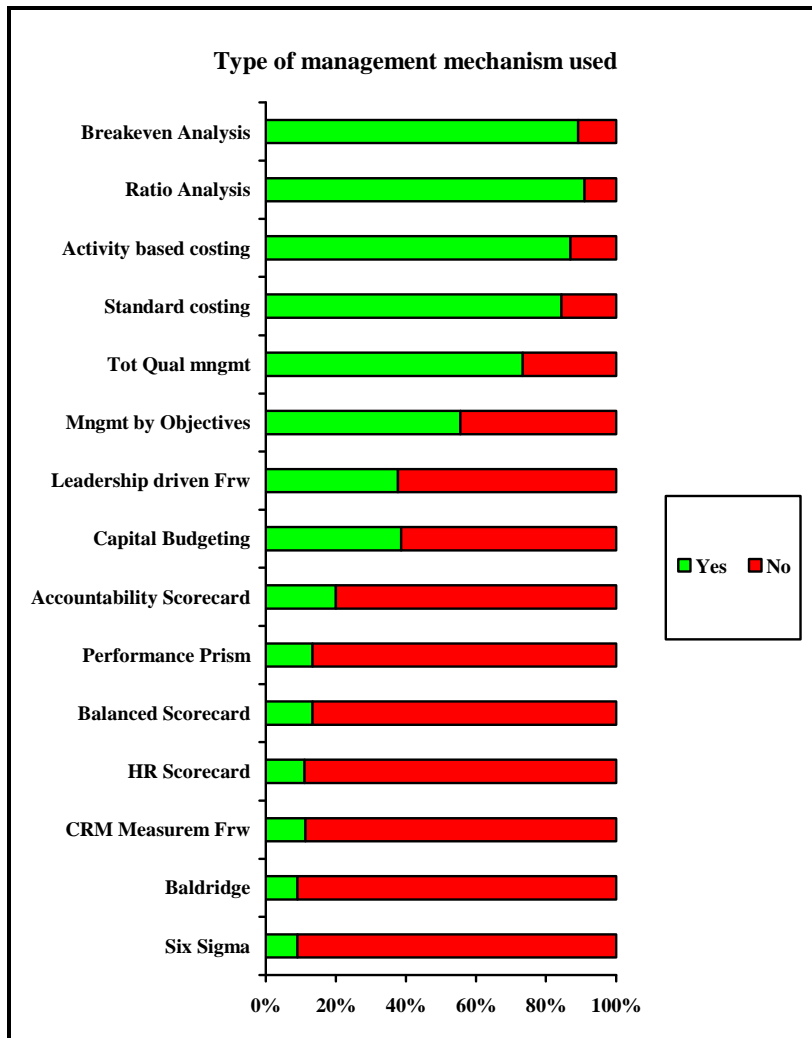


FIGURE 4.18: 100% stack bar for type of management mechanism used (Source: Own Source)

Mostly the following management mechanisms were used:

- Breakeven analysis.
- Ratio analysis.
- Activity based costing.
- Standard costing.
- Total quality management.

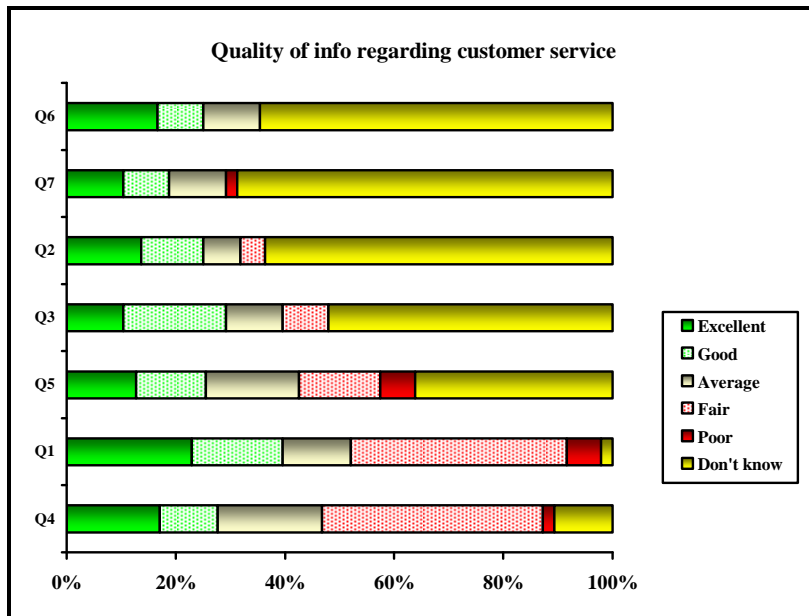


FIGURE 4.19: 100% stack bar for quality info regarding customer service (Source: Own Source)

There were a high percentage of “Don’t know” responses for more than half of the customer services, quality measurements. This indicates that little knowledge of customer service aspects exists or that these aspects are not measured in the franchise, especially on the following:

- Customer service results.
- Service awards.
- Number of on-time deliveries.
- Response times.

With respect to quality the rest of the customer services were rated on average as average in quality.



FIGURE 4.20: 100% stack bar for quality info regarding internal operations (Source: Own Source)

Again there were a high percentage of “Don’t know” responses for more than half of the internal operations quality measurements. This indicates that little knowledge of internal operations exists, especially on the following aspects:

- Employee morale.
- Market share.
- Employee talent.
- Defect rates.
- Cycle times.
- Resource utilization.

With respect to quality the rest of the internal operations were rated on average as average in quality.

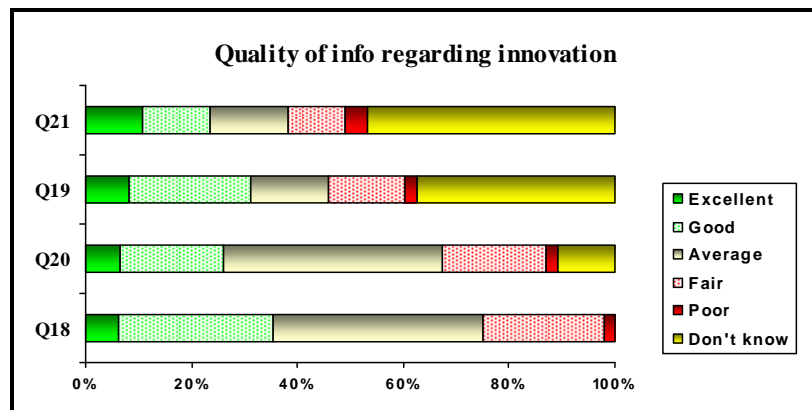


FIGURE 4.21: 100% stack bar for quality info regarding innovation (Source: Own Source)

When evaluating at the average of the responses that was indicated, the innovation aspects provided by the current performance measurement system have an average quality.

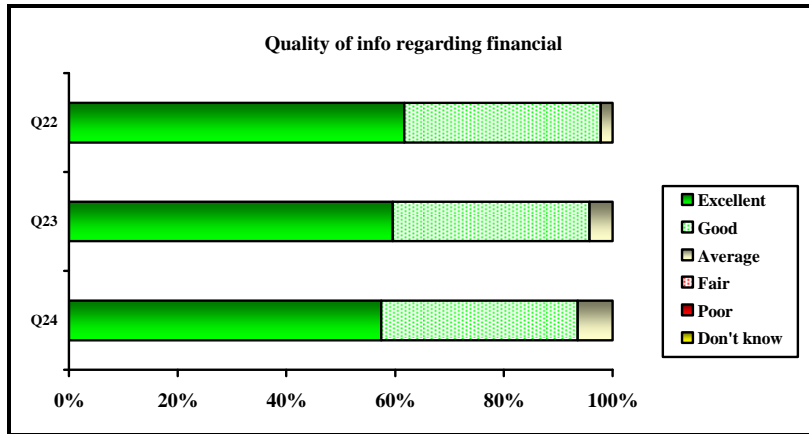


FIGURE 4.22: 100% stack bar for quality info regarding financial aspects (Source: Own Source)

According to the respondents, all the financial aspects as provided by the current performance measurement system have a good to excellent quality.

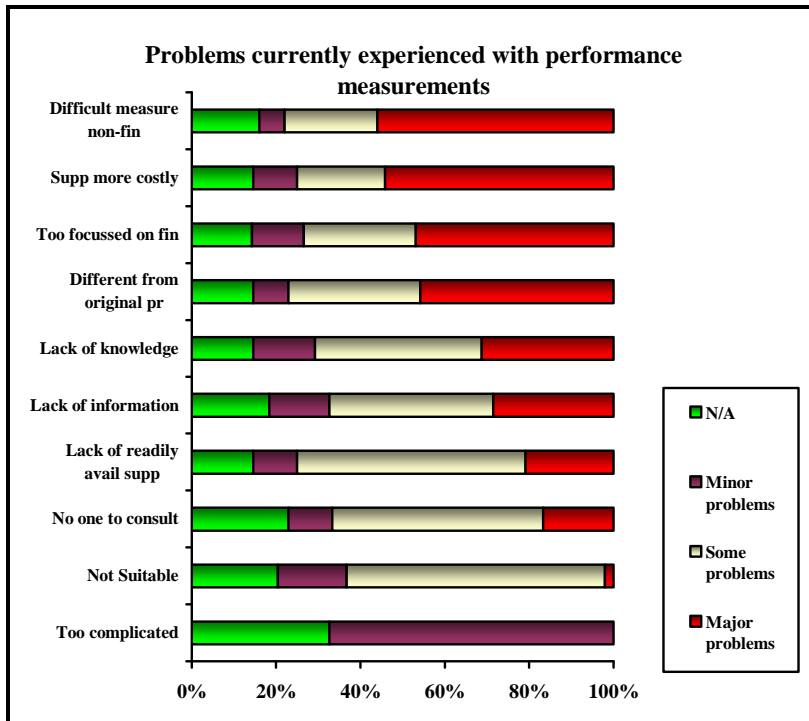


FIGURE 4.23: 100% stack bar for problems currently experienced (Source: Own Source)

The statements measuring the problems currently experienced with performance measurements are sorted from the activity that have the most major problems to the activity

that has the least problems and then represented in Figure 4.23. The following activities have the most major problems:

- Difficulty measuring non-financials.
- Support is more costly than expected.
- Too focused on financials.
- Different from original promise.

4.3.4 Comparative statistic

Due to the fact that this study focuses on the descriptive statistics, no comparisons were made except between the respondents who established their franchise outlet before 2000 and those that established their franchise outlets after 2000. The reason for this comparison is that this was the only variable where there are enough respondents in the 2 groups to do valid comparisons using chi-square and t-tests. A Kruskal Wallis test which may be more appropriate for ordinal data was also performed and although not shown in this paragraph the results can be found in Appendix L.

Due to a small sample size, when comparing the 2 groups with respect to the different statements the chi-square test becomes invalid because of expected frequencies of less than 5 in some of the cells. To overcome the problem categories were aggregated that means more or less the same. For instance the scales “Excellent” and “Good”, and “Average” and “Fair” are grouped together so that there are two groups indicating “Good to excellent” and “Fair to average”. In most of the cases there are still expected frequencies of less than 5, thus the t-test was used to compare the sample means between the two groups with respect to the responses on the statements.

The following tables will only show all the statistically significant differences. However note must be taken that all the comparisons (significant and not significant) will be attached in Appendix K.

TABLE 4. 4: T-tests for statistically significant comparisons between the year-of-establishment groups
(Source: Own Source)

Question / Statement	Group	Sample Size	Mean	T-test value	P-Value
Comparisons between the year of establishment groups					
C11. Which of the following areas of organisation performance is a key drives of success for your outlet:					
C11.14 Deposit sales takings	Before 2000	25	2.20	2.37	0.0224*
	2000 & after	21	1.90		

Question / Statement	Group	Sample Size	Mean	T-test value	P-Value
C12. Please rank you opinions of your organisation with regard to the following:					
C12.05 Organisation's ability to analyze weaknesses and strengths	Before 2000	25	3.68	-2.41	0.0199*
	2000 & after	22	5.00		
C12.14 Number of new customers	Before 2000	25	4.16	-2.49	0.0167*
	2000 & after	22	5.45		
C12.21 Employee satisfaction / motivation	Before 2000	25	4.04	-2.26	0.0290*
	2000 & after	22	5.27		
C12.22 Existing agreed performance standards	Before 2000	25	4.04	-2.21	0.0320*
	2000 & after	22	5.27		
C12.23 Rewarding achievement of short term financial target	Before 2000	25	3.32	-2.09	0.0421*
	2000 & after	22	4.45		
C13. In your capacity as manager / owner, indicate the level of attention you give to each area:					
C13.03 Employee commitment	Before 2000	25	2.04	-2.88	0.0062**
	2000 & after	20	2.70		
C13.07 Innovation	Before 2000	25	2.39	-2.53	0.0156*
	2000 & after	20	2.53		
C13.08 Quality of relationships with external stakeholders	Before 2000	24	2.25	-2.72	0.0097**
	2000 & after	19	2.68		
C13.09 Impact of society and environment	Before 2000	25	2.16	-3.37	0.0017**
	2000 & after	19	2.79		
C13.11 Quality of governance and management processes	Before 2000	25	1.80	-2.12	0.0401*
	2000 & after	19	2.26		
C15. How would you rate the quality of information as provided by your current performance measurement system to measure the following areas:					
C15.02 Number of on-time deliveries	Before 2000	23	4.09	-2.64	0.0121*
	2000 & after	18	5.50		
C15.03 Response times	Before 2000	24	3.88	-2.14	0.0378*
	2000 & after	20	5.05		
C15.06 Customer survey results	Before 2000	24	4.12	-2.09	0.0426*
	2000 & after	20	5.35		
C15.10 Defect rates	Before 2000	22	4.45	-2.42	0.0212*
	2000 & after	20	5.55		
C15.13 Unit cost compared to competition	Before 2000	22	2.95	-2.63	0.0120*
	2000 & after	20	3.95		
C15.16 Market share	Before 2000	22	4.18	-2.66	0.0118*
	2000 & after	20	5.55		
D16. What problems are you currently experiencing with performance measures in you daily activities:					
C16.01 Too complicated	Before 2000	24	1.58	-2.07	0.0442*

Question / Statement	Group	Sample Size	Mean	T-test value	P-Value
	2000 & after	21	1.86		
C16.02 Not suitable for daily activities	Before 2000	24	2.21	-2.87	0.0063**
	2000 & after	21	2.86		
C16.03 Too focused on financials	Before 2000	24	2.79	-2.50	0.0162*
	2000 & after	21	3.52		
C16.04 Difficulty measuring non-financials	Before 2000	25	2.84	-3.67	0.0010**
	2000 & after	21	3.81		
C16.06 Lack of knowledge on performance measures	Before 2000	24	2.50	-3.54	0.0010**
	2000 & after	21	3.43		
C16.07 No one to consult	Before 2000	24	1.08	-3.04	0.0046**
	2000 & after	21	2.85		
C16.08 Support more costly than expected	Before 2000	24	2.21	-3.49	0.0015**
	2000 & after	21	3.50		
C16.09 Lack of readily available support	Before 2000	24	2.05	-3.28	0.0025**
	2000 & after	21	3.08		
C16.10 Different from original promise	Before 2000	24	2.75	-3.04	0.0041**
	2000 & after	21	3.62		

SAS computes a P-value (Probability value) that measure statistical significance which automatically incorporate the chi-square values. Results will be regarded as significant if the p-values are smaller than 0.05, because this value presents an acceptable level on a 95% confidence interval ($p \leq 0.05$). The p-value is the probability of observing a sample value as extreme as, or more extreme than, the value actually observed, given that the null hypothesis is true. This area represents the probability of a Type 1 error that must be assumed if the null hypothesis is rejected (Cooper & Schindler, 2001:509).

The p-value is compared to the significance level (α) and on this basis the null hypothesis is either rejected or not rejected. If the p value is less than the significance level, the null hypothesis is rejected (if p value $< \alpha$, reject null). If the p value is greater than or equal to the significance level, the null hypothesis is not rejected (if p value $\geq \alpha$, don't reject null). Thus with $\alpha=0.05$, if the p value is less than 0.05, the null hypothesis will be rejected. The p value is determined by using the standard normal distribution. The small p value represents the risk of rejecting the null hypothesis.

A difference has statistical significance if there is good reason to believe the difference does not represent random sampling fluctuations only. Results will be regarded as significant if the p-values are smaller than 0.05, because this value is used as cut-off point in most

behavioural science research. In this case the null hypothesis is that the two groups have equal means. Thus when $p < 0.05$; the null hypothesis is rejected and it is proved that the means are not equal. There is thus a statistically significant difference between the means.

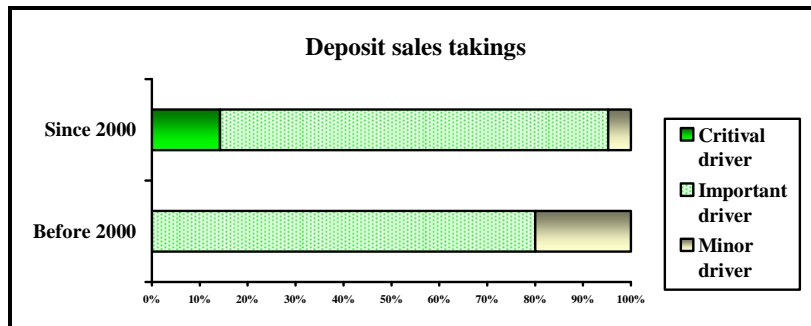


FIGURE 4.24: 100% stack bar for comparison between years of establishment (Source: Own Source)

There is a statistical significant difference between the means of the 2 'year of establishment'-categories for "Deposit of sales takings" as a key driver of success. There are statistically significant differences between the means of the 2 'year of establishment'-categories for the following regarding the ranking of opinion (See Figures 4.24-4.29):

- Organisation's ability to analyze weaknesses and strengths.
- Number of new customers.
- Employee satisfaction/ motivation.
- Existing agreed performance standards.
- Rewarding achievement of short term financial targets.

Note should be taken of the large number of respondents who "didn't know", especially in the "Since 2000" category.

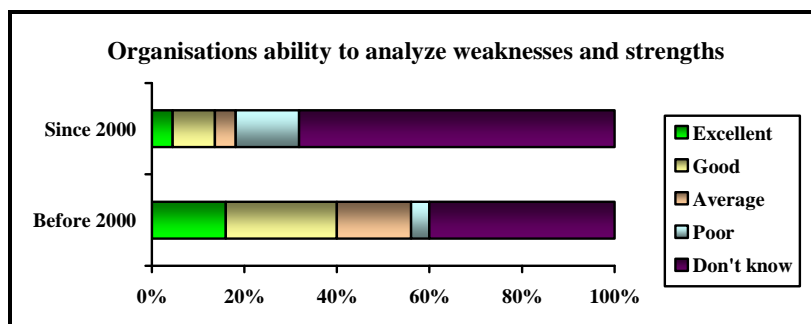


FIGURE 4.25: 100% stack bar for comparison between years of establishment regarding opinion of organisations ability to analyse weaknesses and strengths (Source: Own Source)

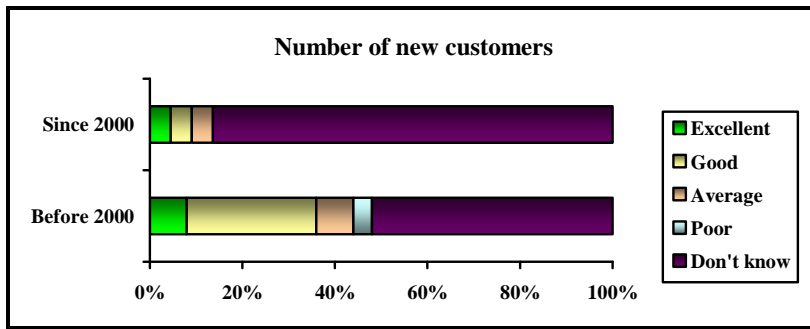


FIGURE 4.26: 100% stack bar for comparison between years of establishment regarding opinion of number of new customers (Source: Own Source)

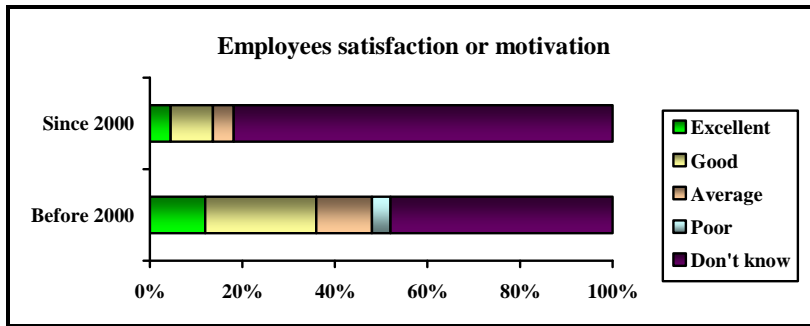


FIGURE 4.27: 100% stack bar for comparison between years of establishment regarding opinion of employee's satisfaction or motivation (Source: Own Source)

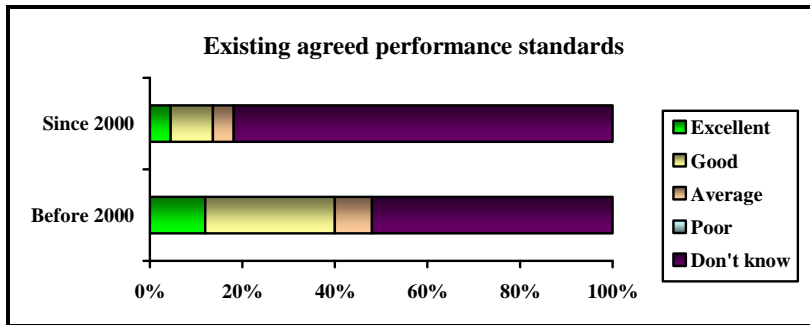


FIGURE 4.28: 100% stack bar for comparison between years of establishment regarding opinion of existing agreed performance standards (Source: Own Source)

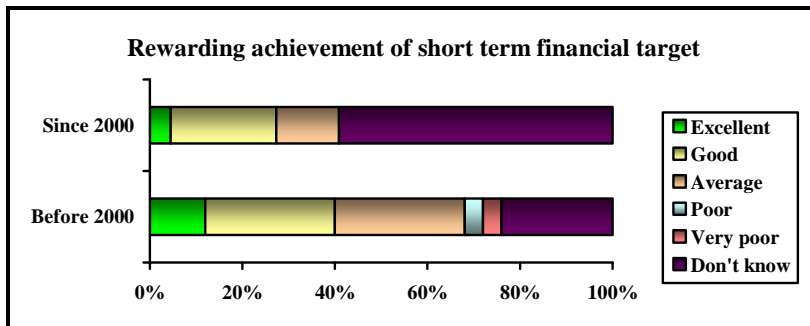


FIGURE 4.29: 100% stack bar for comparison between years of establishment regarding opinion of rewarding achievement of short term financial target (Source: Own Source)

Statistically significantly less attention for franchisees that were established since 2000 are given to the following areas than for the franchises that were established before 2000:

- Employee commitment.
- Innovation.
- Quality of relationship with external stakeholders.
- Impact of society and environment.
- Quality of governance and management processes.

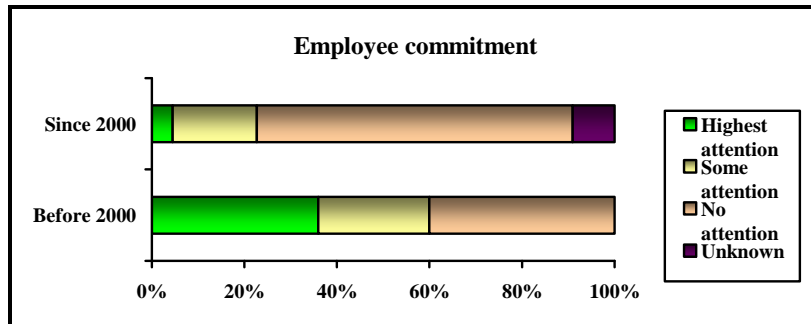


FIGURE 4.30: 100% stack bar for comparison between years of establishment regarding level of attention for employee commitment (**Source:** Own Source)

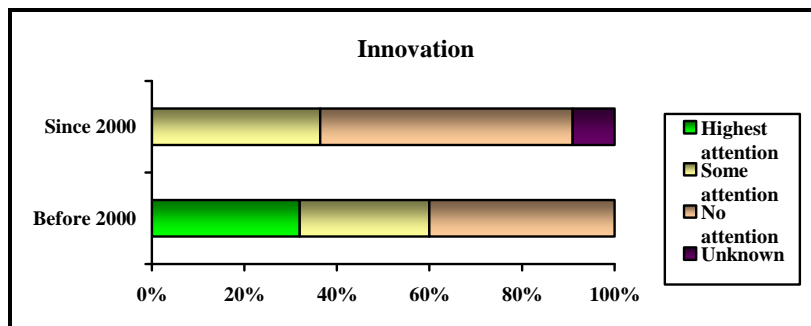


FIGURE 4.31: 100% stack bar for comparison between years of establishment regarding level of attention for innovation (**Source:** Own Source)

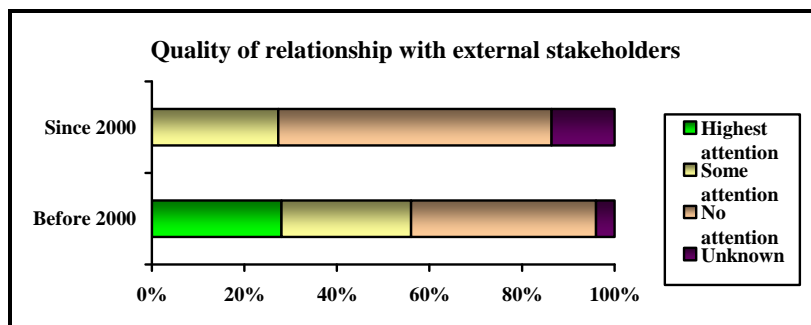


FIGURE 4.32: 100% stack bar for comparison between years of establishment regarding level of attention for quality of relationship with external stakeholders (**Source:** Own Source)

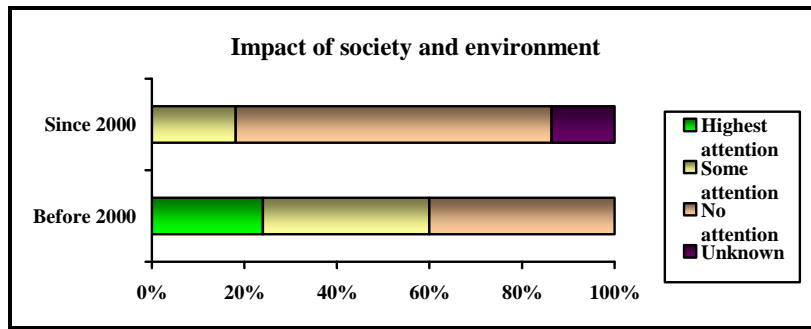


FIGURE 4.33: 100% stack bar for comparison between years of establishment regarding level of attention for impact of society and environment (**Source:** Own Source)

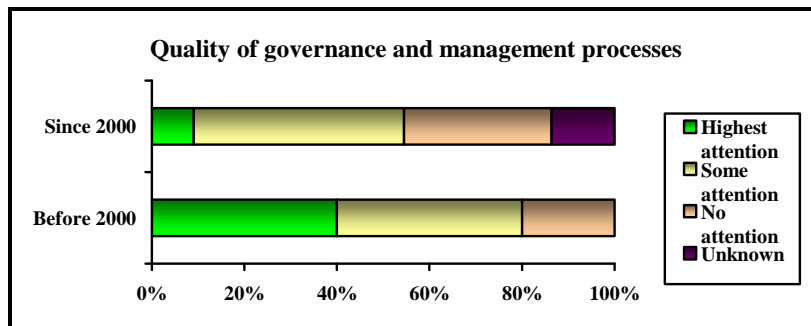


FIGURE 4.34: 100% stack bar for comparison between years of establishment regarding level of attention for quality of governance and management processes (**Source:** Own Source)

The quality of the following information as provided by the franchises current performance are statistically significantly less poor for the franchises that were established before 2000 than those whom were established since 2000:

- Number of on-time deliveries.
- Response time.
- Customer survey results.
- Defect rates.
- Unit costs compared to competition.
- Market share.

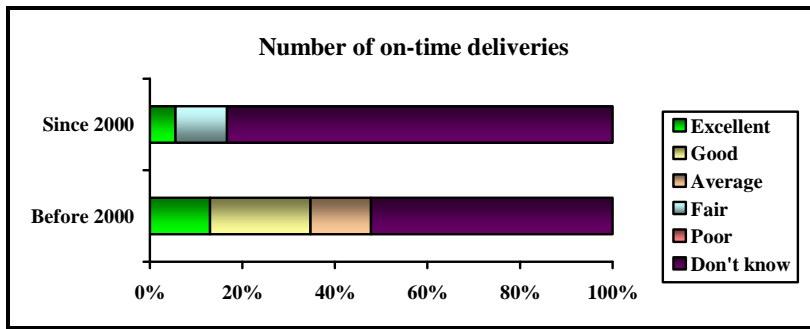


FIGURE 4.35: 100% stack bar for comparison between years of establishment regarding quality rating of number of on-time deliveries (**Source:** Own Source)

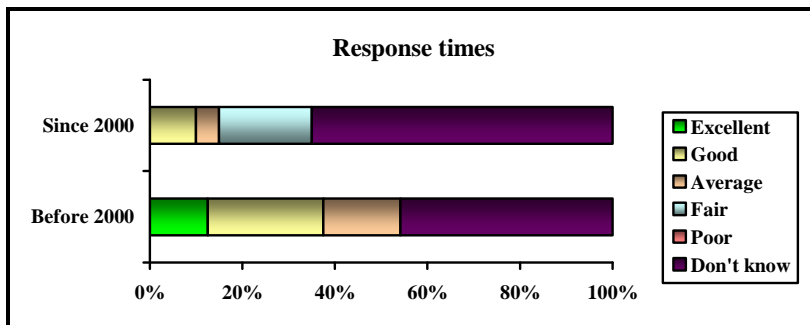


FIGURE 4.36: 100% stack bar for comparison between years of establishment regarding quality rating of response times (**Source:** Own Source)

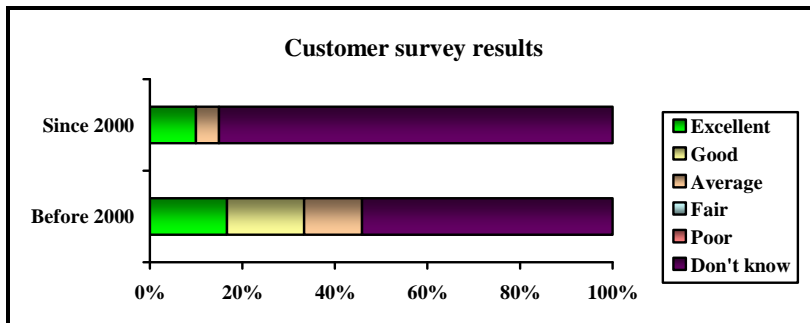


FIGURE 4.37: 100% stack bar for comparison between years of establishment regarding quality rating of number of customer survey results (**Source:** Own Source)

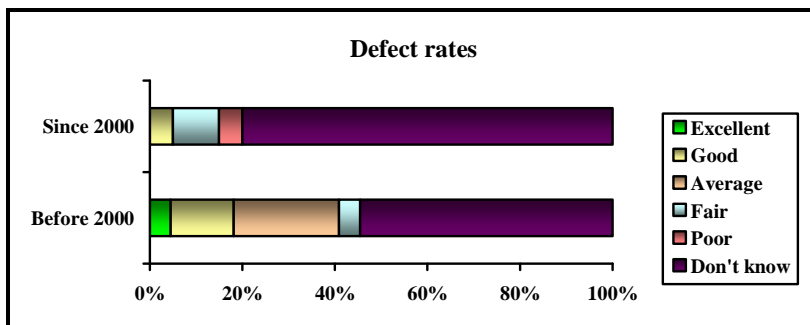


FIGURE 4.38: 100% stack bar for comparison between years of establishment regarding quality rating of number of defect rates (**Source:** Own Source)

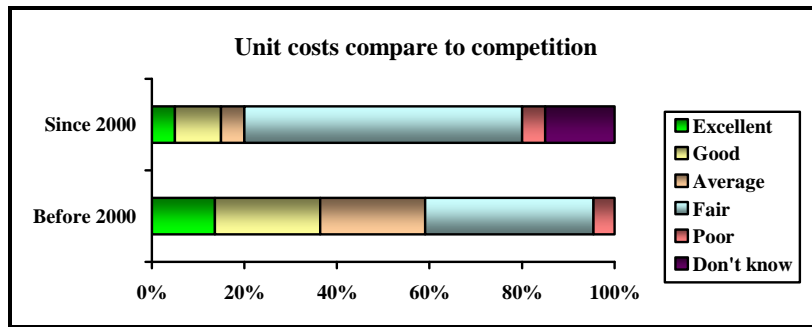


FIGURE 4.39: 100% stack bar for comparison between years of establishment regarding quality rating of number of unit costs compared to competition (**Source:** Own Source)

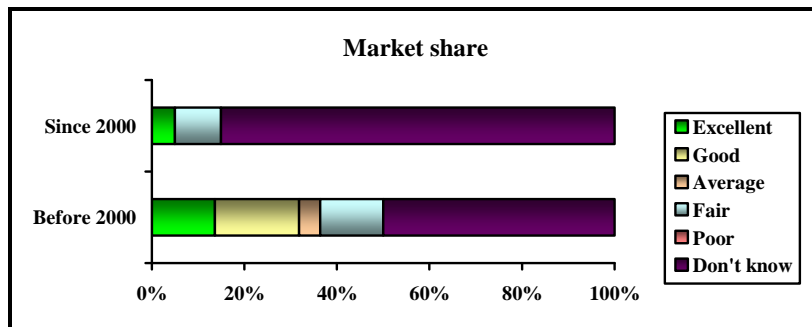


FIGURE 4.40: 100% stack bar for comparison between years of establishment regarding quality rating of number of market share (**Source:** Own Source)

Franchisees that were established since 2000, experienced statistically significantly more problems with the following performance measures, than those that were established before 2000:

- Too complicated.
- Not suitable for daily activities.
- Too focused on financials.
- Difficulty measuring non-financials.
- Lack of knowledge on performance measures.
- No one to consult.
- Support more costly than expected.
- Lack of readily available support.
- Different from original promise.

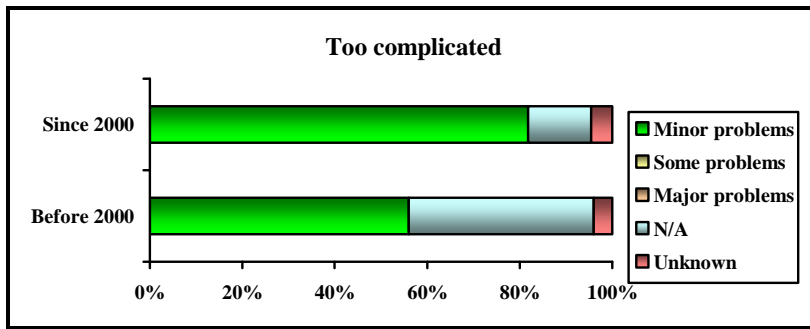


FIGURE 4.41: 100% stack bar for comparison between years of establishment regarding performance measures being too complicated (**Source:** Own Source)

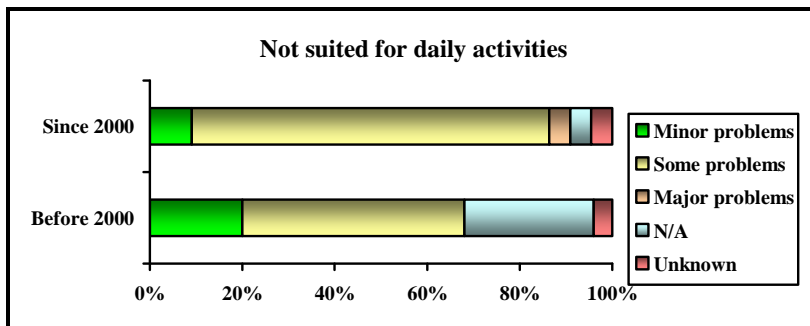


FIGURE 4.42: 100% stack bar for comparison between years of establishment regarding performance measures not suited for daily activities (**Source:** Own Source)

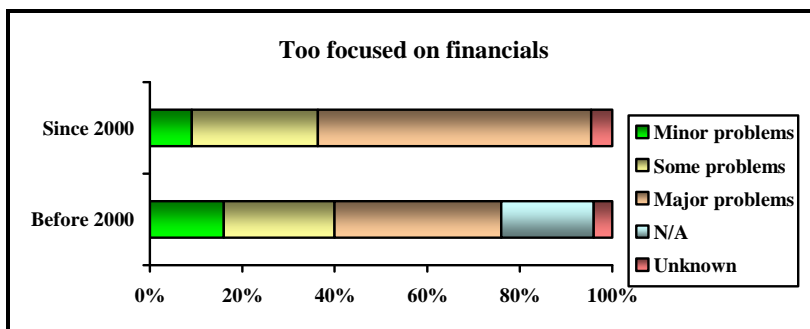


FIGURE 4.43: 100% stack bar for comparison between years of establishment regarding performance measures being too focused on financials (**Source:** Own Source)

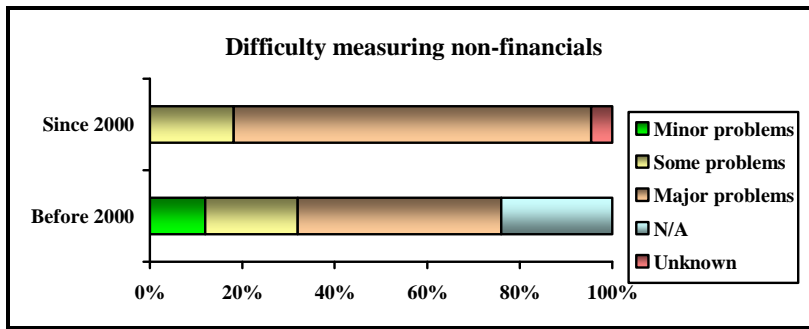


FIGURE 4.44: 100% stack bar for comparison between years of establishment regarding difficulty to measure non-financials (**Source:** Own Source)

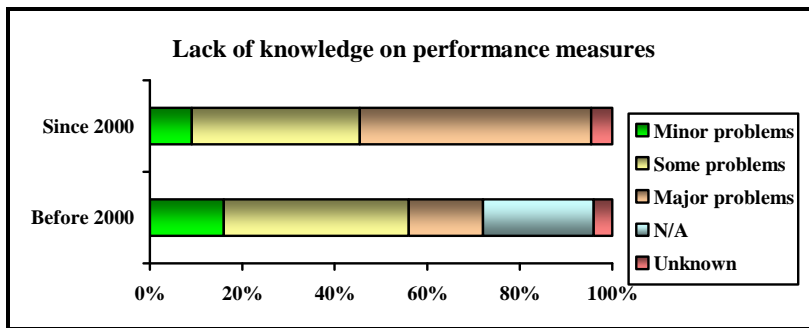


FIGURE 4.45: 100% stack bar for comparison between years of establishment regarding lack of knowledge on performance measures (**Source:** Own Source)

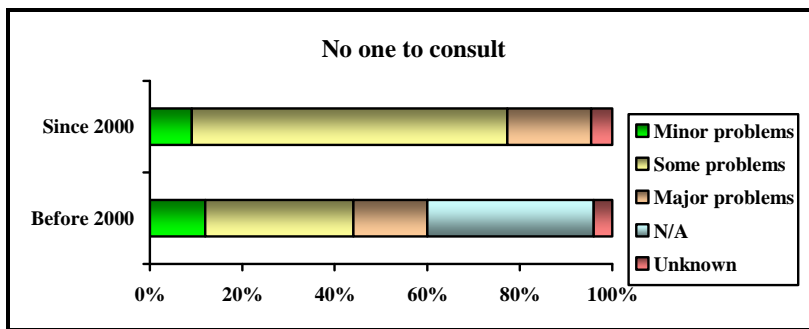


FIGURE 4.46: 100% stack bar for comparison between years of establishment with respect to no one to consult regarding performance measures (**Source:** Own Source)

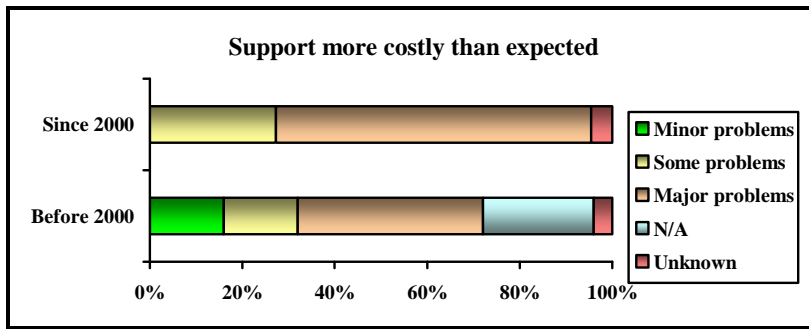


FIGURE 4.47: 100% stack bar for comparison between years of establishment regarding support more costly than expected (Source: Own Source)

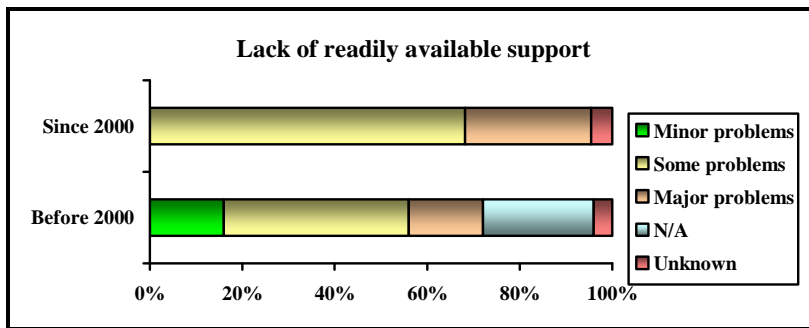


FIGURE 4.48: 100% stack bar for comparison between years of establishment regarding lack of readily available support (Source: Own Source)

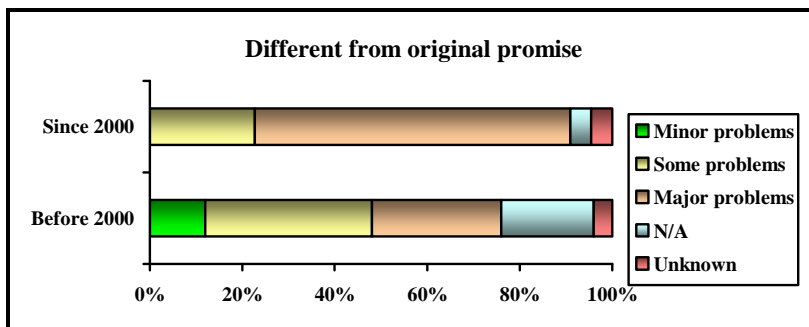


FIGURE 4.49: 100% stack bar for comparison between years of establishment regarding performance measures being different from original promise (Source: Own Source)

Although statistically significant differences with respect to the other variables for the respondent and enterprise profile may exist, it could not be proved due to the fact there are not enough respondents in all the different groups. Due to the fact that this is an empirical study, the model will be based on the descriptive information that is presented in this chapter.

CHAPTER 5

CONCLUSIONS AND RECOMMENDATIONS

5.1 INTRODUCTION

The Franchise Association of Southern Africa cited by Futuse (2007:9), reported that the failure rate of franchises is between 15 and 25 percent lower than start up business. The US and European statistics show that 60 percent of all new businesses fail in the first two to three years. Furthermore, statistics show that 80% of new businesses fail within their first two years as a result of poor yield management, low productivity, long process flows, old plant equipment, etc.

Recent media articles reported that MacDonald's one of the blue chip franchises closed 15 of their 103 outlets in South Africa. This represents 15.6 percent of their total stores in the country. If such a big franchise can experience failures, so can many franchise initiatives, especially newly established ones, which are more vulnerable to risk of failure than blue chips initiatives (Mc Alphine, 2006:2). According to Gordon (2008:52), 6,5 percent of new franchises have failed in the past two years.

Several studies already undertaken determined the reasons for the failures of franchise enterprises. Amongst the most important reasons pointed out are the lack of managerial capabilities such as identification of critical information for decision-making and the experience of the managers. The question that motivated the researcher to do this study is: "What management information is critical for franchisees in the fast food industry, to ensure sustainability?"

5.2 AIMS OF THIS CHAPTER

The research results were discussed in chapter 4. This final chapter aims to evaluate the research objectives with the main implications of the findings from all investigative questions before going on to draw conclusions, make recommendations and conclude with proposal for further research.

5.3 EVALUATING RESEARCH OBJECTIVES

In this section, the primary and secondary objectives of the study are evaluated against the outcomes of the research results discussed, indicating whether or not the objective was

realized. The primary objective will be evaluated first thereafter the researcher will evaluate the secondary objectives as stated in chapter 1.

Performance measures are defined as parameters used to quantify efficiency and effectiveness of business actions, intended to provide feedback to managers regarding achievement of desired outcomes (Niven, 2002:112-114). Traditional performance measures in many companies are primarily financial, and represented by the output of management accounting systems. Too much reliance on financial statements has proven to be ineffective and inadequate, which points to the fact that they are historic, provides a summary of the performance, and lacks to assist in identifying areas requiring corrective action in real-time (Rudman, 2004:18).

The study first provide valuable information on the profiles on the fast food franchisees' respondents, including the identification of their businesses as a part of franchise, the occupations in businesses they own and/or manage, their managerial experience and the number of employees employed in the business.

Secondly, it provided the researcher with: a) The general business information of the respondents including the detail of support material they received from the franchise package. b) The person who prepares financial statements, types and frequency of financial records generated, their perceptions of the performance measures prescribed by the franchisor and extent to which they are measured. c) Their perceptions about the most important areas of key drivers of success, their perceptions about the financial measures and non-financial measures used by the business. d) The levels of attention to which they give various business areas. Finally, the quality of information provided by current performance measurement systems and problems currently experienced with performance measures in the daily activities were presented.

PRIMARY OBJECTIVE

The primary objective of this study was to establish the current position of performance measures utilised daily in business activities by fast food franchisees and determine the role played by the performance measures prescribed by the franchisor in helping the franchisee identify critical management information in real-time.

As indicated in the literature study, there are a plethora of valid business reasons, which can be listed for the failure in the fast food franchise industry, the majority of which point to the lack of certain competencies on the part of managers who manage the outlets. The

challenge managers are faced with presently is tackling the complex job of managing businesses for results i.e. identifying the drivers of financial success, finding a balance to measure financial and non-financial performances, appraising and compensating people's performance.

Controversely, the franchisor through the 'franchise package' prescribes performance measures to be used by franchisees in their daily activities. The questions that arose are:

- What information related to accounting is contained in stock standard franchise packages?
- What measures do franchisees use to measure performance?
- What performance measures are critical for the success of the franchisees industry?
- To what extent are critical success factors utilized by franchisees?

The internal users of these accounting systems often are without vital timely information needed to accomplish strategic planning, organizing, directing and controlling, which is critical for success (Baxendale, 2001:61). Management should realize the importance of the non-financial performance measurement and be aware that, 'the less you understand the business, the more you rely on accounting numbers' and 'the nearer you get to operations, the more non-financial performance indicators you realise could be valuable aids to better management'. Non-financial measurements can warn about downside risks (Deloitte, 2004:10).

The following secondary objectives are evaluated:

SECONDARY OBJECTIVES

To determine to what extent the franchise package caters for matters related to financial accounting.

To determine the existing performance measures in place to mitigate the risk of failure.

To determine if the managers/owners can identify the critical success factors of their outlets.

To determine if the franchisees are using the critical success factors.

5.4 DISCUSSION OF RESULTS

As for the results obtained through this survey the following analogies can be drawn from this research:

- The most frequently statements or reports that were generated from the financial records are:
 - Analysis of cash register,
 - stock variance reports,
 - sales variance reports,
 - cash flow statement,
 - bank reconciliation, and
 - debtors and suppliers reports.

- The performance measures prescribed by the franchisors are mostly:
 - Quality assurance,
 - customer satisfaction,
 - Product preparation,
 - stock control,
 - marketing,
 - customer's orders or sales,
 - law compliance, and
 - purchases.

- The performance measurements that are most often used, are:
 - Delivery to customers,
 - customer's orders or sales,
 - customer satisfaction, and
 - stock control.

- The financial results are the most critical driver of success for organisational performance, which are closely followed by the following drivers:
 - Customer satisfaction,
 - product quality,
 - service quality, and
 - product preparation.

- The following drivers are the most critical driver of success for operational performance:
 - Customer order / sales, and
 - stock activities

- The franchisees (managers/owners) have not much knowledge of “Market share” and “Organisation’s ability to analyze weaknesses or strengths” but “Financial measures used by the organisation”, “Compliance with laws and regulation requirements” and “Achieving the objectives and targets on a daily basis” are ranked highly in the management category.

- “Customer services”, “Ability of organisation to monitor customer complaints” and “Clear definition and understanding of business objects” are the highest rated factors related to the customer’s category. There is however a very high unknown response to the rest of the factors related to customers, which can indicate a lack of knowledge of these performance measures.

- “Employee satisfaction/motivation” and “Existing agreed performance standards” have a high unknown response and this can also indicate lack of knowledge for these two aspects. The opinions regarding employee aspects are ranked as average. Although there was a high unknown factor for “Rewarding achievement of short term financial targets”, this aspect has the most respondents ranked as good to excellent.

- “Staff accountability for use of resources” and “Internal communications” are ranked as average. The factor “Monitoring learning and reporting capabilities” has a high unknown response and this indicates little knowledge of this aspect.

- The following areas receive the highest level of attention by the managers and owners:
 - Financial results,
 - customer satisfaction,
 - operational performance, and
 - brand strength.

- The following management mechanisms are used often:
 - Breakeven analysis,
 - ratio analysis,
 - activity based costing,

- standard costing, and
 - total quality management.
- There are a high percentage of “Don’t know” responses for more than half of the customer services, quality measurements. This indicates that little knowledge of customer service aspects exists or that these aspects are not measured in the franchise, especially on the following:
- Customer service results,
 - service awards,
 - number of on-time deliveries, and
 - response times.
- With respect to quality the rest of the customer services were rated on average as average in quality.
- There are a high percentage of “Don’t know” responses for more than half of the internal operations quality measurements. This indicates that little knowledge of internal operations exists, especially on the following aspects:
- Employee morale,
 - market share,
 - employee talent,
 - defect rates,
 - cycle times, and
 - resource utilization.
- The quality of the rest of the internal operations is rated as average.
- The innovation aspects provided by the current performance measurement system has been rated as having average quality.
- The financial aspects as provided by the current performance measurement system have a good to excellent quality.
- The major problems currently experienced with performance measurements are:
- Difficulty measuring non-financials,
 - support is more costly than expected,
 - too focused on financials, and
 - different from original promise.

5.5 RESEARCH OBJECTIVES EVALUATED

5.5.1 Support for management of business activities (Section B of questionnaire)

Secondary objective

To determine to what extent the franchise package caters for matters related to financial accounting.

It has been established that there is not significant use of non-financial performance measures by managers of SMMEs in the Western Cape (Rudman, 2003:Conference). Managers of fast food franchises invariably rely on financial statements as the only single element to measure the performance of the business, adding to the failure potential of the business initiative.

The shortcomings in this method of measuring performance is that 'traditional' financial measures are not that suitable to capture the essence of the company's relationships with such important constituencies as customers, employees and suppliers. Furthermore, the effective management of franchisees is not only a question of financial measures of performance, which is a necessary condition but also of various other measures of a non-financial nature.

The support for management of business activities received when acquiring the outlet, according to this study, were mostly food preparation requirements, menu, monitoring stock and staff training, except for 'accounting systems' and 'guidelines on how to write up the books'. Most of the respondents generated financial records from the accounting system on demand, daily, weekly and monthly, however the responsibility of accounting and writing up books was left to the bookkeeper/accountant as evidenced by 64,7percent of respondents.

One may conclude that the franchise package as provided by the franchisor caters mostly for financial accounting (lagging indicator) matters, however non-financial (leading indicators) matters are inadequately catered for, thereby falling short in assisting the owner/manager with comprehensive performance measures that are relevant for decision-making on their daily activities of the outlets.

5.5.2 Business cycles and performance measures(Section C of questionnaire)

Secondary objective

To determine the existing performance measures in place to mitigate the risk of failure.

The performance measures mostly prescribed by franchisor were in the activities of quality assurance, stock control, product preparation, customer satisfaction, marketing, customer's orders/sales, law compliance and purchases. The performance measures were mostly used on a daily and weekly basis on delivery to customers, customer's orders/sales, customer satisfaction and stock control. One may assume that daily and weekly performance measuring means that owner/manager determine their performance at the end of the day and end of the week.

Although the respondents received the support for management of business activities and prescribed performance measures from the franchise package, however they used the performance measures on a daily and weekly basis, they did not used the performance measures on demand as a means to effectively manage their business as and when discrepancies arise within business activities. Measuring performance at end of the day and end of the week probably does not enable owner/manager take corrective action in real-time.

Based on the returned results, one may conclude that there is a gap in the existing performance measures, in particular to what activities are currently measured compared to what measures that should be measured (as suggested in the balanced scorecard) to help owner/manager take immediate corrective action in case on discrepancies in their daily activities.

Secondary objective

To determine if the managers/owners can identify the critical success factors of their outlets.

The challenges facing managers of franchises currently are tackling the difficult job of managing businesses for results i.e. identifying the drivers of financial success and performance measuring these factors. Lacking such tools, managers of franchises can encounter difficulties managing what they cannot describe or measure, and thereby causing the franchisees to fail.

The manager or owner of a franchisee must be able to articulate the critical success factors of the business through relevant information generated from the daily activities. The information must highlight areas and drivers of these factors to help ensure that:

- The franchisee is not under threat of bankruptcy.
- The franchisee implements the controls which ensure that the organisation is pursuing strategies and actions which will enable the achievement of its goals.

Based on the results, one may conclude that owner/managers have difficulty in articulating areas that critical to ensure the success and sustainability of their outlet. As indicated in the discussion section above, owner/manager agreed that financial results are most critical and non-financial (the key drivers of performance) are the most important.

Secondary objective

To determine if the franchisees are using the critical success factors.

Which Franchise (2007:Online) believes that one of the major trends for the new millennium is time and convenience. Consumers are placing more importance than ever on these factors. This means that anything that provides consumers with a time save option will have a good chance of success. This translates into anything from delivery services and house calls to drive-thru windows and easy-access express locations, especially for service establishments that are traditionally inconvenient.

As indicated in the discussion section above, owner/manager agreed that financial results are given high attention in comparison to non-financial (the key drivers of performance). Often traditional financial accounting systems are used, which are designed to provide information to users external of the SMMEs such as lenders and tax authorities. However the same systems should provide management information internally to the managers for day-to-day operational decision-making. The internal users of these accounting systems often are without vital timely information needed to accomplish strategic planning, organizing, directing and controlling, which is critical for success (Baxendale, 2001:61). However, in this instance one may conclude that the owner/manager do not adequately use the management information critical to daily in their activities. The results do not reveal evidence on measurement of, for example, innovation or employee satisfaction.

5.5.3 Barriers

The results returned point to the reality that there is rising franchisee dissatisfaction with the current performance measures as prescribed by the “franchise package”. Top managers are not happy and are frustrated with most strategic-business-advice. The main problems seem to be that clients are involved in implementation and that consultants do not satisfy the real needs. The suggestion is that the performance measure prescribed by ‘franchisor’ and used by ‘franchisee’, should be focusing on both measurement of financial and non-financial aspects of the daily activities, create a more value by transferring process skills to clients and share more responsibility for implementation, creating value with their clients.

5.6 RECOMMENDATIONS

Which Franchise (2007:Online) reported that the owners or managers of outlets are working within a system in which there is little scope for creativity (Innovation). Almost every aspect of operating the business is laid down in the operations and procedures manual. In certain circumstances, franchising can be an inflexible method of doing business. As a franchisee, the encumbent is bound by the franchise contract to operate the business in a carefully prescribed manner. Although the franchisor will have reserved the right to respond to changes in the market, this is unlikely to happen without a process of consultation. This tends to make the introduction of changes to the system, for example changes to the business format, the corporate identity or the product range, a slow process. It can be frustrating for individual franchisees not to be able to respond swiftly to the emergence of new trends in the local market, or the arrival of a local competitor. Lack of critical management information severely handicaps decision makers and managers in all enterprises (Romney & Steinbart, 2000) cited by (Rudman, 2004:19).

Based on this study, the following recommendations are suggested by this author on how to improve this situation:

- Franchisors should provide an environment in which franchisees are empowered to use alternative performance measuring methods.
- Improvement in the Franchise Package should include measurement of non-financial aspects.

To exacerbate matters, franchisor representatives can be relied upon to ensure adherence to the proven guidelines. Having made a substantial investment into their business units, other members of the network expect the franchisor to protect their business interests.

- Training of fast food franchisee owners/managers to be self-sufficient to reduce cost of consultation.

The fact that most of the reports used for management decision making are generated from the financial records indicated that there is an imbalance in the performance measures used by fast food franchisees and need assistance in measuring not only financial matters of business but non-financials as well.

- The fast food franchisees should be made aware of the benefits performance measures addressing both financial and non-financials.

The owners/managers need more information on the effective management of their outlets. To satisfy this need, the owners/manager would probably benefit by undergoing some training on performance measures and frameworks. Tertiary institutions should assist in developing performance measurement models such as the balanced scorecard (BSC) that can be customised to suit individual franchisee. Tertiary institutions should offer courses which are needed to equip aspirant owners with the relevant knowledge and skills to performance measure their franchisees and grow a successfully.

- The fast food franchisee owners/managers should be empowered to identify critical success factors.

Vocational training programs and workshop should be tailor-made to meet the needs of the fast food franchisee sector in relation to performance measures and the benefits thereof. It is further recommended that the study of fast food franchisee performance measure be carried out throughout the Republic of South Africa (RSA) for an overall picture on the role of performance measures.

The risk of business failure is high amongst SMMEs. International research reveals that the major causes for business decline and/or failure are internal factors especially lack of financial control, poor cash flow management, high gearing levels, inadequate management competence, poor production planning and control and insufficient marketing rather than external factors such as economic and competitive changes. Unless there is experience and understanding of the management information critical for effective management and sustainability of fast food franchisee sector, the warning signals associated with business decline will go undetected (DTI, 1998:11).

If the above question can be answered, not only that franchisees will be helped with skills in identifying critical success factors, but also the franchisors, in particular will be made aware on inadequacies in the franchise package for improvement to help the franchisees with accurate management information required to effectively manage their outlets. Secondly, the franchisees will be empowered to take advantages of alternative performance measures (PM), improve their business efficiencies and increase their capacity to grow and be sustainable.

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APPENDIX A: FASA MEMBER LISTING

- Barcelos Flamed Chicken
- Bimbo's Fast Foods
- Blacksteer
- Cappuccino's Café & Pizzeria
- Captain Dorego
- Chicken King
- Chicken Licken
- Col'Cacchio
- Debonairs Pizza Franchise
- Dulce Continental Café
- Fontana Chicken
- Hops & Beans
- Hot Dog Café
- Juicy Lucy
- Kauai Juice (Pty) Ltd
- Kentucky Fried Chicken
- King Pie
- Maxi's Restaurant
- McDonald's South Africa
- Mike's Kitchen
- Mochachos Chicken Villages
- Mozart Ice Cream classics
- Mugg & Bean
- Nando's
- Ocean Basket
- Ola Milky Lane
- Piatto
- Pizza Parlour
- Pizza Perfect
- Romans Pizza
- Roosters
- Simply Asia
- Saddles Steak Franchise
- Sandwich Baron
- Scooters Pizza
- Sausage Saloon
- The Brazen Head
- The Coffee Stop
- Steers
- St Elmo's Woodfired Pizzeria
- Tuscan BBQ Holdings (Pty) Ltd
- Wimpy Restaurants

<http://www.fasa.co.za/content/MembersList/Restaurants.aspx> [Accessed 27 February 2009]

APPENDIX B: CAPE METROPOLE MAP



<http://accomsa.com.www29a.your-server.co.za/wcape/wccity-capetown.php>
(Accessed 29 May 2009)

APPENDIX C: PRELIMINARY PILOT STUDY QUESTIONNAIRE (2007)

2007

CAPE PENINSULA UNIVERSITY OF TECHNOLOGY

RESEARCH conducted by the FACULTY OF BUSINESS

INVESTIGATING THE ROLE OF PERFORMANCE MEASURES USED BY FRANCHISES IN THE FAST FOOD INDUSTRY

The National Research Foundation of South Africa identified areas requiring research.

The Faculty of Business of the Cape Peninsula University of Technology responded by identifying a research niche area: "The effective management of e-Commerce SMME's".

The research contributes to the body of knowledge within that area by establishing the current position of financial and non-financial performance measures used by SMME's in the effective management of franchises in the fast food industry.

The information obtained in this questionnaire will remain confidential.

Should you require feedback from the survey, please provide your e-mail address in the space provided on the last page.

All enquiries regarding this research and questionnaire may be directed at the Research Supervisor
Mr. Spurgeon Rudman; e-mail: rudmans@cput.ac.za
Phone: (021) 460 3232

RESEARCHER

Surname:	Initial	E-mail	Contact Number
Mabesele	L	mabesele@cput.ac.za	0214603620

THANK YOU!

Your willingness to complete this questionnaire is greatly appreciated.

More details on how to complete this questionnaire is located at the back, should you need it.

This questionnaire should only be completed by businesses operating as part of a franchise group. However if you still wish to complete the questionnaire, then complete all questions and replace the word "franchise" with the word "business".

It would be greatly appreciated if you could respond to the following questions so as to assist us in performing this research.

(Please indicate with "X" where appropriate)

General

1. Is your business part of a franchise? Yes No
2. Are you the owner, manager or both the owner and manager of the franchise?
Owner (do not manage) Manager (do not own) Both Owner & Manager
3. What year was your franchise outlet established?
4. What is your previous managerial experience related to the fast food industry?
5. To enable us to categorize your business in terms of the Small Business Amendment Act of 2003 please indicate the following:
Number of Employees
Turnover per annum (Optional)
6. Who is responsible for preparing the financial statements?
Bookkeeper/Accountant Owner
Manager Consultant
Other (please specify)

7. For what purposes are the financial statements prepared? (eg: Interpretation, policy,etc.)

8. Does the franchisor prescribe (in the franchise business package) performance measures to evaluate the business performance in the following areas?

	Performance not measured		Package prescribes measures		Franchisee uses measures		Results sent to franchisor?		Franchisor gives feedback?	
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
Marketing	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
Advertising	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
Purchases	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
Stock Control	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
Payment of suppliers	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
Customer's Orders / Sales	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
Product Preparation	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
Delivery to customers	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
Deposit sales takings	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
Customer Satisfaction	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
Employees	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
Quality Assurance	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
Law Compliance	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
Other (please specify):	<hr/> <hr/>									

9. What statements and reports are generated from the financial records and how often?

	Never	On demand	Weekly	Monthly	Quarterly	Annually
Cash flow statement						
Statement of Changes in Equity						
Income Statement						
Balance sheet						
Bank reconciliation						
Analysis of cash register						
Stock variance reports						
Sales variance reports						
Debtors and Suppliers Reports						
Lead time Reports						
Other (please specify):	<hr/> <hr/>					

10. What did you receive (as part of the franchise package) when you acquired the franchise outlet?

How to write up the books (accounts)	<input type="checkbox"/>	Site (Location)	<input type="checkbox"/>
How to measure success	<input type="checkbox"/>	Staff Training	<input type="checkbox"/>
How to motivate the staff	<input type="checkbox"/>	Menu	<input type="checkbox"/>
How to monitor the stock	<input type="checkbox"/>	Marketing Plan	<input type="checkbox"/>
Food preparation requirements	<input type="checkbox"/>	Equipment	<input type="checkbox"/>
Accounting Systems	<input type="checkbox"/>	Décor	<input type="checkbox"/>
Other (please specify)			

Marketing

11 What are the three most important measures that you use to determine how your marketing efforts perform? (eg: Increase in sales, Increase in customers, etc.)

1 _____

2 _____

3 _____

Advertising

12 What are the three most important measures that you use to determine how your advertising efforts perform? (eg: Increase in units sold, increase in customers, etc.)

1 _____

2 _____

3 _____

Procurement Process (Purchases)

13 What are the three most important measures that you use to determine how your purchase activities perform? (eg: Purchase budget, Bulk discount %, etc.)

1 _____

2 _____

3 _____

Stock Control

14 What are the three most important measures that you use to determine how your stock activity performs. (eg: Economic Order Quantity, Products discarded due to decay, etc.)

1 _____

2 _____

3 _____

Suppliers

15 What are the three most important measures in place to monitor your suppliers? (Even if they are prescribed by franchisor) (eg: Creditors payback period, No of credit notes, etc.)

- 1 _____
- 2 _____
- 3 _____

Customer Orders/Sales

16. What are the three most important measures in place to monitor your sales activity? (eg: Cash register, EFT Slips, etc.)

- 1 _____
- 2 _____
- 3 _____

Product Preparation

17 What are the three most important measures used to monitor the quality and effectiveness of product preparation ? (eg: Lead time from order received till customer receives product, etc.)

- 1 _____
- 2 _____
- 3 _____

Delivery to customers (if applicable)

18 What are the three most important measures you use to monitor the delivery of the products to the customers?

- 1 _____
- 2 _____
- 3 _____

Deposit sales takings

19 What are the three most important measures you use to monitor the deposits of the sales takings? (eg: The amount of cash overnight in the store, etc.)

- 1 _____
- 2 _____
- 3 _____

Customers satisfaction

20 What are the three most important measures in place to monitor your customer satisfaction? (eg Number of returns, Number of complaints, etc.)

- 1 _____
- 2 _____
- 3 _____

Employees Satisfaction

21 What are the three most important measures in place to monitor your employee satisfaction?
(eg Staff Turnover, Staff Attendance, etc.)

- 1 _____
- 2 _____
- 3 _____

Compliance with rules and regulations

22 What are the three most important measures in place to monitor compliance with laws and regulations?

- 1 _____
- 2 _____
- 3 _____

Business plan and emerging strategies

23 Where do you see this outlet in 10 years from now? (Your Vision)

24 What KPA (key performance areas) and measures do you use to determine whether you are progressing towards your vision?

Key performance area	Measures used

25 How would you describe the business that you do? (Your Mission)

26 What are the main aspects that you measure to see if your daily activities are achieving the desired results?

Areas measured	Measures used

Name of owner	:	
Name of manager (if not owner)	:	
Name of Business	:	
Address of business	:	
Tel	:	
E-mail address	:	

Would you like to receive feedback on the result of the survey? Yes No

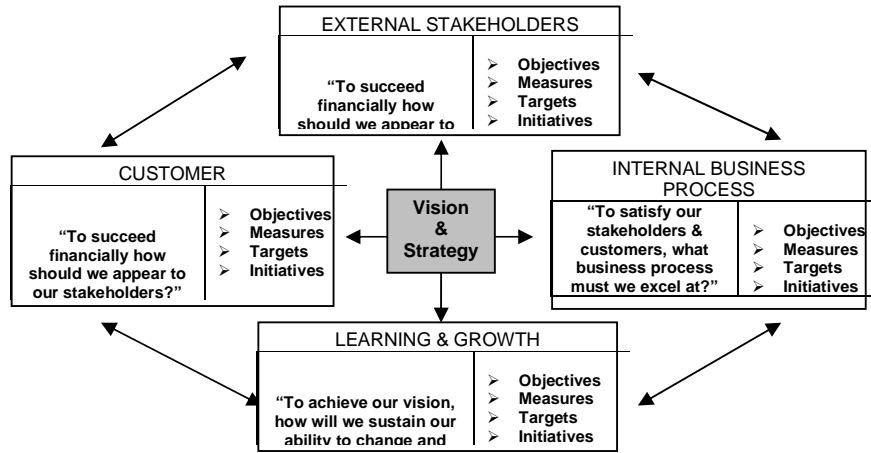
Would you like to attend a free seminar on the research topic? Yes No

Would you like further performance measure research to be conducted on your business? Yes No

If you wish to provide comments regarding this research, please use the space below.

Thank you very much for your participation!

APPENDIX D: THE BALANCED SCORECARD PERSPECTIVES



The balanced scorecard (**Source:** Kaplan & Norton, 1996:76)

APPENDIX E: QUESTIONNAIRE (FOR RESEARCH IN 2009)

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QUESTIONNAIRE

To be completed by manager or owner/manager

SECTION A: RESPONDENT AND ENTERPRISE PROFILE

Please indicated the following

1. Is your business part of a franchise? Yes No

2. Are you the owner, manager or both the owner and manager of the franchise?

Owner Manager
 (do not manage) (do not own) Both Owner & Manager

3. What year was your franchise outlet established?

4. What is your previous managerial experience related to the fast food industry?

5. To enable us to categorize your business in terms of the Small Business Amendment Act of 2003, please indicate the following:

Number of Employees

Turnover per annum (Optional)

SECTION B: SUPPORT FOR MANAGEMENT OF THE BUSINESS ACTIVITIES

6. What did you receive (as part of the franchise package) when you acquired the outlet?

Guidelines on how to write up the books (accounts)	<input type="checkbox"/>	Site (Location)	<input type="checkbox"/>
How to measure success	<input type="checkbox"/>	Staff Training	<input type="checkbox"/>
How to motivate the staff	<input type="checkbox"/>	Menu	<input type="checkbox"/>
How to monitor the stock	<input type="checkbox"/>	Marketing Plan	<input type="checkbox"/>
Food preparation requirements	<input type="checkbox"/>	Equipment	<input type="checkbox"/>
Accounting Systems	<input type="checkbox"/>	Décor	<input type="checkbox"/>

7. Who is responsible for preparing the financial statements?

Bookkeeper/Accountant	<input type="checkbox"/>	Owner	<input type="checkbox"/>
Manager	<input type="checkbox"/>	Consultant	<input type="checkbox"/>

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	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X
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SECTION C: BUSINESS CYCLES AND PERFORMANCE MEASURES							
78							
79	10 To what extent do you use performance measures in your business activities?						
80							
81	Business activities	Never	On demand	Daily	Weekly	Monthly	Annually
82	Marketing						
83	Advertising						
84	Purchases						
85	Stock Control						
86	Payment of suppliers						
87	Customer's Orders / Sales						
88	Product Preparation						
89	Delivery to customers						
90	Deposit sales takings						
91	Customer Satisfaction						
92	Employees						
93	Quality Assurance						
94	Law Compliance						
95							
96	11 Which of the following areas of organisation performance are key drivers of success						
97	for your outlet?						
98				Critical driver	Important driver	Minor driver	Not a driver
99	Customer satisfaction						
100	Product quality						
101	Product preparation						
102	Service quality						
103	Financial results						
104	Employee commitment						
105	Quality of management processes						
106	Innovation						
107	Progress towards your vision						
108	Achievement of desired results in daily activities						
109	Quality of relationship with external stakeholders						
110	Impact on society and the environment						
111	Operational performance						
112	Compliance with the laws performance						
113	Deposit sales takings						
114	Delivery to customer (if applicable)						
115	Customer orders and sales						
116	Stock activities						
117	Purchases activities						
118	Advertising activities						
119	Marketing activities						
120							

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	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X
121	12 Please rank your opinions of your organisation with regard to the following:																							
122																								
123																								
124	Management	Financial measures used by the organisation																						
125		Non-financial measures used by the organisation																						
126		Achieving the objectives and targets on a daily basis																						
127		Ability to retrieve information anytime when required																						
128		Organisation's ability to analyze weaknesses or strengths																						
129		Sufficient feedback from franchisor																						
130		Market share																						
131		Awareness of what competitors are doing																						
132		Compliance with laws and regulations requirements																						
133																								
134	Customers	Clear definition and understanding of business objectives																						
135		Customer perception on the business																						
136		Ability of organisation to monitor customer complaints																						
137		Measuring customer expectations																						
138		Number of new customer																						
139		Customer services																						
140		Customer retention																						
141	Customer delivery lead time																							
142																								
143	Employees	Alignment of employee to business vision																						
144		Ability of employees to complete work on scheduled time.																						
145		Employees understanding of operational procedures																						
146		Employee satisfaction/motivation																						
147		Existing agreed performance standards																						
148	Rewarding achievement of short term financial target																							
149																								
150	Resources	Staff accountability for use of resources																						
151		Monitoring learning and reporting capabilities																						
152		Internal communication (information sharing)																						
153																								

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	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X
154	13	In your capacity as manager or owner & manager, indicate the level of attention																						
155		you give to each of the following area:																						
156																								
157																						Highest attention	Some attention	No attention
158		Financial results																						
159		Operational performance (efficiency and effectiveness of key business processes)																						
160		Employee commitment																						
161		Customer Satisfaction																						
162		Product quality																						
163		Service quality																						
164		Innovation (i.e. success in developing new products/services)																						
165		Quality of relationships with external stakeholders (supply chain and alliances)																						
166		Impact of society and environment																						
167		Brand strength																						
168		Quality of governance and management processes																						
169																								
170	14	What type of management mechanisms do you use?																						
171																								
172		Activity based costing																				Yes	No	
173		Standard costing																				Yes	No	
174		Breakeven Analysis																				Yes	No	
175		Capital Budgeting																				Yes	No	
176		Balanced Scorecard																				Yes	No	
177		Management by Objectives																				Yes	No	
178		Performance Prism																				Yes	No	
179		Ratio Analysis																				Yes	No	
180		Six Sigma																				Yes	No	
181		Total Quality Management																				Yes	No	
182		Baldrige																				Yes	No	
183		CRM Measurement Framework																				Yes	No	
184		Leadership Driven Measurement																				Yes	No	
185		Accountability Scorecard																				Yes	No	
186		HR Scorecard																				Yes	No	

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	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X
188	15	How would you rate the quality of information as provided by your current performance																						
189		measurement system to measure the following areas																						
190																								
191		Customer service														Excellent	Good	Average	Fair	Poor	Don't know			
192		Price comparisons to competition																						
193		Number of on-time deliveries																						
194		Response times																						
195		Customer complaints																						
196		Number of products returns																						
197		Customer survey results																						
198		Service awards																						
199		Internal Operations																						
200		Cycle times																						
201		Inventory turnover																						
202		Defect rates																						
203		Resources utilization																						
204		Target met																						
205		Unit cost compared to competition																						
206		Overhead trends																						
207		Employee morale																						
208		Market share																						
209		Employee talent																						
210		Innovation																						
211		Number of new products																						
212		Systems improvements implemented																						
213		Number of patents																						
214		New technologies adopted																						
215		Financial																						
216		Cash balances																						
217		Payment of payables																						
218		Sales margins																						
219																								

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A B C D E F G H I J K L M N O P Q R S T U V W X

220 **SECTION D: BARRIERS**

221

222 16 What problems are you currently experiencing with performance measures in your

223 daily activities?

224

	N / A	Minor problems	Some problems	Major problems
225				
226				
227				
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225 Too complicated

226 Not suitable for daily activities

227 Too focused on financials

228 Difficulty measuring non-financials

229 Lack of information

230 Lack of knowledge on performance measures

231 No one to consult

232 Support more costly than expected

233 Lack of readily available support

234 Different from original promise

235

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Cover Questionnaire Theme

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APPENDIX F: PILOT QUESTIONNAIRE (FRANCHISEE)

CAPE PENINSULA UNIVERSITY OF TECHNOLOGY

RESEARCH conducted by the FACULTY OF BUSINESS

THE ROLE OF PERFORMANCE MEASURES IN THE FAST FOOD FRANCHISEE INDUSTRY TO
SUSTAIN POSITIVE GROWTH: CAPE METROPOLE - SOUTH AFRICA

Thank you for agreeing to participate in this research survey.

This questionnaire is part of a Masters research study undertaken to establish the current position of financial and non-financial performance measures used by SMME's in the effective management of franchisees in the fast food industry.

All the answers will be handled in the STRICTEST CONFIDENCE.

The information obtained in this questionnaire will only be used for academic purposes and held by Cape Peninsula University of Technology.

Should you wish to verify the authenticity of this request or have questions relating to it please contact me personally or my supervisor:

Prof. Dr. J A Watkins; e-mail: profwatkins@telkomsa.net
Cell no: 083 647 2572

Lindiwe Mabesele; e-mail: mabeselel@cput.ac.za
MTech Candidate
Phone: (021) 460 3620

INSTRUCTIONS FOR COMPLETION

1. To qualify to participate in this questionnaire, you must be:
 - a business operating as part of a franchise group.
 - an owner & manager of an outlet
 - a manager but not owner of an outlet
2. Please answer all questions from the perspective of a manager or owner & manager.
3. Should you wish for feedback from the survey, kindly provide your e-mail address below:

e-mail address: _____

QUESTIONNAIRE

To be completed by manager or owner/manager

SECTION A: RESPONDENT AND ENTERPRISE PROFILE

Please indicated the following:

- 1 Is your business part of a franchise? Yes No (X)
2. Are you the owner, manager or both the owner and manager of the franchise?
- Owner (do not manage) Manager (do not own) Both Owner & Manager
3. What year was your franchise outlet established?
4. What is your previous managerial experience related to the fast food industry? (Indicate number of years)
5. To enable us to categorize your business in terms of the Small Business Amendment Act of 2003, please indicate the following:
- Number of Employees
- Turnover per annum (Optional) (Indicate Rand Value)

SECTION B : SUPPORT FOR MANAGEMENT OF THE BUSINESS ACTIVITIES

6. What did you receive (as part of the franchise package) when you acquired the outlet? (Choose one or more options)

Guidelines on how to write up the books (accounts)	<input checked="" type="checkbox"/>	Site (Location)	<input checked="" type="checkbox"/>
How to measure success	<input type="checkbox"/>	Staff Training	<input checked="" type="checkbox"/>
How to motivate the staff	<input type="checkbox"/>	Menu	<input checked="" type="checkbox"/>
How to monitor the stock	<input checked="" type="checkbox"/>	Marketing Plan	<input type="checkbox"/>
Food preparation requirements	<input checked="" type="checkbox"/>	Equipment	<input checked="" type="checkbox"/>
Accounting Systems	<input type="checkbox"/>	Décor	<input checked="" type="checkbox"/>

7. Who is responsible for preparing the financial statements?

Bookkeeper/Accountant	<input checked="" type="checkbox"/>	Owner	<input type="checkbox"/>
Manager	<input type="checkbox"/>	Consultant	<input type="checkbox"/>

What statements and reports are generated from the financial records and how often?

8. (Choose one or more options)

	Never	On demand	Weekly	Monthly	Quarterly	Annually
Cash flow statement			<input checked="" type="checkbox"/>			
Statement of Changes in Equity				<input checked="" type="checkbox"/>		
Income Statement				<input checked="" type="checkbox"/>		
Balance sheet				<input checked="" type="checkbox"/>		
Bank reconciliation				<input checked="" type="checkbox"/>		
Analysis of cash register			<input checked="" type="checkbox"/>			
Stock variance reports			<input checked="" type="checkbox"/>			
Sales variance reports			<input checked="" type="checkbox"/>			
Debtors and Suppliers Reports			<input checked="" type="checkbox"/>			
Lead time Reports			<input checked="" type="checkbox"/>			

9 Does the franchisor prescribe (in the franchise business package) performance measures to evaluate the business performance in the following activities?

Marketing	Yes <input checked="" type="checkbox"/>	No
Advertising	Yes <input checked="" type="checkbox"/>	No
Purchases	Yes <input checked="" type="checkbox"/>	No
Stock Control	Yes <input checked="" type="checkbox"/>	No
Payment of suppliers	Yes <input checked="" type="checkbox"/>	No
Customer's Orders / Sales	Yes <input checked="" type="checkbox"/>	No
Product Preparation	Yes <input checked="" type="checkbox"/>	No
Delivery to customers	Yes <input checked="" type="checkbox"/>	No
Deposit sales takings	Yes <input checked="" type="checkbox"/>	No
Customer Satisfaction	Yes <input checked="" type="checkbox"/>	No
Employees	Yes <input checked="" type="checkbox"/>	No
Quality Assurance	Yes <input checked="" type="checkbox"/>	No
Law Compliance	Yes <input checked="" type="checkbox"/>	No

SECTION C: BUSINESS CYCLES AND PERFORMANCE MEASURES

10 To what extent do you use performance measures in your business activities?

Business activities	Never	On demand	Daily	Weekly	Monthly	Annually
Marketing				X		
Advertising	X					
Purchases				X		
Stock Control			X			
Payment of suppliers					X	
Customer's Orders / Sales			X			
Product Preparation			X			
Delivery to customers			X			
Deposit sales takings				X		
Customer Satisfaction			X			
Employees		X				
Quality Assurance		X				
Law Compliance		X				

11 Which of the following areas of organisation performance are key drivers of success for your outlet?

	Critical driver	Important driver	Minor driver	Not a driver	
Organisational performance	Customer satisfaction	X			
	Product quality	X			
	Product preparation	X			
	Service quality	X			
	Financial results	X			
	Employee commitment			X	
	Quality of management processes			X	
	Innovation			X	
	Progress towards your vision			X	
	Achievement of desired results in daily activities			X	
Operational performance	Quality of relationship with external stakeholders			X	
	Impact on society and the environment			X	
	Compliance with the laws performance			X	
	Deposit sales takings		X		
	Delivery to customer (if applicable)		X		
	Customer orders and sales		X		
	Stock activities		X		
	Purchases activities			X	
Advertising activities			X		
Marketing activities			X		

12 Please rank your opinions of your organisation with regard to the following:

		Excellent	Good	Average	Poor	Very Poor	Don't know
Management	Financial measures used by the organisation		✓				
	Non-financial measures used by the organisation			✓			
	Achieving the objectives and targets on a daily basis			✓			
	Ability to retrieve information anytime when required			✓			
	Organisation's ability to analyze weaknesses or strengths						✓
	Sufficient feedback from franchisor			✓			
	Market share						✓
	Awareness of what competitors are doing						✓
	Compliance with laws and regulations requirements			✓			
Customers	Clear definition and understanding of business objectives			✓			
	Customer perception on the business						✓
	Ability of organisation to monitor customer complaints			✓			
	Measuring customer expectations						✓
	Number of new customer						✓
	Customer services			✓			
	Customer retention						✓
	Customer delivery lead time						✓
Employees	Alignment of employee to business vision			✓			
	Ability of employees to complete work on scheduled time.			✓			
	Employees understanding of operational procedures			✓			
	Employee satisfaction/motivation						✓
	Existing agreed performance standards						✓
	Rewarding achievement of short term financial target						✓
Resources	Staff accountability for use of resources						✓
	Monitoring learning and reporting capabilities						✓
	Internal communication (information sharing)						✓

13 In your capacity as manager or owner & manager, indicate the level of attention you give to each of the following area:

	Highest attention	Some attention	No attention
Financial results	X		
Operational performance (efficiency and effectiveness of key business processes)		X	
Employee commitment			X
Customer Satisfaction	X		
Product quality	X		
Service quality	X		
Innovation (i.e. success in developing new products/services)		X	
Quality of relationships with external stakeholders (supply chain and alliances)		X	
Impact of society and environment		X	
Brand strength	X		
Quality of governance and management processes		X	

14 What type of management mechanisms do you use?

Activity based costing	Yes X	No
Standard costing	Yes X	No
Breakeven Analysis	Yes X	No
Capital Budgeting	Yes X	No
Balanced Scorecard	Yes	No X
Management by Objectives	Yes X	No
Performance Prism	Yes	No X
Ratio Analysis	Yes X	No
Six Sigma	Yes	No X
Total Quality Management	Yes X	No
Baldrige	Yes	No X
CRM Measurement Framework	Yes	No X
Leadership Driven Measurement	Yes X	No
Accountability Scorecard	Yes	No X
HR Scorecard	Yes	No X

15 How would you rate the quality of information as provided by your current performance measurement system to measure the following areas

	Excellent	Good	Average	Fair	Poor	Don't know
Customer service						
Price comparisons to competition				X		
Number of on-time deliveries						X
Response times						X
Customer complaints			X			
Number of products returns						X
Customer survey results						X
Service awards						X
Internal Operations						
Cycle times						X
Inventory turnover				X		
Defect rates						X
Resources utilization				X		
Target met			X			
Unit cost compared to competition				X		
Overhead trends				X		
Employee morale						X
Market share						X
Employee talent						X
Innovation						
Number of new products			X			
Systems improvements implemented						X
Number of patents			X			
New technologies adopted						X
Financial						
Cash balances	X					
Payment of payables	X					
Sales margins	X					

SECTION D: BARRIERS

16 What problems are you currently experiencing with performance measures in your daily activities?

	N/A	Minor problems	Some problems	Major problems
Too complicated		X		
Not suitable for daily activities			X	
Too focused on financials			X	
Difficulty measuring non-financials			X	
Lack of information			X	
Lack of knowledge on performance measures				X
No one to consult			X	
Support more costly than expected				X
Lack of readily available support			X	
Different from original promise				X

Business name:	BARCELOS PAARL
Job title of person who completed this questionnaire:	MANAGER
Contact details:	Tel: 021 872 4697
	Cell: -
	Email: -

Thank you for participating in this study

APPENDIX G: PILOT QUESTIONNAIRE (STATISTICIAN)

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QUESTIONNAIRE

To be completed by manager or owner/manager

SECTION A: RESPONDENT AND ENTERPRISE PROFILE

Please indicated the following (X)

1. Is your business part of a franchise? Yes No

2. Are you the owner, manager or both the owner and manager of the franchise?

Owner Manager
 (do not manage) (do not own) Both Owner & Manager

3. What year was your franchise outlet established?

4. What is your previous managerial experience related to the fast food industry?

5. To enable us to categorize your business in terms of the Small Business Amendment Act of 2003, please indicate the following:

Number of Employees

Turnover per annum (Optional)

SECTION B : SUPPORT FOR MANAGEMENT OF THE BUSINESS ACTIVITIES

6. What did you receive (as part of the franchise package) when you acquired the outlet?

Guidelines on how to write up the books (accounts)	<input type="checkbox"/>	Site (Location)	<input type="checkbox"/>
How to measure success	<input type="checkbox"/>	Staff Training	<input type="checkbox"/>
How to motivate the staff	<input type="checkbox"/>	Menu	<input type="checkbox"/>
How to monitor the stock	<input type="checkbox"/>	Marketing Plan	<input type="checkbox"/>
Food preparation requirements	<input type="checkbox"/>	Equipment	<input type="checkbox"/>
Accounting Systems	<input type="checkbox"/>	Décor	<input type="checkbox"/>

7. Who is responsible for preparing the financial statements?

Bookkeeper/Accountant Owner

Manager Consultant

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46 8. What statements and reports are generated from the financial r

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60 9 Does the franchisor prescribe (in the franchise business package) performance

61 measures to evaluate the business performance in the following activities?

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Van Der Merwe: Indicate that you can choose only one of the options

	Never	On demand	Weekly	Monthly	Quarterly	Annually
Cash flow statement						
Statement of Changes in Equity						
Income Statement						
Balance sheet						
Bank reconciliation						
Analysis of cash register						
Stock variance reports						
Sales variance reports						
Debtors and Suppliers Reports						
Lead time Reports						

	Yes	No
Marketing		
Advertising		
Purchases		
Stock Control		
Payment of suppliers		
Customer's Orders / Sales		
Product Preparation		
Delivery to customers		
Deposit sales takings		
Customer Satisfaction		
Employees		
Quality Assurance		
Law Compliance		

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APPENDIX H: FINAL QUESTIONNAIRE (FOR RESEARCH IN 2009)

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2009

CAPE PENINSULA UNIVERSITY OF TECHNOLOGY

RESEARCH conducted by the FACULTY OF BUSINESS

THE ROLE OF PERFORMANCE MEASURES IN THE FAST FOOD FRANCHISEE INDUSTRY TO
SUSTAIN POSITIVE GROWTH: CAPE METROPOLITAN - SOUTH AFRICA

Thank you for agreeing to participate in this research survey.

This questionnaire is part of a Masters research study undertaken to establish
the current position of financial and non-financial performance measures used by SMMEs
in the effective management of franchisees in the fast food industry.

All the answers will be handled in the STRICTEST CONFIDENCE.

The information obtained in this questionnaire will only be used
for academic purposes and held by Cape Peninsula University of Technology.

Should you wish to verify the authenticity of this request or have questions relating to it
please contact me personally or my supervisor:

Prof. Dr. J.A. Watkins; e-mail: profwatkins@telkomsa.net
Cell no: 083 647 2572

Lindiwe Mabesele; e-mail: mabeselel@cput.ac.za
MTech Candidate
Phone: (021) 460 3620

INSTRUCTIONS FOR COMPLETION

- To qualify to participate in this questionnaire, you must be:
 - a business operating as part of a franchise group.
 - an owner & manager of an outlet
 - a manager but not owner of an outlet
- Please answer all questions from the perspective of a manager or owner & manager.
- Should you wish for feedback from the survey, kindly provide your e-mail address below:

e-mail address: _____

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QUESTIONNAIRE

To be completed by manager or owner/manager

SECTION A: RESPONDENT AND ENTERPRISE PROFILE

Please indicated the following: (X)

1. Is your business part of a franchise? Yes No

2. Are you the owner, manager or both the owner and manager of the franchise?

Owner Manager Both Owner & Manager

(do not manage) (do not own)

3. What year was your franchise outlet established?

4. What is your previous managerial experience related to the fast food industry? (Indicate number of years)

5. To enable us to categorize your business in terms of the Small Business Amendment Act of 2003, please indicate the following:

Number of Employees

Turnover per annum (Optional) (Indicate Rand Value)

SECTION B: SUPPORT FOR MANAGEMENT OF THE BUSINESS ACTIVITIES

6. What did you receive (as part of the franchise package) when you acquired the outlet? (Choose one or more options)

Guidelines on how to write up the books (accounts)	<input type="checkbox"/>	Site (Location)	<input type="checkbox"/>
How to measure success	<input type="checkbox"/>	Staff Training	<input type="checkbox"/>
How to motivate the staff	<input type="checkbox"/>	Menu	<input type="checkbox"/>
How to monitor the stock	<input type="checkbox"/>	Marketing Plan	<input type="checkbox"/>
Food preparation requirements	<input type="checkbox"/>	Equipment	<input type="checkbox"/>
Accounting Systems	<input type="checkbox"/>	Décor	<input type="checkbox"/>

7. Who is responsible for preparing the financial statements?

Bookkeeper/Accountant Owner

Manager Consultant

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45																							
46	8.	What statements and reports are generated from the financial records and how often? (Choose one or more options)																					
47																							
48								Never	On demand	Weekly	Monthly	Quarterly	Annually										
49		Cash flow statement																					
50		Statement of Changes in Equity																					
51		Income Statement																					
52		Balance sheet																					
53		Bank reconciliation																					
54		Analysis of cash register																					
55		Stock variance reports																					
56		Sales variance reports																					
57		Debtors and Suppliers Reports																					
58		Lead time Reports																					
59																							
60	9	Does the franchisor prescribe (in the franchise business package) performance measures to evaluate the business performance in the following activities?																					
61																							
62																							
63		Marketing						Yes	No														
64		Advertising						Yes	No														
65		Purchases						Yes	No														
66		Stock Control						Yes	No														
67		Payment of suppliers						Yes	No														
68		Customer's Orders / Sales						Yes	No														
69		Product Preparation						Yes	No														
70		Delivery to customers						Yes	No														
71		Deposit sales takings						Yes	No														
72		Customer Satisfaction						Yes	No														
73		Employees						Yes	No														
74		Quality Assurance						Yes	No														
75		Law Compliance						Yes	No														
76																							

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A77 SECTION C: BUSINESS CYCLES AND PERFORMANCE MEASURES

77 SECTION C: BUSINESS CYCLES AND PERFORMANCE MEASURES

78

79 10 To what extent do you use performance measures in your business activities?

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Business activities	Never	On demand	Daily	Weekly	Monthly	Annually
Marketing						
Advertising						
Purchases						
Stock Control						
Payment of suppliers						
Customer's Orders / Sales						
Product Preparation						
Delivery to customers						
Deposit sales takings						
Customer Satisfaction						
Employees						
Quality Assurance						
Law Compliance						

95

96 11 Which of the following areas of organisation performance are key drivers of success for your outlet?

97

	Critical driver	Important driver	Minor driver	Not a driver
Customer satisfaction				
Product quality				
Product preparation				
Service quality				
Financial results				
Employee commitment				
Quality of management processes				
Innovation				
Progress towards your vision				
Achievement of desired results in daily activities				
Quality of relationship with external stakeholders				
Impact on society and the environment				
Compliance with the laws performance				
Deposit sales takings				
Delivery to customer (if applicable)				
Customer orders and sales				
Stock activities				
Purchases activities				
Advertising activities				
Marketing activities				

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120	12	Please rank your opinions of your organisation with regard to the following:																						
121																								
122																		Excellent	Good	Average	Poor	Very Poor	Don't know	
123		Financial measures used by the organisation																						
124		Non-financial measures used by the organisation																						
125	Management	Achieving the objectives and targets on a daily basis																						
126		Ability to retrieve information anytime when required																						
127		Organisation's ability to analyze weaknesses or strengths																						
128		Sufficient feedback from franchisor																						
129		Market share																						
130		Awareness of what competitors are doing																						
131		Compliance with laws and regulations requirements																						
132																								
133		Customers	Clear definition and understanding of business objectives																					
134			Customer perception on the business																					
135	Ability of organisation to monitor customer complaints																							
136	Measuring customer expectations																							
137	Number of new customer																							
138	Customer services																							
139	Customer retention																							
140	Customer delivery lead time																							
141																								
142	Employees	Alignment of employee to business vision																						
143		Ability of employees to complete work on scheduled time.																						
144		Employees understanding of operational procedures																						
145		Employee satisfaction/motivation																						
146		Existing agreed performance standards																						
147	Rewarding achievement of short term financial target																							
148																								
149	Resources	Staff accountability for use of resources																						
150		Monitoring learning and reporting capabilities																						
151		Internal communication (information sharing)																						
152																								
153	13	In your capacity as manager or owner & manager, indicate the level of attention																						

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152																								
153	13	In your capacity as manager or owner & manager, indicate the level of attention																						
154		you give to each of the following area:																						
155																								
156																						Highest attention	Some attention	No attention
157		Financial results																						
158		Operational performance (efficiency and effectiveness of key business processes)																						
159		Employee commitment																						
160		Customer Satisfaction																						
161		Product quality																						
162		Service quality																						
163		Innovation (i.e. success in developing new products/services)																						
164		Quality of relationships with external stakeholders (supply chain and alliances)																						
165		Impact of society and environment																						
166		Brand strength																						
167		Quality of governance and management processes																						
168																								
169	14	What type of management mechanisms do you use?																						
170																								
171		Activity based costing																			Yes	No		
172		Standard costing																			Yes	No		
173		Breakeven Analysis																			Yes	No		
174		Capital Budgeting																			Yes	No		
175		Balanced Scorecard																			Yes	No		
176		Management by Objectives																			Yes	No		
177		Performance Prism																			Yes	No		
178		Ratio Analysis																			Yes	No		
179		Six Sigma																			Yes	No		
180		Total Quality Management																			Yes	No		
181		Baldrige																			Yes	No		
182		CRM Measurement Framework																			Yes	No		
183		Leadership Driven Measurement																			Yes	No		
184		Accountability Scorecard																			Yes	No		
185		HR Scorecard																			Yes	No		

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186																								
187	15	How would you rate the quality of information as provided by your current performance																						
188		measurement system to measure the following areas																						
189																								
190																		Excellent	Good	Average	Fair	Poor	Don't know	
191		Customer service																						
192		Price comparisons to competition																						
193		Number of on-time deliveries																						
194		Response times																						
195		Customer complaints																						
196		Number of products returns																						
197		Customer survey results																						
198		Service awards																						
199																								
200		Internal Operations																						
201		Cycle times																						
202		Inventory turnover																						
203		Defect rates																						
204		Resources utilization																						
205		Target met																						
206		Unit cost compared to competition																						
207		Overhead trends																						
208		Employee morale																						
209		Market share																						
210		Employee talent																						
211																								
212		Innovation																						
213		Number of new products																						
214		Systems improvements implemented																						
215		Number of patents																						
216		New technologies adopted																						
217																								
218		Financial																						
219		Cash balances																						
220		Payment of payables																						
221		Sales margins																						
222																								

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220 **SECTION D: BARRIERS**

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222 16 What problems are you currently experiencing with performance measures in your

223 daily activities?

224

	N / A	Minor problems	Some problems	Major problems
225				
226				
227				
228				
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234				
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236				
237				
238	*****			
239	Business name:			
240	Job title of person who completed this questionnaire:			
241	Contact details:	Tel:		
242		Cell:		
243		Email:		
244				
245	Thank you for participating in this study			
246				
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1	<i>(This is optional background reading information, and not essential for the completion</i>										
2	<i>of this questionnaire)</i>										
3											
4	THEME										
5											
6	The Faculty of Business of the Cape Peninsula University of Technology has identified a research										
7	niche area: "The effective management of e-Commerce SMME's".										
8											
9	In South Africa at present, franchising is one of the business models that has spurred growth in the										
10	country's buoyant small and medium enterprises. Since March 2004, the franchising sector managed										
11	to achieve significant growth in operating franchise brands, increased turnover and job creation.										
12											
13	The achievements can be maintained through effective management to ensure continuity, growth and										
14	sustainability. All businesses, irrespective of size will be able to manage effectively if they are able										
15	to track critical aspects of their performance. Heavy reliance on financial measurement only has										
16	proven inadequate in providing SMME's with real-time management information critical to the success										
17	of the business. What is not measured, cannot be managed.										
18											
19	The researchers at Cape Peninsula University of Technology are developing a Performance										
20	Measurement Framework that can be customized and selectively implemented by small businesses.										
21	Only critical management information will be presented to the owners/manager. This will help										
22	franchisee with skills in identifying critical success factors and raise awareness with franchisor on										
23	inadequacies in the franchise package for improvement, so as to contribute to effective management										
24	of small businesses.										
25											
26	The research questionnaire on: "The role of performance measures in the fast food franchise industry"										
27	forms the basis for the development.										
28											
29	By determining which Financial and Non-financial Performance Measures are used, we will know the										
30	position of performance measurement awareness and usage.										
31											
32	This research is based on both Financial and Non-financial Performance Measures and the impact										
33	of the non-utilization of these measures.										
34											
35	The feedback on the research will be provided to the participants who indicated so once completed.										
36											
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APPENDIX I: BUSINESS CYCLES IN FAST FOOD FRANCHISEES

Business cycles:

- Marketing
- Advertising
- Procurement (purchases)
- Stock control
- Suppliers
- Customer orders/Sales
- Product preparation
- Delivery to customers
- Deposit sales takings
- Customer satisfaction
- Employees satisfaction
- Compliance with rules and regulations

APPENDIX J: DESCRIPTIVE STATISTICS FOR EACH VARIABLE

Descriptive statistics for each variable

A1	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Yes	47	92.16	47	92.16
No	4	7.84	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 36.2549
DF 1
Pr > ChiSq <.0001
Sample Size = 51

A2	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Owner	4	7.84	4	7.84
Manager	31	60.78	35	68.63
Both	16	31.37	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 21.5294
DF 2
Pr > ChiSq <.0001
Sample Size = 51

A3	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	4	7.84	4	7.84
1969	1	1.96	5	9.80
1972	1	1.96	6	11.76
1979	1	1.96	7	13.73
1980	2	3.92	9	17.65
1986	1	1.96	10	19.61
1987	2	3.92	12	23.53
1988	1	1.96	13	25.49
1989	1	1.96	14	27.45
1990	1	1.96	15	29.41
1991	2	3.92	17	33.33
1993	1	1.96	18	35.29
1994	1	1.96	19	37.25
1995	1	1.96	20	39.22
1996	2	3.92	22	43.14
1997	5	9.80	27	52.94
1998	2	3.92	29	56.86
2000	1	1.96	30	58.82
2001	3	5.88	33	64.71
2003	1	1.96	34	66.67
2004	1	1.96	35	68.63
2005	7	13.73	42	82.35
2006	3	5.88	45	88.24
2007	5	9.80	50	98.04
2008	1	1.96	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 30.8627
DF 24
Pr > ChiSq 0.1578

WARNING: The table cells have expected counts less than 5. Chi-Square may not be a valid test.
Sample Size = 51

A4	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	20	39.22	20	39.22
1	2	3.92	22	43.14
2	3	5.88	25	49.02
3	3	5.88	28	54.90
4	2	3.92	30	58.82
5	2	3.92	32	62.75
6	4	7.84	36	70.59
7	1	1.96	37	72.55
9	1	1.96	38	74.51
10	2	3.92	40	78.43
11	1	1.96	41	80.39
12	1	1.96	42	82.35
13	1	1.96	43	84.31
14	1	1.96	44	86.27
15	1	1.96	45	88.24
16	2	3.92	47	92.16
22	1	1.96	48	94.12
27	1	1.96	49	96.08
30	1	1.96	50	98.04
37	1	1.96	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 131.3529
DF 19
Pr > ChiSq <.0001

WARNING: The table cells have expected counts less than 5. Chi-Square may not be a valid test.
Sample Size = 51

A5_01	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	1	1.96	1	1.96
7	1	1.96	2	3.92
8	2	3.92	4	7.84
9	1	1.96	5	9.80
10	3	5.88	8	15.69
11	1	1.96	9	17.65
12	3	5.88	12	23.53
13	2	3.92	14	27.45
15	7	13.73	21	41.18
16	3	5.88	24	47.06
17	2	3.92	26	50.98
18	5	9.80	31	60.78
20	1	1.96	32	62.75
21	1	1.96	33	64.71
24	2	3.92	35	68.63
25	2	3.92	37	72.55
27	2	3.92	39	76.47
30	2	3.92	41	80.39
35	3	5.88	44	86.27
40	1	1.96	45	88.24
45	1	1.96	46	90.20
60	2	3.92	48	94.12
85	1	1.96	49	96.08
100	1	1.96	50	98.04
115	1	1.96	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 24.0000
DF 24
Pr > ChiSq 0.4616

WARNING: The table cells have expected counts less than 5. Chi-Square may not be a valid test.
Sample Size = 51

A5_01	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	1	1.96	1	1.96
Very Small	4	7.84	5	9.80
Small	41	80.39	46	90.20
Medium	3	5.88	49	96.08
Larger than medium	2	3.92	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 116.7451
DF 4
Pr > ChiSq <.0001

Sample Size = 51

A5_02	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	34	66.67	34	66.67
500000	1	1.96	35	68.63
1164667	1	1.96	36	70.59
1200000	1	1.96	37	72.55
1700000	1	1.96	38	74.51
1800000	1	1.96	39	76.47
2000000	3	5.88	42	82.35
3000000	2	3.92	44	86.27
4000000	1	1.96	45	88.24
4800000	1	1.96	46	90.20
5000000	1	1.96	47	92.16
5400000	1	1.96	48	94.12
6000000	1	1.96	49	96.08
8000000	1	1.96	50	98.04
17000000	1	1.96	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 296.3529
DF 14
Pr > ChiSq <.0001

WARNING: The table cells have expected counts less than 5. Chi-Square may not be a valid test.
Sample Size = 51

B6_01	Frequency	Percent	Cumulative Frequency	Cumulative Percent
No	19	37.25	19	37.25
Yes	32	62.75	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 3.3137
DF 1
Pr > ChiSq 0.0687

Sample Size = 51

B6_02	Frequency	Percent	Cumulative Frequency	Cumulative Percent
No	12	23.53	12	23.53
Yes	39	76.47	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 14.2941
DF 1
Pr > ChiSq 0.0002
Sample Size = 51

B6_03	Frequency	Percent	Cumulative Frequency	Cumulative Percent
No	12	23.53	12	23.53
Yes	39	76.47	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 14.2941
DF 1
Pr > ChiSq 0.0002
Sample Size = 51

B6_04	Frequency	Percent	Cumulative Frequency	Cumulative Percent
No	3	5.88	3	5.88
Yes	48	94.12	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 39.7059
DF 1
Pr > ChiSq <.0001
Sample Size = 51

B6_05	Frequency	Percent	Cumulative Frequency	Cumulative Percent
No	2	3.92	2	3.92
Yes	49	96.08	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 43.3137
DF 1
Pr > ChiSq <.0001
Sample Size = 51

B6_06	Frequency	Percent	Cumulative Frequency	Cumulative Percent
No	18	35.29	18	35.29
Yes	33	64.71	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 4.4118
DF 1
Pr > ChiSq 0.0357
Sample Size = 51

B6_07	Frequency	Percent	Cumulative Frequency	Cumulative Percent
No	11	21.57	11	21.57
Yes	40	78.43	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 16.4902
DF 1
Pr > ChiSq <.0001
Sample Size = 51

B6_08	Frequency	Percent	Cumulative Frequency	Cumulative Percent
No	4	7.84	4	7.84
Yes	47	92.16	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 36.2549
DF 1
Pr > ChiSq <.0001
Sample Size = 51

B6_09	Frequency	Percent	Cumulative Frequency	Cumulative Percent
No	2	3.92	2	3.92
Yes	49	96.08	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 43.3137
DF 1
Pr > ChiSq <.0001
Sample Size = 51

B6_10	Frequency	Percent	Cumulative Frequency	Cumulative Percent
No	10	19.61	10	19.61
Yes	41	80.39	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 18.8431
DF 1
Pr > ChiSq <.0001
Sample Size = 51

B6_11	Frequency	Percent	Cumulative Frequency	Cumulative Percent
No	6	11.76	6	11.76
Yes	45	88.24	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 29.8235
DF 1
Pr > ChiSq <.0001
Sample Size = 51

B6_12	Frequency	Percent	Cumulative Frequency	Cumulative Percent
No	7	13.73	7	13.73
Yes	44	86.27	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 26.8431
DF 1
Pr > ChiSq <.0001
Sample Size = 51

B7_01	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Bookkeeper / Accountant	33	64.71	33	64.71
Owner	10	19.61	43	84.31
Manager	5	9.80	48	94.12
Consultant	3	5.88	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 44.9216
DF 3
Pr > ChiSq <.0001
Sample Size = 51

B8_01	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	2	3.92	2	3.92
Never	1	1.96	3	5.88
On demand	9	17.65	12	23.53
Weekly	20	39.22	32	62.75
Monthly	13	25.49	45	88.24
Quarterly	1	1.96	46	90.20
Annually	3	5.88	49	96.08
Daily	2	3.92	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 53.9412
DF 7
Pr > ChiSq <.0001
Sample Size = 51

B8_02	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	6	11.76	6	11.76
Never	3	5.88	9	17.65
On demand	9	17.65	18	35.29
weekly	4	7.84	22	43.14
Monthly	15	29.41	37	72.55
Quarterly	6	11.76	43	84.31
Annually	7	13.73	50	98.04
Daily	1	1.96	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 20.0588
DF 7
Pr > ChiSq 0.0054
Sample Size = 51

B8_03	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	2	3.92	2	3.92
On demand	1	1.96	3	5.88
weekly	11	21.57	14	27.45
Monthly	30	58.82	44	86.27
Quarterly	2	3.92	46	90.20
Annually	4	7.84	50	98.04
Daily	1	1.96	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 92.7059
DF 6
Pr > ChiSq <.0001
Sample Size = 51

B8_04	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	4	7.84	4	7.84
Never	2	3.92	6	11.76
On demand	2	3.92	8	15.69
Weekly	9	17.65	17	33.33
Monthly	22	43.14	39	76.47
Quarterly	6	11.76	45	88.24
Annually	6	11.76	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 39.7255
DF 6
Pr > ChiSq <.0001
Sample Size = 51

B8_05	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	4	7.84	4	7.84
Never	2	3.92	6	11.76
On demand	6	11.76	12	23.53
Weekly	19	37.25	31	60.78
Monthly	18	35.29	49	96.08
Annually	1	1.96	50	98.04
Daily	1	1.96	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 50.9804
DF 6
Pr > ChiSq <.0001
Sample Size = 51

B8_06	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	4	7.84	4	7.84
Never	1	1.96	5	9.80
On demand	19	37.25	24	47.06
Weekly	16	31.37	40	78.43
Monthly	2	3.92	42	82.35
Annually	1	1.96	43	84.31
Daily	8	15.69	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 45.4902
DF 6
Pr > ChiSq <.0001
Sample Size = 51

B8_07	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Never	3	5.88	3	5.88
On demand	15	29.41	18	35.29
Weekly	22	43.14	40	78.43
Monthly	1	1.96	41	80.39
Annually	1	1.96	42	82.35
Daily	9	17.65	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 43.2353
DF 5
Pr > ChiSq <.0001
Sample Size = 51

B8_08	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Never	2	3.92	2	3.92
On demand	15	29.41	17	33.33
Weekly	19	37.25	36	70.59
Monthly	5	9.80	41	80.39
Annually	1	1.96	42	82.35
Daily	9	17.65	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 31.0000
DF 5
Pr > ChiSq <.0001
Sample Size = 51

B8_09	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	3	5.88	3	5.88
Never	3	5.88	6	11.76
On demand	4	7.84	10	19.61
Weekly	21	41.18	31	60.78
Monthly	13	25.49	44	86.27
Annually	1	1.96	45	88.24
Daily	6	11.76	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 42.4706
DF 6
Pr > ChiSq <.0001
Sample Size = 51

B8_10	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	9	17.65	9	17.65
Never	13	25.49	22	43.14
On demand	9	17.65	31	60.78
Weekly	13	25.49	44	86.27
Monthly	3	5.88	47	92.16
Annually	1	1.96	48	94.12
Daily	3	5.88	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 20.2353
DF 6
Pr > ChiSq 0.0025
Sample Size = 51

B9_01	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Yes	43	84.31	43	84.31
No	8	15.69	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 24.0196
DF 1
Pr > ChiSq <.0001
Sample Size = 51

B9_02	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Yes	38	74.51	38	74.51
No	13	25.49	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 12.2549
DF 1
Pr > ChiSq 0.0005
Sample Size = 51

B9_03	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	3	5.88	3	5.88
Yes	41	80.39	44	86.27
No	7	13.73	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 51.2941
DF 2
Pr > ChiSq <.0001
Sample Size = 51

B9_04	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Yes	45	88.24	45	88.24
No	6	11.76	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 29.8235
DF 1
Pr > ChiSq <.0001
Sample Size = 51

B9_05	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Yes	28	54.90	28	54.90
No	23	45.10	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 0.4902
DF 1
Pr > ChiSq 0.4838
Sample Size = 51

B9_06	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Yes	42	82.35	42	82.35
No	9	17.65	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 21.3529
DF 1
Pr > ChiSq <.0001
Sample Size = 51

B9_07	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	1	1.96	1	1.96
Yes	45	88.24	46	90.20
No	5	9.80	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 69.6471
DF 2
Pr > ChiSq <.0001
Sample Size = 51

B9_08	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	4	7.84	4	7.84
Yes	35	68.63	39	76.47
No	12	23.53	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 30.4706
DF 2
Pr > ChiSq <.0001
Sample Size = 51

B9_09	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	3	5.88	3	5.88
Yes	30	58.82	33	64.71
No	18	35.29	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 21.5294
DF 2
Pr > ChiSq <.0001
Sample Size = 51

B9_10	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Yes	45	88.24	45	88.24
No	6	11.76	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 29.8235
DF 1
Pr > ChiSq <.0001
Sample Size = 51

B9_11	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	1	1.96	1	1.96
Yes	36	70.59	37	72.55
No	14	27.45	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 36.8235
DF 2
Pr > ChiSq <.0001
Sample Size = 51

B9_12	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	1	1.96	1	1.96
Yes	46	90.20	47	92.16
No	4	7.84	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 74.4706
DF 2
Pr > ChiSq <.0001
Sample Size = 51

B9_13	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	2	3.92	2	3.92
Yes	41	80.39	43	84.31
No	8	15.69	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 51.8824
DF 2
Pr > ChiSq <.0001
Sample Size = 51

C10_01	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	1	1.96	1	1.96
Never	6	11.76	7	13.73
On demand	6	11.76	13	25.49
Daily	5	9.80	18	35.29
weekly	17	33.33	35	68.63
Monthly	16	31.37	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 24.6471
DF 5
Pr > ChiSq 0.0002
Sample Size = 51

C10_02	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	3	5.88	3	5.88
Never	7	13.73	10	19.61
On demand	5	9.80	15	29.41
Daily	2	3.92	17	33.33
weekly	14	27.45	31	60.78
Monthly	19	37.25	50	98.04
Quarterly	1	1.96	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 37.5294
DF 6
Pr > ChiSq <.0001
Sample Size = 51

C10_03	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Never	4	7.84	4	7.84
On demand	3	5.88	7	13.73
Daily	21	41.18	28	54.90
Weekly	21	41.18	49	96.08
Monthly	2	3.92	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 38.3137
DF 4
Pr > ChiSq <.0001
Sample Size = 51

C10_04	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Never	1	1.96	1	1.96
On demand	1	1.96	2	3.92
Daily	39	76.47	41	80.39
Weekly	9	17.65	50	98.04
Monthly	1	1.96	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 106.3529
DF 4
Pr > ChiSq <.0001
Sample Size = 51

C10_05	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Never	12	23.53	12	23.53
On demand	5	9.80	17	33.33
Daily	8	15.69	25	49.02
Weekly	9	17.65	34	66.67
Monthly	17	33.33	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 8.1176
DF 4
Pr > ChiSq 0.0874
Sample Size = 51

C10_06	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	1	1.96	1	1.96
Never	3	5.88	4	7.84
On demand	4	7.84	8	15.69
Daily	41	80.39	49	96.08
Weekly	2	3.92	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 116.7451
DF 4
Pr > ChiSq <.0001
Sample Size = 51

C10_07	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	2	3.92	2	3.92
Never	1	1.96	3	5.88
On demand	2	3.92	5	9.80
Daily	45	88.24	50	98.04
Weekly	1	1.96	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 148.5098
DF 4
Pr > ChiSq <.0001
Sample Size = 51

C10_08	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	4	7.84	4	7.84
Never	4	7.84	8	15.69
On demand	3	5.88	11	21.57
Daily	38	74.51	49	96.08
Weekly	2	3.92	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 94.9804
DF 4
Pr > ChiSq <.0001
Sample Size = 51

C10_09	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	1	1.96	1	1.96
Never	9	17.65	10	19.61
Daily	19	37.25	29	56.86
Weekly	20	39.22	49	96.08
Monthly	1	1.96	50	98.04
Quarterly	1	1.96	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 48.4118
DF 5
Pr > ChiSq <.0001
Sample Size = 51

C10_10	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	1	1.96	1	1.96
Never	2	3.92	3	5.88
On demand	3	5.88	6	11.76
Daily	40	78.43	46	90.20
Weekly	3	5.88	49	96.08
Monthly	2	3.92	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 140.4118
DF 5
Pr > ChiSq <.0001
Sample Size = 51

C10_11	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Never	14	27.45	14	27.45
On demand	15	29.41	29	56.86
Daily	16	31.37	45	88.24
Weekly	3	5.88	48	94.12
Monthly	3	5.88	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 17.1373
DF 4
Pr > ChiSq 0.0018
Sample Size = 51

C10_12	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	1	1.96	1	1.96
Never	5	9.80	6	11.76
On demand	19	37.25	25	49.02
Daily	16	31.37	41	80.39
Weekly	7	13.73	48	94.12
Monthly	3	5.88	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 31.4706
DF 5
Pr > ChiSq <.0001
Sample Size = 51

C10_13	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	1	1.96	1	1.96
Never	5	9.80	6	11.76
On demand	21	41.18	27	52.94
Daily	11	21.57	38	74.51
Weekly	5	9.80	43	84.31
Monthly	8	15.69	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 28.6471
DF 5
Pr > ChiSq <.0001
Sample Size = 51

C11_01	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Critical driver	17	33.33	17	33.33
Important driver	34	66.67	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 5.6667
DF 1
Pr > ChiSq 0.0173
Sample Size = 51

C11_02	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Critical driver	16	31.37	16	31.37
Important driver	34	66.67	50	98.04
Minor driver	1	1.96	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 32.1176
DF 2
Pr > ChiSq <.0001
Sample Size = 51

C11_03	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Critical driver	15	29.41	15	29.41
Important driver	33	64.71	48	94.12
Minor driver	3	5.88	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 26.8235
DF 2
Pr > ChiSq <.0001
Sample Size = 51

C11_04	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Critical driver	17	33.33	17	33.33
Important driver	31	60.78	48	94.12
Minor driver	3	5.88	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 23.0588
DF 2
Pr > ChiSq <.0001
Sample Size = 51

C11_05	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	1	1.96	1	1.96
Critical driver	36	70.59	37	72.55
Important driver	12	23.53	49	96.08
Minor driver	2	3.92	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 62.3333
DF 3
Pr > ChiSq <.0001
Sample Size = 51

C11_06	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	1	1.96	1	1.96
Critical driver	8	15.69	9	17.65
Important driver	13	25.49	22	43.14
Minor driver	26	50.98	48	94.12
Not a driver	3	5.88	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 39.0980
DF 4
Pr > ChiSq <.0001
Sample Size = 51

C11_07	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	1	1.96	1	1.96
Critical driver	7	13.73	8	15.69
Important driver	17	33.33	25	49.02
Minor driver	18	35.29	43	84.31
Not a driver	8	15.69	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 20.2745
DF 4
Pr > ChiSq 0.0004
Sample Size = 51

C11_08	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	2	3.92	2	3.92
Critical driver	4	7.84	6	11.76
Important driver	13	25.49	19	37.25
Minor driver	24	47.06	43	84.31
Not a driver	8	15.69	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 30.2745
DF 4
Pr > ChiSq <.0001
Sample Size = 51

C11_09	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Critical driver	6	11.76	6	11.76
Important driver	12	23.53	18	35.29
Minor driver	24	47.06	42	82.35
Not a driver	9	17.65	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 14.6471
DF 3
Pr > ChiSq 0.0021
Sample Size = 51

C11_10	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	1	1.96	1	1.96
Critical driver	7	13.73	8	15.69
Important driver	24	47.06	32	62.75
Minor driver	16	31.37	48	94.12
Not a driver	3	5.88	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 36.3529
DF 4
Pr > ChiSq <.0001
Sample Size = 51

c11_11	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	3	5.88	3	5.88
Critical driver	3	5.88	6	11.76
Important driver	6	11.76	12	23.53
Minor driver	16	31.37	28	54.90
Not a driver	23	45.10	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 31.2549
DF 4
Pr > ChiSq <.0001
Sample Size = 51

c11_12	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	3	5.88	3	5.88
Critical driver	5	9.80	8	15.69
Important driver	9	17.65	17	33.33
Minor driver	13	25.49	30	58.82
Not a driver	21	41.18	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 20.0784
DF 4
Pr > ChiSq 0.0005
Sample Size = 51

c11_13	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	2	3.92	2	3.92
Critical driver	9	17.65	11	21.57
Important driver	17	33.33	28	54.90
Minor driver	19	37.25	47	92.16
Not a driver	4	7.84	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 22.6275
DF 4
Pr > ChiSq 0.0002
Sample Size = 51

c11_14	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	1	1.96	1	1.96
Critical driver	3	5.88	4	7.84
Important driver	41	80.39	45	88.24
Minor driver	6	11.76	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 84.4510
DF 3
Pr > ChiSq <.0001
Sample Size = 51

c11_15	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	9	17.65	9	17.65
Critical driver	5	9.80	14	27.45
Important driver	35	68.63	49	96.08
Not a driver	2	3.92	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 53.7059
DF 3
Pr > ChiSq <.0001
Sample Size = 51

c11_16	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	2	3.92	2	3.92
Critical driver	14	27.45	16	31.37
Important driver	33	64.71	49	96.08
Minor driver	2	3.92	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 50.4118
DF 3
Pr > ChiSq <.0001
Sample Size = 51

c11_17	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	2	3.92	2	3.92
Critical driver	14	27.45	16	31.37
Important driver	25	49.02	41	80.39
Minor driver	10	19.61	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 21.5490
DF 3
Pr > ChiSq <.0001
Sample Size = 51

C11_18	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	2	3.92	2	3.92
Critical driver	9	17.65	11	21.57
Important driver	19	37.25	30	58.82
Minor driver	21	41.18	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 18.5686
DF 3
Pr > ChiSq 0.0003
Sample Size = 51

C11_19	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	2	3.92	2	3.92
Critical driver	5	9.80	7	13.73
Important driver	13	25.49	20	39.22
Minor driver	31	60.78	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 39.9020
DF 3
Pr > ChiSq <.0001
Sample Size = 51

C11_20	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	1	1.96	1	1.96
Critical driver	6	11.76	7	13.73
Important driver	14	27.45	21	41.18
Minor driver	30	58.82	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 37.8627
DF 3
Pr > ChiSq <.0001
Sample Size = 51

C12_01	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Excellent	14	27.45	14	27.45
Good	33	64.71	47	92.16
Average	4	7.84	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 25.5294
DF 2
Pr > ChiSq <.0001
Sample Size = 51

C12_02	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	1	1.96	1	1.96
Excellent	6	11.76	7	13.73
Good	5	9.80	12	23.53
Average	14	27.45	26	50.98
Poor	22	43.14	48	94.12
Dont know	3	5.88	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 37.3529
DF 5
Pr > ChiSq <.0001
Sample Size = 51

C12_03	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	1	1.96	1	1.96
Excellent	7	13.73	8	15.69
Good	6	11.76	14	27.45
Average	22	43.14	36	70.59
Poor	8	15.69	44	86.27
Dont know	7	13.73	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 29.3529
DF 5
Pr > ChiSq <.0001
Sample Size = 51

C12_04	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	2	3.92	2	3.92
Excellent	9	17.65	11	21.57
Good	5	9.80	16	31.37
Average	8	15.69	24	47.06
Poor	18	35.29	42	82.35
Dont know	9	17.65	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 17.1176
DF 5
Pr > ChiSq 0.0043
Sample Size = 51

C12_05	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Excellent	6	11.76	6	11.76
Good	10	19.61	16	31.37
Average	5	9.80	21	41.18
Poor	4	7.84	25	49.02
Dont know	26	50.98	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 32.6275
DF 4
Pr > ChiSq <.0001
Sample Size = 51

C12_06	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	1	1.96	1	1.96
Excellent	4	7.84	5	9.80
Good	6	11.76	11	21.57
Average	25	49.02	36	70.59
Poor	8	15.69	44	86.27
Very poor	1	1.96	45	88.24
Dont know	6	11.76	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 55.9216
DF 6
Pr > ChiSq <.0001
Sample Size = 51

C12_07	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	2	3.92	2	3.92
Excellent	5	9.80	7	13.73
Good	4	7.84	11	21.57
Average	5	9.80	16	31.37
Poor	1	1.96	17	33.33
Dont know	34	66.67	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 93.3529
DF 5
Pr > ChiSq <.0001
Sample Size = 51

C12_08	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	1	1.96	1	1.96
Excellent	6	11.76	7	13.73
Good	6	11.76	13	25.49
Average	20	39.22	33	64.71
Poor	3	5.88	36	70.59
Dont know	15	29.41	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 32.1765
DF 5
Pr > ChiSq <.0001
Sample Size = 51

C12_09	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	1	1.96	1	1.96
Excellent	11	21.57	12	23.53
Good	5	9.80	17	33.33
Average	24	47.06	41	80.39
Dont know	10	19.61	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 29.6863
DF 4
Pr > ChiSq <.0001
Sample Size = 51

C12_10	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Excellent	8	15.69	8	15.69
Good	12	23.53	20	39.22
Average	27	52.94	47	92.16
Poor	1	1.96	48	94.12
Dont know	3	5.88	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 41.8431
DF 4
Pr > ChiSq <.0001
Sample Size = 51

C12_11	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	1	1.96	1	1.96
Excellent	9	17.65	10	19.61
Good	6	11.76	16	31.37
Average	2	3.92	18	35.29
Poor	1	1.96	19	37.25
Dont know	32	62.75	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 83.9412
DF 5
Pr > ChiSq <.0001
Sample Size = 51

C12_12	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	1	1.96	1	1.96
Excellent	11	21.57	12	23.53
Good	16	31.37	28	54.90
Average	23	45.10	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 20.1373
DF 3
Pr > ChiSq 0.0002
Sample Size = 51

C12_13	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	1	1.96	1	1.96
Excellent	8	15.69	9	17.65
Good	6	11.76	15	29.41
Average	4	7.84	19	37.25
Dont know	32	62.75	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 60.8627
DF 4
Pr > ChiSq <.0001
Sample Size = 51

C12_14	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Excellent	5	9.80	5	9.80
Good	8	15.69	13	25.49
Average	4	7.84	17	33.33
Poor	1	1.96	18	35.29
Dont know	33	64.71	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 66.1569
DF 4
Pr > ChiSq <.0001
Sample Size = 51

C12_15	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Excellent	9	17.65	9	17.65
Good	21	41.18	30	58.82
Average	21	41.18	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 5.6471
DF 2
Pr > ChiSq 0.0594
Sample Size = 51

C12_16	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Excellent	7	13.73	7	13.73
Good	8	15.69	15	29.41
Average	1	1.96	16	31.37
Dont know	35	68.63	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 54.0196
DF 3
Pr > ChiSq <.0001
Sample Size = 51

C12_17	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	1	1.96	1	1.96
Excellent	4	7.84	5	9.80
Good	10	19.61	15	29.41
Average	14	27.45	29	56.86
Dont know	22	43.14	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 27.1373
DF 4
Pr > ChiSq <.0001
Sample Size = 51

C12_18	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Excellent	5	9.80	5	9.80
Good	8	15.69	13	25.49
Average	25	49.02	38	74.51
Dont know	13	25.49	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 18.2549
DF 3
Pr > ChiSq 0.0004
Sample Size = 51

C12_19	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Excellent	3	5.88	3	5.88
Good	11	21.57	14	27.45
Average	36	70.59	50	98.04
Poor	1	1.96	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 60.9216
DF 3
Pr > ChiSq <.0001
Sample Size = 51

C12_20	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Excellent	6	11.76	6	11.76
Good	9	17.65	15	29.41
Average	32	62.75	47	92.16
Poor	2	3.92	49	96.08
Dont know	2	3.92	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 61.6471
DF 4
Pr > ChiSq <.0001
Sample Size = 51

C12_21	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Excellent	5	9.80	5	9.80
Good	10	19.61	15	29.41
Average	4	7.84	19	37.25
Very poor	1	1.96	20	39.22
Dont know	31	60.78	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 57.1373
DF 4
Pr > ChiSq <.0001
Sample Size = 51

C12_22	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Excellent	5	9.80	5	9.80
Good	11	21.57	16	31.37
Average	3	5.88	19	37.25
Dont know	32	62.75	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 41.4706
DF 3
Pr > ChiSq <.0001
Sample Size = 51

C12_23	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Excellent	6	11.76	6	11.76
Good	13	25.49	19	37.25
Average	10	19.61	29	56.86
Poor	1	1.96	30	58.82
Very poor	1	1.96	31	60.78
Dont know	20	39.22	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 32.1765
DF 5
Pr > ChiSq <.0001
Sample Size = 51

C12_24	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	1	1.96	1	1.96
Excellent	6	11.76	7	13.73
Good	8	15.69	15	29.41
Average	31	60.78	46	90.20
Poor	2	3.92	48	94.12
Dont know	3	5.88	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 75.4706
DF 5
Pr > ChiSq <.0001
Sample Size = 51

C12_25	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	1	1.96	1	1.96
Excellent	3	5.88	4	7.84
Good	6	11.76	10	19.61
Average	6	11.76	16	31.37
Poor	2	3.92	18	35.29
Dont know	33	64.71	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 87.2353
DF 5
Pr > ChiSq <.0001
Sample Size = 51

C12_26	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	1	1.96	1	1.96
Excellent	6	11.76	7	13.73
Good	12	23.53	19	37.25
Average	26	50.98	45	88.24
Poor	2	3.92	47	92.16
Dont know	4	7.84	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 52.1765
DF 5
Pr > ChiSq <.0001
Sample Size = 51

C13_01	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	2	3.92	2	3.92
Highest attention	48	94.12	50	98.04
Some attention	1	1.96	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 84.8235
DF 2
Pr > ChiSq <.0001
Sample Size = 51

C13_02	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	2	3.92	2	3.92
Highest attention	33	64.71	35	68.63
Some attention	16	31.37	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 28.3529
DF 2
Pr > ChiSq <.0001
Sample Size = 51

C13_03	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	2	3.92	2	3.92
Highest attention	13	25.49	15	29.41
Some attention	10	19.61	25	49.02
No attention	26	50.98	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 23.4314
DF 3
Pr > ChiSq <.0001
Sample Size = 51

C13_04	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	2	3.92	2	3.92
Highest attention	41	80.39	43	84.31
Some attention	8	15.69	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 51.8824
DF 2
Pr > ChiSq <.0001
Sample Size = 51

C13_05	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	2	3.92	2	3.92
Highest attention	27	52.94	29	56.86
Some attention	22	43.14	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 20.5882
DF 2
Pr > ChiSq <.0001
Sample Size = 51

C13_06	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	2	3.92	2	3.92
Highest attention	29	56.86	31	60.78
Some attention	20	39.22	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 22.2353
DF 2
Pr > ChiSq <.0001
Sample Size = 51

C13_07	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	2	3.92	2	3.92
Highest attention	10	19.61	12	23.53
Some attention	17	33.33	29	56.86
No attention	22	43.14	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 17.7843
DF 3
Pr > ChiSq 0.0005
Sample Size = 51

C13_08	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	4	7.84	4	7.84
Highest attention	9	17.65	13	25.49
Some attention	15	29.41	28	54.90
No attention	23	45.10	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 15.7451
DF 3
Pr > ChiSq 0.0013
Sample Size = 51

C13_09	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	3	5.88	3	5.88
Highest attention	9	17.65	12	23.53
Some attention	13	25.49	25	49.02
No attention	26	50.98	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 22.3333
DF 3
Pr > ChiSq <.0001
Sample Size = 51

C13_10	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	5	9.80	5	9.80
Highest attention	37	72.55	42	82.35
Some attention	9	17.65	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 35.7647
DF 2
Pr > ChiSq <.0001
Sample Size = 51

C13_11	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	3	5.88	3	5.88
Highest attention	15	29.41	18	35.29
Some attention	21	41.18	39	76.47
No attention	12	23.53	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 13.2353
DF 3
Pr > ChiSq 0.0042
Sample Size = 51

C14_01	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	5	9.80	5	9.80
Yes	40	78.43	45	88.24
No	6	11.76	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 46.7059
DF 2
Pr > Chisq <.0001
Sample Size = 51

C14_02	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	6	11.76	6	11.76
Yes	38	74.51	44	86.27
No	7	13.73	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 38.9412
DF 2
Pr > Chisq <.0001
Sample Size = 51

C14_03	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	5	9.80	5	9.80
Yes	41	80.39	46	90.20
No	5	9.80	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 50.8235
DF 2
Pr > Chisq <.0001
Sample Size = 51

C14_04	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	7	13.73	7	13.73
Yes	17	33.33	24	47.06
No	27	52.94	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 11.7647
DF 2
Pr > Chisq 0.0028
Sample Size = 51

C14_05	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	6	11.76	6	11.76
Yes	6	11.76	12	23.53
No	39	76.47	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 42.7059
DF 2
Pr > Chisq <.0001
Sample Size = 51

C14_06	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	6	11.76	6	11.76
Yes	25	49.02	31	60.78
No	20	39.22	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 11.4118
DF 2
Pr > Chisq 0.0033
Sample Size = 51

C14_07	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	6	11.76	6	11.76
Yes	6	11.76	12	23.53
No	39	76.47	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 42.7059
DF 2
Pr > Chisq <.0001
Sample Size = 51

C14_08	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	7	13.73	7	13.73
Yes	40	78.43	47	92.16
No	4	7.84	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 46.9412
DF 2
Pr > Chisq <.0001
Sample Size = 51

C14_09	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	7	13.73	7	13.73
Yes	4	7.84	11	21.57
No	40	78.43	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 46.9412
DF 2
Pr > ChiSq <.0001
Sample Size = 51

C14_10	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	6	11.76	6	11.76
Yes	33	64.71	39	76.47
No	12	23.53	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 23.6471
DF 2
Pr > ChiSq <.0001
Sample Size = 51

C14_11	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	7	13.73	7	13.73
Yes	4	7.84	11	21.57
No	40	78.43	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 46.9412
DF 2
Pr > ChiSq <.0001
Sample Size = 51

C14_12	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	7	13.73	7	13.73
Yes	5	9.80	12	23.53
No	39	76.47	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 42.8235
DF 2
Pr > ChiSq <.0001
Sample Size = 51

C14_13	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	6	11.76	6	11.76
Yes	17	33.33	23	45.10
No	28	54.90	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 14.2353
DF 2
Pr > ChiSq 0.0008
Sample Size = 51

C14_14	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	6	11.76	6	11.76
Yes	9	17.65	15	29.41
No	36	70.59	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 32.1176
DF 2
Pr > ChiSq <.0001
Sample Size = 51

C14_15	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	6	11.76	6	11.76
Yes	5	9.80	11	21.57
No	40	78.43	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 46.7059
DF 2
Pr > ChiSq <.0001
Sample Size = 51

C15_01	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	3	5.88	3	5.88
Excellent	11	21.57	14	27.45
Good	8	15.69	22	43.14
Average	6	11.76	28	54.90
Poor	19	37.25	47	92.16
Very poor	3	5.88	50	98.04
Dont know	1	1.96	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 31.4902
DF 6
Pr > ChiSq <.0001
Sample Size = 51

C15_02	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	7	13.73	7	13.73
Excellent	6	11.76	13	25.49
Good	5	9.80	18	35.29
Average	3	5.88	21	41.18
Poor	2	3.92	23	45.10
Dont know	28	54.90	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 55.7059
DF 5
Pr > ChiSq <.0001
Sample Size = 51

C15_03	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	3	5.88	3	5.88
Excellent	5	9.80	8	15.69
Good	9	17.65	17	33.33
Average	5	9.80	22	43.14
Poor	4	7.84	26	50.98
Dont know	25	49.02	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 40.8824
DF 5
Pr > ChiSq <.0001
Sample Size = 51

C15_04	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	4	7.84	4	7.84
Excellent	8	15.69	12	23.53
Good	5	9.80	17	33.33
Average	9	17.65	26	50.98
Poor	19	37.25	45	88.24
Very poor	1	1.96	46	90.20
Dont know	5	9.80	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 27.6471
DF 6
Pr > ChiSq 0.0001
Sample Size = 51

C15_05	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	4	7.84	4	7.84
Excellent	6	11.76	10	19.61
Good	6	11.76	16	31.37
Average	8	15.69	24	47.06
Poor	7	13.73	31	60.78
Very poor	3	5.88	34	66.67
Dont know	17	33.33	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 17.4902
DF 6
Pr > ChiSq 0.0076
Sample Size = 51

C15_06	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	3	5.88	3	5.88
Excellent	8	15.69	11	21.57
Good	4	7.84	15	29.41
Average	5	9.80	20	39.22
Dont know	31	60.78	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 54.3922
DF 4
Pr > ChiSq <.0001
Sample Size = 51

C15_07	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	3	5.88	3	5.88
Excellent	5	9.80	8	15.69
Good	4	7.84	12	23.53
Average	5	9.80	17	33.33
Very poor	1	1.96	18	35.29
Dont know	33	64.71	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 86.0588
DF 5
Pr > ChiSq <.0001
Sample Size = 51

C15_08	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	5	9.80	5	9.80
Excellent	3	5.88	8	15.69
Good	6	11.76	14	27.45
Average	6	11.76	20	39.22
Poor	6	11.76	26	50.98
Very poor	1	1.96	27	52.94
Dont know	24	47.06	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 47.6863
DF 6
Pr > ChiSq <.0001
Sample Size = 51

C15_09	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	5	9.80	5	9.80
Excellent	6	11.76	11	21.57
Good	10	19.61	21	41.18
Average	10	19.61	31	60.78
Poor	18	35.29	49	96.08
Dont know	2	3.92	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 18.2941
DF 5
Pr > ChiSq 0.0026
Sample Size = 51

C15_10	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	5	9.80	5	9.80
Excellent	2	3.92	7	13.73
Good	4	7.84	11	21.57
Average	7	13.73	18	35.29
Poor	3	5.88	21	41.18
Very poor	1	1.96	22	43.14
Dont know	29	56.86	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 78.7059
DF 6
Pr > ChiSq <.0001
Sample Size = 51

C15_11	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	5	9.80	5	9.80
Excellent	5	9.80	10	19.61
Good	3	5.88	13	25.49
Average	6	11.76	19	37.25
Poor	8	15.69	27	52.94
Very poor	1	1.96	28	54.90
Dont know	23	45.10	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 43.5686
DF 6
Pr > ChiSq <.0001
Sample Size = 51

C15_12	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	5	9.80	5	9.80
Excellent	3	5.88	8	15.69
Good	13	25.49	21	41.18
Average	4	7.84	25	49.02
Poor	15	29.41	40	78.43
Very poor	1	1.96	41	80.39
Dont know	10	19.61	51	100.00

Chi-Square Test
for Equal Proportions

Chi-Square 23.8039
DF 6
Pr > ChiSq 0.0006
Sample Size = 51

C15_13	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	5	9.80	5	9.80
Excellent	6	11.76	11	21.57
Good	8	15.69	19	37.25
Average	6	11.76	25	49.02
Poor	21	41.18	46	90.20
Very poor	2	3.92	48	94.12
Dont know	3	5.88	51	100.00

Chi-Square Test
 for Equal Proportions
 ffffffffffffffffffffffff
 Chi-Square 33.4118
 DF 6
 Pr > ChiSq <.0001
 Sample Size = 51

C15_14	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	5	9.80	5	9.80
Excellent	4	7.84	9	17.65
Good	8	15.69	17	33.33
Average	7	13.73	24	47.06
Poor	19	37.25	43	84.31
Very poor	1	1.96	44	86.27
Dont know	7	13.73	51	100.00

Chi-Square Test
 for Equal Proportions
 ffffffffffffffffffffffff
 Chi-Square 26.5490
 DF 6
 Pr > ChiSq 0.0002
 Sample Size = 51

C15_15	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	5	9.80	5	9.80
Excellent	5	9.80	10	19.61
Good	6	11.76	16	31.37
Average	4	7.84	20	39.22
Poor	2	3.92	22	43.14
Very poor	1	1.96	23	45.10
Dont know	28	54.90	51	100.00

Chi-Square Test
 for Equal Proportions
 ffffffffffffffffffffffff
 Chi-Square 71.2941
 DF 6
 Pr > ChiSq <.0001
 Sample Size = 51

C15_16	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	5	9.80	5	9.80
Excellent	5	9.80	10	19.61
Good	5	9.80	15	29.41
Average	2	3.92	17	33.33
Poor	5	9.80	22	43.14
Dont know	29	56.86	51	100.00

Chi-Square Test
 for Equal Proportions
 ffffffffffffffffffffffff
 Chi-Square 60.1765
 DF 5
 Pr > ChiSq <.0001
 Sample Size = 51

C15_17	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	5	9.80	5	9.80
Excellent	3	5.88	8	15.69
Good	7	13.73	15	29.41
Average	2	3.92	17	33.33
Poor	3	5.88	20	39.22
Very poor	1	1.96	21	41.18
Dont know	30	58.82	51	100.00

Chi-Square Test
 for Equal Proportions
 ffffffffffffffffffffffff
 Chi-Square 85.8431
 DF 6
 Pr > ChiSq <.0001
 Sample Size = 51

C15_18	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	3	5.88	3	5.88
Excellent	3	5.88	6	11.76
Good	14	27.45	20	39.22
Average	19	37.25	39	76.47
Poor	11	21.57	50	98.04
Very poor	1	1.96	51	100.00

Chi-Square Test
 for Equal Proportions
 ffffffffffffffffffffffff
 Chi-Square 31.0000
 DF 5
 Pr > ChiSq <.0001
 Sample Size = 51

C15_19	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	3	5.88	3	5.88
Excellent	4	7.84	7	13.73
Good	11	21.57	18	35.29
Average	7	13.73	25	49.02
Poor	7	13.73	32	62.75
Very poor	1	1.96	33	64.71
Dont know	18	35.29	51	100.00

Chi-Square Test
 for Equal Proportions
 ffffffffffffffffffffffff
 Chi-Square 27.0980
 DF 6
 Pr > ChiSq 0.0001
 Sample Size = 51

C15_20	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	5	9.80	5	9.80
Excellent	3	5.88	8	15.69
Good	9	17.65	17	33.33
Average	19	37.25	36	70.59
Poor	9	17.65	45	88.24
Very poor	1	1.96	46	90.20
Dont know	5	9.80	51	100.00

Chi-Square Test
 for Equal Proportions
 ffffffffffffffffffffffff
 Chi-Square 29.0196
 DF 6
 Pr > ChiSq <.0001
 Sample Size = 51

C15_21	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	4	7.84	4	7.84
Excellent	5	9.80	9	17.65
Good	6	11.76	15	29.41
Average	7	13.73	22	43.14
Poor	5	9.80	27	52.94
Very poor	2	3.92	29	56.86
Dont know	22	43.14	51	100.00

Chi-Square Test
 for Equal Proportions
 ffffffffffffffffffffffff
 Chi-Square 36.7059
 DF 6
 Pr > ChiSq <.0001
 Sample Size = 51

C15_22	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	4	7.84	4	7.84
Excellent	29	56.86	33	64.71
Good	17	33.33	50	98.04
Average	1	1.96	51	100.00

Chi-Square Test
 for Equal Proportions
 ffffffffffffffffffffffff
 Chi-Square 38.9608
 DF 3
 Pr > ChiSq <.0001
 Sample Size = 51

C15_23	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	4	7.84	4	7.84
Excellent	28	54.90	32	62.75
Good	17	33.33	49	96.08
Average	2	3.92	51	100.00

Chi-Square Test
 for Equal Proportions
 ffffffffffffffffffffffff
 Chi-Square 34.7255
 DF 3
 Pr > ChiSq <.0001
 Sample Size = 51

C15_24	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	4	7.84	4	7.84
Excellent	27	52.94	31	60.78
Good	17	33.33	48	94.12
Average	3	5.88	51	100.00

Chi-Square Test
 for Equal Proportions
 ffffffffffffffffffffffff
 Chi-Square 30.8039
 DF 3
 Pr > ChiSq <.0001
 Sample Size = 51

D16_01	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	2	3.92	2	3.92
N/A	16	31.37	18	35.29
Minor problems	33	64.71	51	100.00

Chi-Square Test
 for Equal Proportions
 ffffffffffffffffffffffff
 Chi-Square 28.3529
 DF 2
 Pr > ChiSq <.0001
 Sample Size = 51

D16_02	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	2	3.92	2	3.92
N/A	10	19.61	12	23.53
Minor problems	8	15.69	20	39.22
Some problems	30	58.82	50	98.04
Major problems	1	1.96	51	100.00

Chi-Square Test
 for Equal Proportions
 ffffffffffffffffffffffff
 Chi-Square 53.8039
 DF 4
 Pr > ChiSq <.0001
 Sample Size = 51

D16_03	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	2	3.92	2	3.92
N/A	7	13.73	9	17.65
Minor problems	6	11.76	15	29.41
Some problems	13	25.49	28	54.90
Major problems	23	45.10	51	100.00

Chi-Square Test
 for Equal Proportions
 ffffffffffffffffffffffff
 Chi-Square 26.1569
 DF 4
 Pr > ChiSq <.0001
 Sample Size = 51

D16_04	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	1	1.96	1	1.96
N/A	8	15.69	9	17.65
Minor problems	3	5.88	12	23.53
Some problems	11	21.57	23	45.10
Major problems	28	54.90	51	100.00

Chi-Square Test
 for Equal Proportions
 ffffffffffffffffffffffff
 Chi-Square 44.9804
 DF 4
 Pr > ChiSq <.0001
 Sample Size = 51

D16_05	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	2	3.92	2	3.92
N/A	9	17.65	11	21.57
Minor problems	7	13.73	18	35.29
Some problems	19	37.25	37	72.55
Major problems	14	27.45	51	100.00

Chi-Square Test
 for Equal Proportions
 ffffffffffffffffffffffff
 Chi-Square 16.7451
 DF 4
 Pr > ChiSq 0.0022
 Sample Size = 51

D16_06	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	3	5.88	3	5.88
N/A	7	13.73	10	19.61
Minor problems	7	13.73	17	33.33
Some problems	19	37.25	36	70.59
Major problems	15	29.41	51	100.00

Chi-Square Test
 for Equal Proportions
 ffffffffffffffffffffffff
 Chi-Square 16.9412
 DF 4
 Pr > ChiSq 0.0020
 Sample Size = 51

D16_07	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	3	5.88	3	5.88
N/A	11	21.57	14	27.45
Minor problems	5	9.80	19	37.25
Some problems	24	47.06	43	84.31
Major problems	8	15.69	51	100.00

Chi-Square Test
 for Equal Proportions
 ffffffffffffffffffffffff
 Chi-Square 26.9412
 DF 4
 Pr > ChiSq <.0001
 Sample Size = 51

D16_08	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	3	5.88	3	5.88
N/A	7	13.73	10	19.61
Minor problems	5	9.80	15	29.41
Some problems	10	19.61	25	49.02
Major problems	26	50.98	51	100.00

Chi-Square Test
 for Equal Proportions
 ffffffffffffffffffffffff
 Chi-Square 33.2157
 DF 4
 Pr > ChiSq <.0001
 Sample Size = 51

D16_09	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	3	5.88	3	5.88
N/A	7	13.73	10	19.61
Minor problems	5	9.80	15	29.41
Some problems	26	50.98	41	80.39
Major problems	10	19.61	51	100.00

Chi-Square Test
for Equal Proportions
Chi-Square 33.2157
DF 4
Pr > ChiSq <.0001
Sample Size = 51

D16_10	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	3	5.88	3	5.88
N/A	7	13.73	10	19.61
Minor problems	4	7.84	14	27.45
Some problems	15	29.41	29	56.86
Major problems	22	43.14	51	100.00

Chi-Square Test
for Equal Proportions
Chi-Square 25.7647
DF 4
Pr > ChiSq <.0001
Sample Size = 51

E17	Frequency	Percent
Barcelos Paarl	1	2.00
Debonairs	1	2.00
Debonairs Athlone	1	2.00
Debonairs Pizza	1	2.00
Debonairs westgate Mall	1	2.00
Fisherman's lane	1	2.00
Freshstop Cape Gate Mall	1	2.00
Hungry Lion	3	6.00
Hungry Lion Parow Centre	1	2.00
John Dory's	1	2.00
John Dory's Somerset west	1	2.00
KFC Athlone	1	2.00
KFC Brackenfell	1	2.00
KFC khayelitsha	1	2.00
KFC westgate Mall	1	2.00
Maxi's Cape Gate	1	2.00
Mc Donald's B/Fell	1	2.00
Mcdonalds Cnr Okovango&De Bron str	1	2.00
Mcdonalds Golden Acre	1	2.00
Mcdonalds Observatory	1	2.00
Mochacho's Chicken Villages	1	2.00
Mugg&Bean Canal Walk	1	2.00
Nando's	1	2.00
Nando's Upper Long	1	2.00
Ocean Basket	1	2.00
Panarotti's Brackenfell	1	2.00
Panarotti's Tygervalley	1	2.00
Romans Pizza Cape Town	1	2.00
Romans Pizza Platteklouf Centre	1	2.00
scooter's Parow	1	2.00
Scooters Pizza Paarl	1	2.00
Scooters Pizza Tygervalley	1	2.00
Spur Apache	1	2.00
St Elmo's Belgravia	1	2.00
St Elmo's NI Value Centre	1	2.00
St Elmo's Paarl	1	2.00
Steers Promonade Shop33	1	2.00
Steers westgate Shop 51	1	2.00
Texies Seafoods	1	2.00
Tierberg Convenience Centre	1	2.00
Twinz	1	2.00
Wimpy	1	2.00
Wimpy Bellville	1	2.00
Wimpy Crawford	1	2.00
Wimpy Golden Acre	1	2.00
Wimpy Maynard Mall Wynberg	1	2.00
Wimpy Westgate Mall Shop 33	1	2.00
Yanky's	1	2.00

E18	Frequency	Percent
Branch Manager	1	2.00
Manager	29	58.00
Manager/Owner	1	2.00
Owner	6	12.00
Owner&Manager	10	20.00
Owner&manager	1	2.00
Owner/Manager	1	2.00
Snr Manager	1	2.00

E19	Frequency	Percent
021 3616819	1	2.13
021 3712203	1	2.13
021 3720489	1	2.13
021 3740797	1	2.13
021 3740826	1	2.13
021 3764284	1	2.13
021 4196191	1	2.13
021 4218761	1	2.13
021 4220772	1	2.13
021 4224209	1	2.13
021 4234537	1	2.13
021 4256413	2	4.26
021 4614817	1	2.13
021 4624940	1	2.13
021 4659433	1	2.13
021 5514889	1	2.13
021 5530681	1	2.13
021 5763988	1	2.13
021 5920925	1	2.13
021 5953311	1	2.13
021 6334896	1	2.13
021 6371999	1	2.13
021 6376567	1	2.13
021 6962007	1	2.13
021 6966785	1	2.13
021 6970101	1	2.13
021 7612355	1	2.13
021 8519858	2	4.26
021 8711800	1	2.13
021 8724697	1	2.13

021 8727193/5
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021 9141922
021 9145360
021 9305689
021 9305777
021 9392749
021 9392836
021 9486812
021 9811329
021 9814310
021 9815383
021 9823391
021 9826378
021 9827427

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Variable	N	Mean	Std Dev	Sum	Minimum	Maximum	Label
B8_01	51	3.29412	1.43240	168.00000	0	7.00000	B8_01
B8_02	51	3.37255	1.92832	174.00000	0	7.00000	B8_02
B8_03	51	3.84314	1.20619	196.00000	0	7.00000	B8_03
B8_04	51	3.66667	1.57056	187.00000	0	6.00000	B8_04
B8_05	51	3.05882	1.36252	156.00000	0	7.00000	B8_05
B8_06	51	3.07843	1.98840	157.00000	0	7.00000	B8_06
B8_07	51	3.37255	1.86506	172.00000	1.00000	7.00000	B8_07
B8_08	51	3.49020	1.83709	178.00000	1.00000	7.00000	B8_08
B8_09	51	3.41176	1.74558	174.00000	0	7.00000	B8_09
B8_10	51	2.13725	1.81129	109.00000	0	7.00000	B8_10
B9_01	51	1.15686	0.36729	59.00000	1.00000	2.00000	B9_01
B9_02	51	1.25490	0.44014	64.00000	1.00000	2.00000	B9_02
B9_03	51	1.07843	0.44014	55.00000	0	2.00000	B9_03
B9_04	51	1.11765	0.32540	57.00000	1.00000	2.00000	B9_04
B9_05	51	1.45098	0.50254	74.00000	1.00000	2.00000	B9_05
B9_06	51	1.17647	0.38501	60.00000	1.00000	2.00000	B9_06
B9_07	51	1.07843	0.33723	55.00000	0	2.00000	B9_07
B9_08	51	1.15686	0.54305	59.00000	0	2.00000	B9_08
B9_09	51	1.29412	0.57599	66.00000	0	2.00000	B9_09
B9_10	51	1.11765	0.32540	57.00000	1.00000	2.00000	B9_10
B9_11	51	1.25490	0.48345	64.00000	0	2.00000	B9_11
B9_12	51	1.05882	0.31060	54.00000	0	2.00000	B9_12
B9_13	51	1.11765	0.43114	57.00000	0	2.00000	B9_13
C10_01	51	3.54902	1.44656	181.00000	0	5.00000	C10_01
C10_02	51	3.52941	1.70121	180.00000	0	6.00000	C10_02
C10_03	51	3.27451	0.93975	167.00000	1.00000	5.00000	C10_03
C10_04	51	3.15686	0.57871	161.00000	1.00000	5.00000	C10_04
C10_05	51	3.27451	1.58844	167.00000	1.00000	5.00000	C10_05
C10_06	51	2.78431	0.70182	142.00000	0	4.00000	C10_06
C10_07	51	2.82353	0.68428	144.00000	0	4.00000	C10_07
C10_08	51	2.58824	0.98339	132.00000	0	4.00000	C10_08
C10_09	51	3.07843	1.24649	157.00000	0	6.00000	C10_09
C10_10	51	2.94118	0.78516	150.00000	0	5.00000	C10_10
C10_11	51	2.33333	1.12546	119.00000	1.00000	5.00000	C10_11
C10_12	51	2.62745	1.09473	134.00000	0	5.00000	C10_12
C10_13	51	2.74510	1.29373	140.00000	0	5.00000	C10_13
C11_01	51	1.66667	0.47610	85.00000	1.00000	2.00000	C11_01
C11_02	51	1.70588	0.50176	87.00000	1.00000	3.00000	C11_02
C11_03	51	1.76471	0.55094	90.00000	1.00000	3.00000	C11_03
C11_04	51	1.72549	0.56845	88.00000	1.00000	3.00000	C11_04
C11_05	51	1.29412	0.57599	66.00000	0	3.00000	C11_05
C11_06	51	2.43137	0.90011	124.00000	0	4.00000	C11_06
C11_07	51	2.49020	0.98737	127.00000	0	4.00000	C11_07
C11_08	51	2.62745	0.97900	134.00000	0	4.00000	C11_08
C11_09	51	2.70588	0.90098	138.00000	1.00000	4.00000	C11_09
C11_10	51	2.25490	0.84482	115.00000	0	4.00000	C11_10
C11_11	51	3.03922	1.16552	155.00000	0	4.00000	C11_11
C11_12	51	2.86275	1.23320	146.00000	0	4.00000	C11_12
C11_13	51	2.27451	0.98140	116.00000	0	4.00000	C11_13
C11_14	51	2.01961	0.50952	103.00000	0	3.00000	C11_14
C11_15	51	1.62745	0.91566	83.00000	0	4.00000	C11_15
C11_16	51	1.68627	0.61612	86.00000	0	3.00000	C11_16
C11_17	51	1.84314	0.78416	94.00000	0	3.00000	C11_17
C11_18	51	2.15686	0.85726	110.00000	0	3.00000	C11_18
C11_19	51	2.43137	0.83078	124.00000	0	3.00000	C11_19
C11_20	51	2.43137	0.78115	124.00000	0	3.00000	C11_20
C12_01	51	1.80392	0.56638	92.00000	1.00000	3.00000	C12_01
C12_02	51	3.21569	1.30098	164.00000	0	6.00000	C12_02
C12_03	51	3.11765	1.50528	159.00000	0	6.00000	C12_03
C12_04	51	3.31373	1.74917	169.00000	0	6.00000	C12_04
C12_05	51	4.17647	2.00705	213.00000	1.00000	6.00000	C12_05
C12_06	51	3.21569	1.37570	164.00000	0	6.00000	C12_06
C12_07	51	4.62745	2.06844	236.00000	0	6.00000	C12_07
C12_08	51	3.52941	1.80392	180.00000	0	6.00000	C12_08
C12_09	51	3.00000	1.72047	153.00000	0	6.00000	C12_09
C12_10	51	2.64706	1.14584	135.00000	1.00000	6.00000	C12_10
C12_11	51	4.37255	2.20872	223.00000	0	6.00000	C12_11
C12_12	51	2.19608	0.84899	112.00000	0	3.00000	C12_12
C12_13	51	4.39216	2.17328	224.00000	0	6.00000	C12_13
C12_14	51	4.60784	1.97057	235.00000	1.00000	6.00000	C12_14
C12_15	51	2.23529	0.73724	114.00000	1.00000	3.00000	C12_15
C12_16	51	4.62745	2.07808	236.00000	1.00000	6.00000	C12_16
C12_17	51	3.88235	1.96618	198.00000	0	6.00000	C12_17
C12_18	51	3.41176	1.65138	174.00000	1.00000	6.00000	C12_18
C12_19	51	2.68627	0.61612	137.00000	1.00000	4.00000	C12_19
C12_20	51	2.74510	0.99686	140.00000	1.00000	6.00000	C12_20
C12_21	51	4.47059	2.01348	228.00000	1.00000	6.00000	C12_21
C12_22	51	4.47059	2.04307	228.00000	1.00000	6.00000	C12_22
C12_23	51	3.74510	1.96818	191.00000	1.00000	6.00000	C12_23
C12_24	51	2.76471	1.15911	141.00000	0	6.00000	C12_24
C12_25	51	4.68627	1.90253	239.00000	0	6.00000	C12_25
C12_26	51	2.74510	1.26243	140.00000	0	6.00000	C12_26
C13_01	51	0.98039	0.24415	50.00000	0	2.00000	C13_01
C13_02	51	1.27451	0.53211	65.00000	0	2.00000	C13_02
C13_03	51	2.17647	0.95301	111.00000	0	3.00000	C13_03
C13_04	51	1.11765	0.43114	57.00000	0	2.00000	C13_04
C13_05	51	3.9216	0.56845	71.00000	0	2.00000	C13_05
C13_06	51	1.35294	0.55941	69.00000	0	2.00000	C13_06
C13_07	51	2.15686	0.88029	110.00000	0	3.00000	C13_07
C13_08	51	2.11765	0.97256	108.00000	0	3.00000	C13_08
C13_09	51	2.21569	0.94475	113.00000	0	3.00000	C13_09
C13_10	51	1.07843	0.52319	55.00000	0	2.00000	C13_10
C13_11	51	1.82353	0.86501	93.00000	0	3.00000	C13_11
C14_01	51	1.01961	0.46862	52.00000	0	2.00000	C14_01
C14_02	51	1.01961	0.50952	52.00000	0	2.00000	C14_02
C14_03	51	1.00000	0.44721	51.00000	0	2.00000	C14_03
C14_04	51	1.39216	0.72328	71.00000	0	2.00000	C14_04
C14_05	51	1.64706	0.68771	84.00000	0	2.00000	C14_05
C14_06	51	1.27451	0.66569	65.00000	0	2.00000	C14_06
C14_07	51	1.64706	0.68771	84.00000	0	2.00000	C14_07
C14_08	51	0.94118	0.46526	48.00000	0	2.00000	C14_08

C12_12	0.739800	0.981684	0.713753	0.981998	C12_12
C12_13	0.843616	0.981474	0.825628	0.981924	C12_13
C12_14	0.865462	0.981453	0.842511	0.981913	C12_14
C12_15	0.511478	0.981796	0.481239	0.982152	C12_15
C12_16	0.776805	0.981546	0.742958	0.981979	C12_16
C12_17	0.727361	0.981594	0.715073	0.981997	C12_17
C12_18	0.469966	0.981814	0.458909	0.982167	C12_18
C12_19	0.635754	0.981772	0.625714	0.982057	C12_19
C12_20	0.594177	0.981731	0.601837	0.982072	C12_20
C12_21	0.836932	0.981481	0.811166	0.981934	C12_21
C12_22	0.835846	0.981482	0.816917	0.981930	C12_22
C12_23	0.755541	0.981566	0.733371	0.981985	C12_23
C12_24	0.567630	0.981733	0.577836	0.982088	C12_24
C12_25	0.745740	0.981575	0.724475	0.981991	C12_25
C12_26	0.629946	0.981688	0.624128	0.982058	C12_26
C13_01	0.129859	0.981924	0.182349	0.982348	C13_01
C13_02	0.591399	0.981801	0.600898	0.982073	C13_02
C13_03	0.880929	0.981594	0.881578	0.981887	C13_03
C13_04	0.318076	0.981883	0.328149	0.982253	C13_04
C13_05	0.624109	0.981785	0.651551	0.982039	C13_05
C13_06	0.610122	0.981791	0.620704	0.982060	C13_06
C13_07	0.820996	0.981641	0.822579	0.981926	C13_07
C13_08	0.855504	0.981602	0.868836	0.981895	C13_08
C13_09	0.872887	0.981600	0.880161	0.981888	C13_09
C13_10	0.437000	0.981845	0.480626	0.982152	C13_10
C13_11	0.826432	0.981642	0.830862	0.981921	C13_11
C14_01	0.167243	0.981916	0.234714	0.982314	C14_01
C14_02	0.325840	0.981875	0.373423	0.982223	C14_02
C14_03	0.268113	0.981893	0.306554	0.982267	C14_03
C14_04	0.683332	0.981733	0.714172	0.981998	C14_04
C14_05	0.689804	0.981738	0.726508	0.981990	C14_05
C14_06	0.561008	0.981787	0.601127	0.982073	C14_06
C14_07	0.727428	0.981725	0.768163	0.981962	C14_07
C14_08	0.285649	0.981888	0.345595	0.982241	C14_08
C14_09	0.646886	0.981748	0.693431	0.982012	C14_09
C14_10	0.452574	0.981833	0.504876	0.982136	C14_10
C14_11	0.701646	0.981728	0.746683	0.981976	C14_11
C14_12	0.698374	0.981728	0.741241	0.981980	C14_12
C14_13	0.630545	0.981757	0.656691	0.982036	C14_13
C14_14	0.707062	0.981730	0.748370	0.981975	C14_14
C14_15	0.675330	0.981744	0.717412	0.981996	C14_15
C15_01	0.874139	0.981484	0.865895	0.981897	C15_01
C15_02	0.909595	0.981403	0.887192	0.981883	C15_02
C15_03	0.851144	0.981466	0.813390	0.981932	C15_03
C15_04	0.807697	0.981524	0.798630	0.981942	C15_04
C15_05	0.770763	0.981552	0.756925	0.981970	C15_05
C15_06	0.921798	0.981384	0.903573	0.981872	C15_06
C15_07	0.880147	0.981433	0.872689	0.981893	C15_07
C15_08	0.747975	0.981582	0.739928	0.981981	C15_08
C15_09	0.787129	0.981556	0.787060	0.981950	C15_09
C15_10	0.817208	0.981504	0.797907	0.981942	C15_10
C15_11	0.826547	0.981494	0.793859	0.981945	C15_11
C15_12	0.721096	0.981598	0.697471	0.982009	C15_12
C15_13	0.843385	0.981497	0.838498	0.981915	C15_13
C15_14	0.700479	0.981617	0.670937	0.982027	C15_14
C15_15	0.939441	0.981363	0.923690	0.981859	C15_15
C15_16	0.862631	0.981455	0.821119	0.981927	C15_16
C15_17	0.928184	0.981377	0.917387	0.981863	C15_17
C15_18	0.657836	0.981683	0.672824	0.982025	C15_18
C15_19	0.850080	0.981468	0.846027	0.981910	C15_19
C15_20	0.478235	0.981801	0.463345	0.982164	C15_20
C15_21	0.898517	0.981412	0.893087	0.981879	C15_21
C15_22	0.367001	0.981855	0.410453	0.982199	C15_22
C15_23	0.300349	0.981876	0.343642	0.982242	C15_23
C15_24	0.189942	0.981917	0.240610	0.982310	C15_24
D16_01	0.654561	0.981776	0.658036	0.982035	D16_01
D16_02	0.760379	0.981653	0.758803	0.981968	D16_02
D16_03	0.765002	0.981605	0.770119	0.981961	D16_03
D16_04	0.773253	0.981604	0.778002	0.981956	D16_04
D16_05	0.866503	0.981549	0.862917	0.981899	D16_05
D16_06	0.731513	0.981616	0.742099	0.981979	D16_06
D16_07	0.779112	0.981604	0.770260	0.981961	D16_07
D16_08	0.755191	0.981600	0.761703	0.981966	D16_08
D16_09	0.714260	0.981649	0.722772	0.981992	D16_09
D16_10	0.728847	0.981622	0.723474	0.981992	D16_10

APPENDIX K: THE T-TEST PROCEDURE STATISTICS

The TTEST Procedure Statistics											
Variable	A3	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum	
Maximum	B8_01	Before 2000	24	3.0286	3.5417	4.0548	0.9444	1.2151	1.7045	0.248	1
6	B8_01	2000 and after	22	2.7139	3.3636	4.0133	1.1274	1.4653	2.094	0.3124	2
7	B8_01	Diff (1-2)		-0.619	0.178	0.9754	1.1096	1.3404	1.6931	0.3956	
	Variable	Method	T-Tests		Variations	DF	t Value	Pr > t			
	B8_01	Pooled	Equal		44	0.45	0.45	0.6549			
	B8_01	Satterthwaite	Unequal		41	0.45	0.45	0.6577			
	Variable	Method	Equality of Variances		Num DF	Den DF	F Value	Pr > F			
	B8_01	Folded	F		21	23	1.45	0.3821			
Maximum	B8_02	Before 2000	23	3.4639	4.1739	4.8839	1.2698	1.6418	2.3238	0.3423	1
7	B8_02	2000 and after	20	2.7666	3.4	4.0334	1.0292	1.3534	1.9767	0.3026	1
6	B8_02	Diff (1-2)		-0.162	0.7739	1.7094	1.2466	1.515	1.9319	0.4632	
	Variable	Method	T-Tests		Variations	DF	t Value	Pr > t			
	B8_02	Pooled	Equal		41	1.67	1.67	0.1024			
	B8_02	Satterthwaite	Unequal		40.9	1.69	1.69	0.0979			
	Variable	Method	Equality of Variances		Num DF	Den DF	F Value	Pr > F			
	B8_02	Folded	F		22	19	1.47	0.3984			
Maximum	B8_03	Before 2000	24	3.7774	4.2083	4.6393	0.7932	1.0206	1.4317	0.2083	3
7	B8_03	2000 and after	22	3.4401	3.8182	4.1963	0.6561	0.8528	1.2187	0.1818	2
6	B8_03	Diff (1-2)		-0.172	0.3902	0.9519	0.7817	0.9443	1.1928	0.2787	
	Variable	Method	T-Tests		Variations	DF	t Value	Pr > t			
	B8_03	Pooled	Equal		44	1.40	1.40	0.1686			
	B8_03	Satterthwaite	Unequal		43.6	1.41	1.41	0.1653			
	Variable	Method	Equality of Variances		Num DF	Den DF	F Value	Pr > F			
	B8_03	Folded	F		23	21	1.43	0.4115			
Maximum	B8_04	Before 2000	22	3.6072	4.1818	4.7564	0.9971	1.296	1.8521	0.2763	1
6	B8_04	2000 and after	22	3.3647	3.8636	4.3626	0.8657	1.1253	1.6081	0.2399	1
6	B8_04	Diff (1-2)		-0.42	0.3182	1.0567	1.0007	1.2136	1.5426	0.3659	
	Variable	Method	T-Tests		Variations	DF	t Value	Pr > t			
	B8_04	Pooled	Equal		42	0.87	0.87	0.3895			
	B8_04	Satterthwaite	Unequal		41.2	0.87	0.87	0.3896			
	Variable	Method	Equality of Variances		Num DF	Den DF	F Value	Pr > F			
	B8_04	Folded	F		21	21	1.33	0.5230			
Maximum	B8_05	Before 2000	23	2.7101	3.1739	3.6377	0.8294	1.0725	1.5179	0.2236	1
6	B8_05	2000 and after	22	2.9664	3.4545	3.9427	0.847	1.101	1.5733	0.2347	2
7	B8_05	Diff (1-2)		-0.934	-0.281	0.3728	0.8977	1.0865	1.3766	0.324	
	Variable	Method	T-Tests		Variations	DF	t Value	Pr > t			
	B8_05	Pooled	Equal		43	-0.87	-0.87	0.3912			
	B8_05	Satterthwaite	Unequal		42.8	-0.87	-0.87	0.3915			
	Variable	Method	Equality of Variances		Num DF	Den DF	F Value	Pr > F			
	B8_05	Folded	F		21	22	1.05	0.9017			
Maximum	B8_06	Before 2000	23	2.3056	3.087	3.8683	1.3974	1.8069	2.5574	0.3768	1
7	B8_06	2000 and after	22	2.7651	3.6364	4.5076	1.5118	1.9651	2.8082	0.419	2
7	B8_06	Diff (1-2)		-1.684	-0.549	0.5847	1.5581	1.8858	2.3893	0.5624	
	Variable	Method	T-Tests		Variations	DF	t Value	Pr > t			
	B8_06	Pooled	Equal		43	-0.98	-0.98	0.3341			
	B8_06	Satterthwaite	Unequal		42.3	-0.98	-0.98	0.3351			
	Variable	Method	Equality of Variances		Num DF	Den DF	F Value	Pr > F			
	B8_06	Folded	F		21	22	1.18	0.6981			
Maximum	B8_07	Before 2000	25	2.5321	3.32	4.1079	1.4904	1.9088	2.6554	0.3818	1
7	B8_07	2000 and after	22	2.6054	3.5	4.3946	1.5524	2.0178	2.8835	0.4302	2
7	B8_07	Diff (1-2)		-1.334	-0.18	0.9742	1.626	1.9604	2.4692	0.5731	

			Variable	Method	T-Tests		DF	t Value	Pr > t			
			B8_07	Pooled	Variances	DF	45	-0.31	0.7549			
			B8_07	Satterthwaite	Unequal	DF	43.5	-0.31	0.7558			
			Variable	Method	Equality of Variances		F Value	Pr > F				
			B8_07	Folded	Num DF	Den DF	21	24	1.12	0.7874		
Maximum	Variable	A3	N	Lower CL	Mean	Upper CL	Lower CL	Std Dev	Std Dev	Upper CL	Std Err	Minimum
7	B8_08	Before 2000	25	2.667	3.44	4.213	1.4622	1.8726	2.6051	0.3745	1	
7	B8_08	2000 and after	22	2.7078	3.5909	4.4741	1.5324	1.9919	2.8465	0.4247	2	
	B8_08	Diff (1-2)		-1.287	-0.151	0.9849	1.6001	1.9292	2.4298	0.5639		
			Variable	Method	T-Tests		DF	t Value	Pr > t			
			B8_08	Pooled	Variances	DF	45	-0.27	0.7902			
			B8_08	Satterthwaite	Unequal	DF	43.4	-0.27	0.7911			
			Variable	Method	Equality of Variances		F Value	Pr > F				
			B8_08	Folded	Num DF	Den DF	21	24	1.13	0.7652		
Maximum	Variable	A3	N	Lower CL	Mean	Upper CL	Lower CL	Std Dev	Std Dev	Upper CL	Std Err	Minimum
7	B8_09	Before 2000	23	2.9308	3.6522	4.3735	1.2901	1.6681	2.361	0.3478	1	
7	B8_09	2000 and after	22	2.9314	3.6364	4.3413	1.2233	1.59	2.2722	0.339	1	
	B8_09	Diff (1-2)		-0.965	0.0158	0.9964	1.3471	1.6304	2.0658	0.4862		
			Variable	Method	T-Tests		DF	t Value	Pr > t			
			B8_09	Pooled	Variances	DF	43	0.03	0.9742			
			B8_09	Satterthwaite	Unequal	DF	43	0.03	0.9742			
			Variable	Method	Equality of Variances		F Value	Pr > F				
			B8_09	Folded	Num DF	Den DF	22	21	1.10	0.8288		
Maximum	Variable	A3	N	Lower CL	Mean	Upper CL	Lower CL	Std Dev	Std Dev	Upper CL	Std Err	Minimum
7	B8_10	Before 2000	20	2.0159	2.9	3.7841	1.4366	1.889	2.7591	0.4224	1	
7	B8_10	2000 and after	20	1.6025	2.3	2.9975	1.1334	1.4903	2.1767	0.3332	1	
	B8_10	Diff (1-2)		-0.489	0.6	1.6892	1.3905	1.7014	2.1927	0.538		
			Variable	Method	T-Tests		DF	t Value	Pr > t			
			B8_10	Pooled	Variances	DF	38	1.12	0.2718			
			B8_10	Satterthwaite	Unequal	DF	36	1.12	0.2722			
			Variable	Method	Equality of Variances		F Value	Pr > F				
			B8_10	Folded	Num DF	Den DF	19	19	1.61	0.3100		
Maximum	Variable	A3	N	Lower CL	Mean	Upper CL	Lower CL	Std Dev	Std Dev	Upper CL	Std Err	Minimum
2	B9_01	Before 2000	25	1.0908	1.28	1.4692	0.3578	0.4583	0.6375	0.0917	1	
2	B9_01	2000 and after	22	0.9509	1.0455	1.14	0.164	0.2132	0.3047	0.0455	1	
	B9_01	Diff (1-2)		0.0197	0.2345	0.4494	0.3027	0.365	0.4597	0.1067		
			Variable	Method	T-Tests		DF	t Value	Pr > t			
			B9_01	Pooled	Variances	DF	45	2.20	0.0331			
			B9_01	Satterthwaite	Unequal	DF	34.8	2.29	0.0280			
			Variable	Method	Equality of Variances		F Value	Pr > F				
			B9_01	Folded	Num DF	Den DF	24	21	4.62	0.0008		
Maximum	Variable	A3	N	Lower CL	Mean	Upper CL	Lower CL	Std Dev	Std Dev	Upper CL	Std Err	Minimum
2	B9_02	Before 2000	25	1.1235	1.32	1.5165	0.3717	0.4761	0.6623	0.0952	1	
2	B9_02	2000 and after	22	1.0068	1.1818	1.3568	0.3037	0.3948	0.5642	0.0842	1	
	B9_02	Diff (1-2)		-0.121	0.1382	0.3973	0.365	0.44	0.5542	0.1286		
			Variable	Method	T-Tests		DF	t Value	Pr > t			
			B9_02	Pooled	Variances	DF	45	1.07	0.2884			
			B9_02	Satterthwaite	Unequal	DF	44.9	1.09	0.2827			
			Variable	Method	Equality of Variances		F Value	Pr > F				
			B9_02	Folded	Num DF	Den DF	24	21	1.45	0.3891		
Maximum	Variable	A3	N	Lower CL	Mean	Upper CL	Lower CL	Std Dev	Std Dev	Upper CL	Std Err	Minimum
2	B9_03	Before 2000	22	1.0371	1.2273	1.4175	0.33	0.4289	0.613	0.0914	1	
2	B9_03	2000 and after	22	0.9604	1.0909	1.2214	0.2264	0.2942	0.4205	0.0627	1	
	B9_03	Diff (1-2)		-0.087	0.1364	0.3602	0.3033	0.3678	0.4675	0.1109		
			Variable	Method	T-Tests		DF	t Value	Pr > t			
			B9_03	Pooled	Variances	DF	42	1.23	0.2257			
			B9_03	Satterthwaite	Unequal	DF	37.2	1.23	0.2266			
			Variable	Method	Equality of Variances		F Value	Pr > F				
			B9_03	Folded	Num DF	Den DF	21	21	2.13	0.0915		

Variable	A3	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum
Maximum	B9_04	25	1.0056	1.16	1.3144	0.2922	0.3742	0.5205	0.0748	1
2	B9_04	22	0.9604	1.0909	1.2214	0.2264	0.2942	0.4205	0.0627	1
2	B9_04		-0.131	0.0691	0.2688	0.2814	0.3392	0.4273	0.0992	
	Variable	Method			T-Tests		DF	t Value	Pr > t	
	B9_04	Pooled			Equal		45	0.70	0.4895	
	B9_04	Satterthwaite			Unequal		44.5	0.71	0.4829	
	Variable	Method			Equality of Variances		F Value	Pr > F		
	B9_04	Folded	F	Num DF	Den DF	24	21	1.62	0.2695	
Variable	A3	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum
Maximum	B9_05	25	1.3509	1.56	1.7691	0.3956	0.5066	0.7048	0.1013	1
2	B9_05	22	1.1453	1.3636	1.5819	0.3788	0.4924	0.7036	0.105	1
2	B9_05		-0.098	0.1964	0.4908	0.4147	0.5	0.6298	0.1462	
	Variable	Method			T-Tests		DF	t Value	Pr > t	
	B9_05	Pooled			Equal		45	1.34	0.1859	
	B9_05	Satterthwaite			Unequal		44.5	1.35	0.1851	
	Variable	Method			Equality of Variances		F Value	Pr > F		
	B9_05	Folded	F	Num DF	Den DF	24	21	1.06	0.9013	
Variable	A3	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum
Maximum	B9_06	25	1.0056	1.16	1.3144	0.2922	0.3742	0.5205	0.0748	1
2	B9_06	22	1.0068	1.1818	1.3568	0.3037	0.3948	0.5642	0.0842	1
2	B9_06		-0.248	-0.022	0.2042	0.3184	0.3839	0.4836	0.1122	
	Variable	Method			T-Tests		DF	t Value	Pr > t	
	B9_06	Pooled			Equal		45	-0.19	0.8467	
	B9_06	Satterthwaite			Unequal		43.5	-0.19	0.8473	
	Variable	Method			Equality of Variances		F Value	Pr > F		
	B9_06	Folded	F	Num DF	Den DF	21	24	1.11	0.7944	
Variable	A3	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum
Maximum	B9_07	24	0.9823	1.125	1.2677	0.2626	0.3378	0.4739	0.069	1
2	B9_07	22	0.9604	1.0909	1.2214	0.2264	0.2942	0.4205	0.0627	1
2	B9_07		-0.155	0.0341	0.2231	0.2631	0.3178	0.4014	0.0938	
	Variable	Method			T-Tests		DF	t Value	Pr > t	
	B9_07	Pooled			Equal		44	0.36	0.7180	
	B9_07	Satterthwaite			Unequal		43.9	0.37	0.7164	
	Variable	Method			Equality of Variances		F Value	Pr > F		
	B9_07	Folded	F	Num DF	Den DF	23	21	1.32	0.5280	
Variable	A3	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum
Maximum	B9_08	24	1.0332	1.2083	1.3835	0.3224	0.4149	0.5819	0.0847	1
2	B9_08	20	1.08	1.3	1.52	0.3576	0.4702	0.6867	0.1051	1
2	B9_08		-0.361	-0.092	0.1776	0.3634	0.4407	0.5602	0.1334	
	Variable	Method			T-Tests		DF	t Value	Pr > t	
	B9_08	Pooled			Equal		42	-0.69	0.4959	
	B9_08	Satterthwaite			Unequal		38.3	-0.68	0.5012	
	Variable	Method			Equality of Variances		F Value	Pr > F		
	B9_08	Folded	F	Num DF	Den DF	19	23	1.28	0.5621	
Variable	A3	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum
Maximum	B9_09	25	1.1235	1.32	1.5165	0.3717	0.4761	0.6623	0.0952	1
2	B9_09	20	1.2111	1.45	1.6889	0.3882	0.5104	0.7455	0.1141	1
2	B9_09		-0.427	-0.13	0.1674	0.4061	0.4916	0.6228	0.1475	
	Variable	Method			T-Tests		DF	t Value	Pr > t	
	B9_09	Pooled			Equal		43	-0.88	0.3829	
	B9_09	Satterthwaite			Unequal		39.5	-0.87	0.3871	
	Variable	Method			Equality of Variances		F Value	Pr > F		
	B9_09	Folded	F	Num DF	Den DF	19	24	1.15	0.7380	
Variable	A3	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum
Maximum	B9_10	25	0.9831	1.12	1.2569	0.259	0.3317	0.4614	0.0663	1
2	B9_10	22	0.9806	1.1364	1.2921	0.2702	0.3513	0.502	0.0749	1
2	B9_10		-0.217	-0.016	0.1844	0.2828	0.3409	0.4294	0.0997	

					T-Tests					
			Variable	Method	Variances		DF	t Value	Pr > t	
			B9_10	Pooled	Equal	Unequal	45	-0.16	0.8703	
			Satterthwaite							
					Equality of Variances					
			Variable	Method	Num DF	Den DF	F Value	Pr > F		
			B9_10	Folded F	21	24	1.12	0.7808		
Variable	A3	N	Lower CL	Mean	Upper CL	Lower CL	Std Dev	Upper CL	Std Err	Minimum
Maximum										
	B9_11	25	1.0908	1.28	1.4692	0.3578	0.4583	0.6375	0.0917	1
2	B9_11	22	1.0706	1.2727	1.4748	0.3507	0.4558	0.6514	0.0972	1
2	B9_11		-0.262	0.0073	0.2764	0.3792	0.4571	0.5758	0.1336	
			Variable	Method	Variances		DF	t Value	Pr > t	
			B9_11	Pooled	Equal	Unequal	45	0.05	0.9568	
			Satterthwaite							
					Equality of Variances					
			Variable	Method	Num DF	Den DF	F Value	Pr > F		
			B9_11	Folded F	24	21	1.01	0.9878		
Variable	A3	N	Lower CL	Mean	Upper CL	Lower CL	Std Dev	Upper CL	Std Err	Minimum
Maximum										
	B9_12	24	0.9823	1.125	1.2677	0.2626	0.3378	0.4739	0.069	1
2	B9_12	22	0.9509	1.0455	1.14	0.164	0.2132	0.3047	0.0455	1
2	B9_12		-0.09	0.0795	0.2492	0.2361	0.2852	0.3603	0.0842	
			Variable	Method	Variances		DF	t Value	Pr > t	
			B9_12	Pooled	Equal	Unequal	44	0.94	0.3499	
			Satterthwaite							
					Equality of Variances					
			Variable	Method	Num DF	Den DF	F Value	Pr > F		
			B9_12	Folded F	23	21	2.51	0.0378		
Variable	A3	N	Lower CL	Mean	Upper CL	Lower CL	Std Dev	Upper CL	Std Err	Minimum
Maximum										
	B9_13	24	1.0956	1.2917	1.4877	0.3609	0.4643	0.6513	0.0948	1
2	B9_13	22	0.9509	1.0455	1.14	0.164	0.2132	0.3047	0.0455	1
2	B9_13		0.0281	0.2462	0.4643	0.3035	0.3666	0.4631	0.1082	
			Variable	Method	Variances		DF	t Value	Pr > t	
			B9_13	Pooled	Equal	Unequal	44	2.28	0.0278	
			Satterthwaite							
					Equality of Variances					
			Variable	Method	Num DF	Den DF	F Value	Pr > F		
			B9_13	Folded F	23	21	4.74	0.0007		
Variable	A3	N	Lower CL	Mean	Upper CL	Lower CL	Std Dev	Upper CL	Std Err	Minimum
Maximum										
	C10_01	24	2.4256	3.0417	3.6577	1.1339	1.459	2.0466	0.2978	1
5	C10_01	22	3.7356	4.1818	4.6281	0.7743	1.0065	1.4383	0.2146	2
5	C10_01		-1.892	-1.14	-0.389	1.0459	1.2634	1.5959	0.3729	
			Variable	Method	Variances		DF	t Value	Pr > t	
			C10_01	Pooled	Equal	Unequal	44	-3.06	0.0038	
			Satterthwaite							
					Equality of Variances					
			Variable	Method	Num DF	Den DF	F Value	Pr > F		
			C10_01	Folded F	23	21	2.10	0.0919		
Variable	A3	N	Lower CL	Mean	Upper CL	Lower CL	Std Dev	Upper CL	Std Err	Minimum
Maximum										
	C10_02	22	2.583	3.3636	4.1442	1.3545	1.7606	2.516	0.3754	1
6	C10_02	22	3.6374	4.1364	4.6353	0.8657	1.1253	1.6081	0.2399	1
5	C10_02		-1.672	-0.773	0.1263	1.2182	1.4775	1.8779	0.4455	
			Variable	Method	Variances		DF	t Value	Pr > t	
			C10_02	Pooled	Equal	Unequal	42	-1.73	0.0901	
			Satterthwaite							
					Equality of Variances					
			Variable	Method	Num DF	Den DF	F Value	Pr > F		
			C10_02	Folded F	21	21	2.45	0.0461		
Variable	A3	N	Lower CL	Mean	Upper CL	Lower CL	Std Dev	Upper CL	Std Err	Minimum
Maximum										
	C10_03	25	2.6517	3.08	3.5083	0.8102	1.0376	1.4435	0.2075	1
5	C10_03	22	3.0742	3.4545	3.8349	0.66	0.8579	1.2259	0.1829	1
5	C10_03		-0.939	-0.375	0.1895	0.7946	0.9579	1.2066	0.28	
			Variable	Method	Variances		DF	t Value	Pr > t	
			C10_03	Pooled	Equal	Unequal	45	-1.34	0.1878	
			Satterthwaite							
					Equality of Variances					
			Variable	Method	Num DF	Den DF	F Value	Pr > F		
			C10_03	Folded F	24	21	1.46	0.3818		

Variable	A3	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum
Maximum										
5	C10_04	25	2.7901	3.08	3.3699	0.5484	0.7024	0.9771	0.1405	1
4	C10_04	22	3.0068	3.1818	3.3568	0.3037	0.3948	0.5642	0.0842	3
	C10_04		-0.443	-0.102	0.2394	0.4807	0.5795	0.7299	0.1694	
			T-Tests							
Variable	Method	Variations	DF	t Value	Pr > t					
C10_04	Pooled	Equal	45	-0.60	0.5508					
C10_04	Satterthwaite	Unequal	38.6	-0.62	0.5378					
			Equality of Variances							
Variable	Method	Num DF	Den DF	F Value	Pr > F					
C10_04	Folded	24	21	3.17	0.0097					
Variable	A3	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum
Maximum										
5	C10_05	25	2.3924	3	3.6076	1.1493	1.472	2.0477	0.2944	1
5	C10_05	22	2.7994	3.5455	4.2915	1.2945	1.6826	2.4046	0.3587	1
	C10_05		-1.472	-0.545	0.3811	1.3053	1.5738	1.9822	0.4601	
			T-Tests							
Variable	Method	Variations	DF	t Value	Pr > t					
C10_05	Pooled	Equal	45	-1.19	0.2420					
C10_05	Satterthwaite	Unequal	42.1	-1.18	0.2464					
			Equality of Variances							
Variable	Method	Num DF	Den DF	F Value	Pr > F					
C10_05	Folded	21	24	1.31	0.5245					
Variable	A3	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum
Maximum										
4	C10_06	24	2.6484	2.875	3.1016	0.4171	0.5367	0.7529	0.1096	1
4	C10_06	22	2.6152	2.8636	3.112	0.431	0.5602	0.8006	0.1194	1
	C10_06		-0.315	0.0114	0.3374	0.4537	0.5481	0.6923	0.1618	
			T-Tests							
Variable	Method	Variations	DF	t Value	Pr > t					
C10_06	Pooled	Equal	44	0.07	0.9443					
C10_06	Satterthwaite	Unequal	43.2	0.07	0.9444					
			Equality of Variances							
Variable	Method	Num DF	Den DF	F Value	Pr > F					
C10_06	Folded	21	23	1.09	0.8373					
Variable	A3	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum
Maximum										
4	C10_07	23	2.6905	2.913	3.1356	0.398	0.5146	0.7284	0.1073	1
3	C10_07	22	2.86	2.9545	3.0491	0.164	0.2132	0.3047	0.0455	2
	C10_07		-0.28	-0.042	0.1973	0.3281	0.3971	0.5031	0.1184	
			T-Tests							
Variable	Method	Variations	DF	t Value	Pr > t					
C10_07	Pooled	Equal	43	-0.35	0.7277					
C10_07	Satterthwaite	Unequal	29.6	-0.36	0.7243					
			Equality of Variances							
Variable	Method	Num DF	Den DF	F Value	Pr > F					
C10_07	Folded	22	21	5.83	0.0001					
Variable	A3	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum
Maximum										
4	C10_08	23	2.4644	2.7826	3.1008	0.5691	0.7359	1.0415	0.1534	1
4	C10_08	20	2.7656	2.95	3.1344	0.2997	0.394	0.5755	0.0881	2
	C10_08		-0.539	-0.167	0.2044	0.4954	0.6021	0.7678	0.1841	
			T-Tests							
Variable	Method	Variations	DF	t Value	Pr > t					
C10_08	Pooled	Equal	41	-0.91	0.3685					
C10_08	Satterthwaite	Unequal	34.6	-0.95	0.3507					
			Equality of Variances							
Variable	Method	Num DF	Den DF	F Value	Pr > F					
C10_08	Folded	22	19	3.49	0.0079					
Variable	A3	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum
Maximum										
5	C10_09	24	2.6188	3.0833	3.5479	0.855	1.1001	1.5431	0.2246	1
6	C10_09	22	2.7056	3.2727	3.8399	0.9842	1.2792	1.8281	0.2727	1
	C10_09		-0.897	-0.189	0.5179	0.9843	1.1889	1.5019	0.3509	
			T-Tests							
Variable	Method	Variations	DF	t Value	Pr > t					
C10_09	Pooled	Equal	44	-0.54	0.5921					
C10_09	Satterthwaite	Unequal	41.6	-0.54	0.5947					
			Equality of Variances							
Variable	Method	Num DF	Den DF	F Value	Pr > F					
C10_09	Folded	21	23	1.35	0.4804					
Variable	A3	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum
Maximum										
5	C10_10	25	2.693	3.04	3.387	0.6564	0.8406	1.1695	0.1681	1
4	C10_10	21	2.7259	2.9524	3.1789	0.3807	0.4976	0.7186	0.1086	1
	C10_10		-0.333	0.0876	0.5086	0.5842	0.7057	0.8914	0.2089	

		Variable	Method			T-Tests		DF	t Value	Pr > t		
		C10_10	Pooled			Variations	Equal	44	0.42	0.6769		
		C10_10	Satterthwaite			Unequal	Unequal	39.9	0.44	0.6639		
		Equality of Variances										
		Variable	Method			Num DF	Den DF	F Value	Pr > F			
		C10_10	Folded F			24	20	2.85	0.0202			
Variable	A3	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum		
Maximum	C10_11	25	1.8106	2.28	2.7494	0.888	1.1372	1.5821	0.2274	1		
5	C10_11	22	1.8418	2.3636	2.8855	0.9055	1.177	1.682	0.2509	1		
5	C10_11		-0.764	-0.084	0.597	0.9588	1.156	1.456	0.3379			
		Variable	Method			T-Tests		DF	t Value	Pr > t		
		C10_11	Pooled			Variations	Equal	45	-0.25	0.8056		
		C10_11	Satterthwaite			Unequal	Unequal	43.8	-0.25	0.8061		
		Equality of Variances										
		Variable	Method			Num DF	Den DF	F Value	Pr > F			
		C10_11	Folded F			21	24	1.07	0.8648			
Variable	A3	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum		
Maximum	C10_12	24	2.0448	2.4167	2.7885	0.6844	0.8805	1.2352	0.1797	1		
4	C10_12	22	2.3285	2.8636	3.3988	0.9286	1.2069	1.7248	0.2573	1		
5	C10_12		-1.071	-0.447	0.1771	0.8685	1.0491	1.3252	0.3096			
		Variable	Method			T-Tests		DF	t Value	Pr > t		
		C10_12	Pooled			Variations	Equal	44	-1.44	0.1560		
		C10_12	Satterthwaite			Unequal	Unequal	38.2	-1.42	0.1626		
		Equality of Variances										
		Variable	Method			Num DF	Den DF	F Value	Pr > F			
		C10_12	Folded F			21	23	1.88	0.1437			
Variable	A3	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum		
Maximum	C10_13	24	2.0286	2.5417	3.0548	0.9444	1.2151	1.7045	0.248	1		
5	C10_13	22	2.4573	3.0455	3.6336	1.0206	1.3266	1.8957	0.2828	2		
5	C10_13		-1.259	-0.504	0.2514	1.051	1.2695	1.6036	0.3747			
		Variable	Method			T-Tests		DF	t Value	Pr > t		
		C10_13	Pooled			Variations	Equal	44	-1.34	0.1857		
		C10_13	Satterthwaite			Unequal	Unequal	42.7	-1.34	0.1876		
		Equality of Variances										
		Variable	Method			Num DF	Den DF	F Value	Pr > F			
		C10_13	Folded F			21	23	1.19	0.6793			
Variable	A3	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum		
Maximum	C11_01	25	1.5308	1.72	1.9092	0.3578	0.4583	0.6375	0.0917	1		
2	C11_01	22	1.4181	1.6364	1.8547	0.3788	0.4924	0.7036	0.105	1		
2	C11_01		-0.196	0.0836	0.363	0.3936	0.4745	0.5976	0.1387			
		Variable	Method			T-Tests		DF	t Value	Pr > t		
		C11_01	Pooled			Variations	Equal	45	0.60	0.5495		
		C11_01	Satterthwaite			Unequal	Unequal	43.2	0.60	0.5515		
		Equality of Variances										
		Variable	Method			Num DF	Den DF	F Value	Pr > F			
		C11_01	Folded F			21	24	1.15	0.7294			
Variable	A3	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum		
Maximum	C11_02	25	1.4964	1.72	1.9436	0.4229	0.5416	0.7535	0.1083	1		
3	C11_02	22	1.5252	1.7273	1.9294	0.3507	0.4558	0.6514	0.0972	1		
2	C11_02		-0.304	-0.007	0.2891	0.4175	0.5034	0.634	0.1472			
		Variable	Method			T-Tests		DF	t Value	Pr > t		
		C11_02	Pooled			Variations	Equal	45	-0.05	0.9608		
		C11_02	Satterthwaite			Unequal	Unequal	44.9	-0.05	0.9604		
		Equality of Variances										
		Variable	Method			Num DF	Den DF	F Value	Pr > F			
		C11_02	Folded F			24	21	1.41	0.4281			
Variable	A3	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum		
Maximum	C11_03	25	1.5617	1.8	2.0383	0.4508	0.5774	0.8032	0.1155	1		
3	C11_03	22	1.5384	1.7727	2.007	0.4065	0.5284	0.7551	0.1127	1		
3	C11_03		-0.3	0.0273	0.3541	0.4604	0.5551	0.6991	0.1623			
		Variable	Method			T-Tests		DF	t Value	Pr > t		
		C11_03	Pooled			Variations	Equal	45	0.17	0.8673		
		C11_03	Satterthwaite			Unequal	Unequal	44.9	0.17	0.8665		
		Equality of Variances										
		Variable	Method			Num DF	Den DF	F Value	Pr > F			
		C11_03	Folded F			24	21	1.19	0.6862			

Variable	A3	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum
Maximum	C11_04	25	1.4667	1.72	1.9733	0.4792	0.6137	0.8538	0.1227	1
3	C11_04	22	1.5384	1.7727	2.007	0.4065	0.5284	0.7551	0.1127	1
3	C11_04		-0.392	-0.053	0.2861	0.4773	0.5755	0.7248	0.1682	
	Variable C11_04	Method Pooled			T-Tests Variances Equal	DF 45	t Value -0.31	Pr > t 0.7554		
		Satterthwaite			Unequal	45	-0.32	0.7531		
Equality of Variances										
	Variable C11_04	Method Folded	F	Num DF 24	Den DF 21	F Value 1.35	Pr > F 0.4917			
Variable	A3	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum
Maximum	C11_05	25	1.0908	1.28	1.4692	0.3578	0.4583	0.6375	0.0917	1
2	C11_05	21	0.9927	1.2857	1.5787	0.4924	0.6437	0.9295	0.1405	1
3	C11_05		-0.334	-0.006	0.3226	0.4556	0.5503	0.6952	0.1629	
	Variable C11_05	Method Pooled			T-Tests Variances Equal	DF 44	t Value -0.04	Pr > t 0.9722		
		Satterthwaite			Unequal	35.3	-0.03	0.9730		
Equality of Variances										
	Variable C11_05	Method Folded	F	Num DF 20	Den DF 24	F Value 1.97	Pr > F 0.1134			
Variable	A3	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum
Maximum	C11_06	25	2.1201	2.48	2.8399	0.6807	0.8718	1.2128	0.1744	1
4	C11_06	21	2.2822	2.619	2.9559	0.5662	0.74	1.0686	0.1615	1
4	C11_06		-0.625	-0.139	0.3469	0.6743	0.8145	1.0289	0.2411	
	Variable C11_06	Method Pooled			T-Tests Variances Equal	DF 44	t Value -0.58	Pr > t 0.5671		
		Satterthwaite			Unequal	44	-0.59	0.5615		
Equality of Variances										
	Variable C11_06	Method Folded	F	Num DF 24	Den DF 20	F Value 1.39	Pr > F 0.4603			
Variable	A3	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum
Maximum	C11_07	25	2.0434	2.44	2.8366	0.7503	0.9609	1.3368	0.1922	1
4	C11_07	21	2.3572	2.7619	3.1666	0.6802	0.8891	1.2839	0.194	1
4	C11_07		-0.876	-0.322	0.2323	0.769	0.9289	1.1734	0.275	
	Variable C11_07	Method Pooled			T-Tests Variances Equal	DF 44	t Value -1.17	Pr > t 0.2480		
		Satterthwaite			Unequal	43.6	-1.18	0.2449		
Equality of Variances										
	Variable C11_07	Method Folded	F	Num DF 24	Den DF 20	F Value 1.17	Pr > F 0.7304			
Variable	A3	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum
Maximum	C11_08	24	2.233	2.5833	2.9337	0.6449	0.8297	1.1639	0.1694	1
4	C11_08	21	2.6474	3	3.3526	0.5926	0.7746	1.1186	0.169	1
4	C11_08		-0.901	-0.417	0.0682	0.6647	0.8045	1.0194	0.2404	
	Variable C11_08	Method Pooled			T-Tests Variances Equal	DF 43	t Value -1.73	Pr > t 0.0902		
		Satterthwaite			Unequal	42.8	-1.74	0.0888		
Equality of Variances										
	Variable C11_08	Method Folded	F	Num DF 23	Den DF 20	F Value 1.15	Pr > F 0.7615			
Variable	A3	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum
Maximum	C11_09	25	2.2655	2.64	3.0145	0.7085	0.9074	1.2623	0.1815	1
4	C11_09	22	2.5243	2.9091	3.2939	0.6677	0.8679	1.2403	0.185	1
4	C11_09		-0.793	-0.269	0.2544	0.7375	0.8892	1.1199	0.2599	
	Variable C11_09	Method Pooled			T-Tests Variances Equal	DF 45	t Value -1.04	Pr > t 0.3061		
		Satterthwaite			Unequal	44.7	-1.04	0.3047		
Equality of Variances										
	Variable C11_09	Method Folded	F	Num DF 24	Den DF 21	F Value 1.09	Pr > F 0.8426			
Variable	A3	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum
Maximum	C11_10	25	1.863	2.2	2.537	0.6375	0.8165	1.1359	0.1633	1
4	C11_10	21	2.1826	2.5238	2.865	0.5735	0.7496	1.0825	0.1636	1
4	C11_10		-0.793	-0.324	0.1456	0.6514	0.7868	0.9939	0.2329	

		Variable	Method	T-Tests		DF	t Value	Pr > t				
		C11_10	Pooled	Equal	Unequal	44	-1.39	0.1714				
		C11_10	Satterthwaite	Equal	Unequal	43.6	-1.40	0.1683				
				Equality of Variances		Num DF	Den DF	F Value	Pr > F			
		C11_10	Folded F	24	20	24	20	1.19	0.7036			
Variable	A3	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum		
Maximum	C11_11	24	2.6719	3.0833	3.4947	0.7572	0.9743	1.3667	0.1989	1		
4	C11_11	20	3.1439	3.5	3.8561	0.5786	0.7609	1.1113	0.1701	1		
4	C11_11		-0.957	-0.417	0.1236	0.729	0.8842	1.1238	0.2677			
				T-Tests		DF	t Value	Pr > t				
		C11_11	Pooled	Equal	Unequal	42	-1.56	0.1271				
		C11_11	Satterthwaite	Equal	Unequal	41.9	-1.59	0.1189				
				Equality of Variances		Num DF	Den DF	F Value	Pr > F			
		C11_11	Folded F	23	19	23	19	1.64	0.2773			
Variable	A3	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum		
Maximum	C11_12	24	2.3902	2.8333	3.2765	0.8157	1.0495	1.4722	0.2142	1		
4	C11_12	20	2.9869	3.4	3.8131	0.6712	0.8826	1.2891	0.1974	1		
4	C11_12		-1.164	-0.567	0.0306	0.806	0.9775	1.2424	0.296			
				T-Tests		DF	t Value	Pr > t				
		C11_12	Pooled	Equal	Unequal	42	-1.91	0.0624				
		C11_12	Satterthwaite	Equal	Unequal	42	-1.95	0.0584				
				Equality of Variances		Num DF	Den DF	F Value	Pr > F			
		C11_12	Folded F	23	19	23	19	1.41	0.4468			
Variable	A3	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum		
Maximum	C11_13	24	2.0053	2.4167	2.8281	0.7572	0.9743	1.3667	0.1989	1		
4	C11_13	21	2.0596	2.4286	2.7976	0.6202	0.8106	1.1706	0.1769	1		
4	C11_13		-0.555	-0.012	0.5316	0.7452	0.9019	1.1427	0.2695			
				T-Tests		DF	t Value	Pr > t				
		C11_13	Pooled	Equal	Unequal	43	-0.04	0.9650				
		C11_13	Satterthwaite	Equal	Unequal	42.9	-0.04	0.9645				
				Equality of Variances		Num DF	Den DF	F Value	Pr > F			
		C11_13	Folded F	23	20	23	20	1.44	0.4095			
Variable	A3	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum		
Maximum	C11_14	25	2.0315	2.2	2.3685	0.3188	0.4082	0.5679	0.0816	2		
3	C11_14	21	1.7061	1.9048	2.1034	0.3339	0.4364	0.6302	0.0952	1		
3	C11_14		0.0439	0.2952	0.5466	0.3488	0.4213	0.5322	0.1247			
				T-Tests		DF	t Value	Pr > t				
		C11_14	Pooled	Equal	Unequal	44	2.37	0.0224				
		C11_14	Satterthwaite	Equal	Unequal	41.5	2.35	0.0234				
				Equality of Variances		Num DF	Den DF	F Value	Pr > F			
		C11_14	Folded F	20	24	20	24	1.14	0.7475			
Variable	A3	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum		
Maximum	C11_15	21	1.6203	1.9048	2.1892	0.4781	0.6249	0.9024	0.1364	1		
4	C11_15	18	1.8767	2.1111	2.3455	0.3537	0.4714	0.7067	0.1111	2		
4	C11_15		-0.571	-0.206	0.1579	0.4562	0.5596	0.724	0.1798			
				T-Tests		DF	t Value	Pr > t				
		C11_15	Pooled	Equal	Unequal	37	-1.15	0.2584				
		C11_15	Satterthwaite	Equal	Unequal	36.5	-1.17	0.2484				
				Equality of Variances		Num DF	Den DF	F Value	Pr > F			
		C11_15	Folded F	20	17	20	17	1.76	0.2448			
Variable	A3	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum		
Maximum	C11_16	24	1.4933	1.75	2.0067	0.4725	0.6079	0.8528	0.1241	1		
3	C11_16	21	1.6939	1.8571	2.0204	0.2743	0.3586	0.5178	0.0782	1		
2	C11_16		-0.413	-0.107	0.1986	0.4192	0.5074	0.6429	0.1516			
				T-Tests		DF	t Value	Pr > t				
		C11_16	Pooled	Equal	Unequal	43	-0.71	0.4836				
		C11_16	Satterthwaite	Equal	Unequal	38	-0.73	0.4697				
				Equality of Variances		Num DF	Den DF	F Value	Pr > F			
		C11_16	Folded F	23	20	23	20	2.87	0.0201			

Variable	A3	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum
Maximum 3 3	c11_17 Before 2000 c11_17 2000 and after c11_17 Diff (1-2)	24 21	1.5892 1.7792	1.9167 2.0476	2.2441 2.316	0.6028 0.4511	0.7755 0.5896	1.0879 0.8514	0.1583 0.1287	1 1
			-0.55	-0.131	0.288	0.5744	0.6953	0.8809	0.2077	
					T-Tests Variances Equal		DF 43	t Value -0.63	Pr > t 0.5318	
					Unequal		42.2	-0.64	0.5244	
					Equality of Variances		F Value 1.73	Pr > F 0.2195		
Variable	A3	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum
Maximum 3 3	c11_18 Before 2000 c11_18 2000 and after c11_18 Diff (1-2)	25 20	1.9185 2.0815	2.24 2.4	2.5615 2.7185	0.6082 0.5176	0.7789 0.6806	1.0836 0.994	0.1558 0.1522	1 1
			-0.606	-0.16	0.2859	0.609	0.7371	0.9339	0.2211	
					T-Tests Variances Equal		DF 43	t Value -0.72	Pr > t 0.4732	
					Unequal		42.6	-0.73	0.4665	
					Equality of Variances		F Value 1.31	Pr > F 0.5530		
Variable	A3	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum
Maximum 3 3	c11_19 Before 2000 c11_19 2000 and after c11_19 Diff (1-2)	24 21	2.2216 2.2822	2.5 2.619	2.7784 2.9559	0.5125 0.5662	0.6594 0.74	0.925 1.0686	0.1346 0.1615	1 1
			-0.54	-0.119	0.3016	0.5767	0.698	0.8844	0.2086	
					T-Tests Variances Equal		DF 43	t Value -0.57	Pr > t 0.5711	
					Unequal		40.5	-0.57	0.5743	
					Equality of Variances		F Value 1.26	Pr > F 0.5903		
Variable	A3	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum
Maximum 3 3	c11_20 Before 2000 c11_20 2000 and after c11_20 Diff (1-2)	25 21	2.1714 2.2822	2.44 2.619	2.7086 2.9559	0.508 0.5662	0.6506 0.74	0.9051 1.0686	0.1301 0.1615	1 1
			-0.592	-0.179	0.2342	0.5735	0.6927	0.875	0.205	
					T-Tests Variances Equal		DF 44	t Value -0.87	Pr > t 0.3873	
					Unequal		40.3	-0.86	0.3931	
					Equality of Variances		F Value 1.29	Pr > F 0.5426		
Variable	A3	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum
Maximum 3 3	c12_01 Before 2000 c12_01 2000 and after c12_01 Diff (1-2)	25 22	1.5617 1.5384	1.8 1.7727	2.0383 2.007	0.4508 0.4065	0.5774 0.5284	0.8032 0.7551	0.1155 0.1127	1 1
			-0.3	0.0273	0.3541	0.4604	0.5551	0.6991	0.1623	
					T-Tests Variances Equal		DF 45	t Value 0.17	Pr > t 0.8673	
					Unequal		44.9	0.17	0.8665	
					Equality of Variances		F Value 1.19	Pr > F 0.6862		
Variable	A3	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum
Maximum 6 4	c12_02 Before 2000 c12_02 2000 and after c12_02 Diff (1-2)	24 22	2.6114 2.899	3.2083 3.3182	3.8052 3.7374	1.0986 0.7274	1.4136 0.9455	1.9829 1.3512	0.2885 0.2016	1 1
			-0.831	-0.11	0.6117	1.0041	1.2129	1.5322	0.358	
					T-Tests Variances Equal		DF 44	t Value -0.31	Pr > t 0.7604	
					Unequal		40.4	-0.31	0.7566	
					Equality of Variances		F Value 2.24	Pr > F 0.0685		
Variable	A3	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum
Maximum 6 6	c12_03 Before 2000 c12_03 2000 and after c12_03 Diff (1-2)	25 21	2.3695	3	3.6305	1.1927	1.5275	2.125	0.3055	1
			2.9258	3.4762	4.0266	0.925	1.2091	1.746	0.2638	1
			-1.307	-0.476	0.3541	1.1522	1.3918	1.7582	0.412	

		Variable	Method	T-Tests		DF	t Value	Pr > t			
		C12_03	Pooled	Variances	Equal	44	-1.16	0.2540			
		C12_03	Satterthwaite	Unequal	Unequal	43.9	-1.18	0.2445			
		Variable	Method	Equality of Variances		F Value	Pr > F				
		C12_03	Folded	Num DF	Den DF	24	20	1.60	0.2917		
Maximum	Variable	A3	N	Lower CL	Mean	Upper CL	Lower CL	Std Dev	Upper CL	Std Err	Minimum
	C12_04	Before 2000	24	2.5793	3.3333	4.0873	1.3878	1.7856	2.5048	0.3645	1
	C12_04	2000 and after	21	3.3681	3.9524	4.5367	0.982	1.2836	1.8536	0.2801	1
	C12_04	Diff (1-2)		-1.566	-0.619	0.3284	1.299	1.5722	1.992	0.4698	
		Variable	Method	T-Tests		DF	t Value	Pr > t			
		C12_04	Pooled	Variances	Equal	43	-1.32	0.1946			
		C12_04	Satterthwaite	Unequal	Unequal	41.5	-1.35	0.1854			
		Variable	Method	Equality of Variances		F Value	Pr > F				
		C12_04	Folded	Num DF	Den DF	23	20	1.94	0.1403		
Maximum	Variable	A3	N	Lower CL	Mean	Upper CL	Lower CL	Std Dev	Upper CL	Std Err	Minimum
	C12_05	Before 2000	25	2.8314	3.68	4.5286	1.6053	2.0559	2.8601	0.4112	1
	C12_05	2000 and after	22	4.276	5	5.724	1.2563	1.633	2.3337	0.3482	1
	C12_05	Diff (1-2)		-2.421	-1.32	-0.219	1.5514	1.8705	2.3559	0.5468	
		Variable	Method	T-Tests		DF	t Value	Pr > t			
		C12_05	Pooled	Variances	Equal	45	-2.41	0.0199			
		C12_05	Satterthwaite	Unequal	Unequal	44.6	-2.45	0.0183			
		Variable	Method	Equality of Variances		F Value	Pr > F				
		C12_05	Folded	Num DF	Den DF	24	21	1.59	0.2899		
Maximum	Variable	A3	N	Lower CL	Mean	Upper CL	Lower CL	Std Dev	Upper CL	Std Err	Minimum
	C12_06	Before 2000	24	2.5238	3.125	3.7262	1.1066	1.4238	1.9972	0.2906	1
	C12_06	2000 and after	22	2.9858	3.5455	4.1051	0.9711	1.2622	1.8037	0.2691	1
	C12_06	Diff (1-2)		-1.223	-0.42	0.3821	1.1168	1.3491	1.7041	0.3982	
		Variable	Method	T-Tests		DF	t Value	Pr > t			
		C12_06	Pooled	Variances	Equal	44	-1.06	0.2968			
		C12_06	Satterthwaite	Unequal	Unequal	44	-1.06	0.2942			
		Variable	Method	Equality of Variances		F Value	Pr > F				
		C12_06	Folded	Num DF	Den DF	23	21	1.27	0.5823		
Maximum	Variable	A3	N	Lower CL	Mean	Upper CL	Lower CL	Std Dev	Upper CL	Std Err	Minimum
	C12_07	Before 2000	23	3.8111	4.6522	5.4932	1.5042	1.9449	2.7527	0.4055	1
	C12_07	2000 and after	22	4.5336	5.2727	6.0119	1.2826	1.6671	2.3824	0.3554	1
	C12_07	Diff (1-2)		-1.712	-0.621	0.4707	1.4992	1.8145	2.2991	0.5411	
		Variable	Method	T-Tests		DF	t Value	Pr > t			
		C12_07	Pooled	Variances	Equal	43	-1.15	0.2578			
		C12_07	Satterthwaite	Unequal	Unequal	42.5	-1.15	0.2563			
		Variable	Method	Equality of Variances		F Value	Pr > F				
		C12_07	Folded	Num DF	Den DF	22	21	1.36	0.4835		
Maximum	Variable	A3	N	Lower CL	Mean	Upper CL	Lower CL	Std Dev	Upper CL	Std Err	Minimum
	C12_08	Before 2000	25	2.7963	3.56	4.3237	1.4447	1.8502	2.5739	0.37	1
	C12_08	2000 and after	21	3.2258	3.9524	4.6789	1.2211	1.5961	2.3049	0.3483	1
	C12_08	Diff (1-2)		-1.43	-0.392	0.6452	1.4399	1.7393	2.1971	0.5149	
		Variable	Method	T-Tests		DF	t Value	Pr > t			
		C12_08	Pooled	Variances	Equal	44	-0.76	0.4501			
		C12_08	Satterthwaite	Unequal	Unequal	44	-0.77	0.4442			
		Variable	Method	Equality of Variances		F Value	Pr > F				
		C12_08	Folded	Num DF	Den DF	24	20	1.34	0.5061		
Maximum	Variable	A3	N	Lower CL	Mean	Upper CL	Lower CL	Std Dev	Upper CL	Std Err	Minimum
	C12_09	Before 2000	25	2.503	3.28	4.057	1.4698	1.8824	2.6187	0.3765	1
	C12_09	2000 and after	21	2.453	3.0952	3.7374	1.0794	1.4108	2.0374	0.3079	1
	C12_09	Diff (1-2)		-0.82	0.1848	1.1897	1.3945	1.6845	2.1278	0.4986	
		Variable	Method	T-Tests		DF	t Value	Pr > t			
		C12_09	Pooled	Variances	Equal	44	0.37	0.7128			
		C12_09	Satterthwaite	Unequal	Unequal	43.5	0.38	0.7059			
		Variable	Method	Equality of Variances		F Value	Pr > F				
		C12_09	Folded	Num DF	Den DF	24	20	1.78	0.1941		

Variable	A3	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum
Maximum 6	c12_10	25	2.0001	2.56	3.1199	1.0592	1.3565	1.8871	0.2713	1
6	c12_10	22	2.4695	2.8636	3.2577	0.6838	0.8888	1.2702	0.1895	1
6	c12_10		-0.988	-0.304	0.3805	0.9637	1.1619	1.4634	0.3397	
					T-Tests Variable c12_10 Method Pooled Satterthwaite		DF 45	t Value -0.89	Pr > t 0.3761	
					Equality of Variances Variable c12_10		Num DF 24	Den DF 21	F Value 2.33	Pr > F 0.0544
Variable	A3	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum
Maximum 6	c12_11	24	3.0895	4.0417	4.9939	1.7526	2.255	3.1633	0.4603	1
6	c12_11	22	4.4663	5.2273	5.9883	1.3205	1.7164	2.4528	0.3659	1
6	c12_11		-2.385	-1.186	0.0136	1.6689	2.016	2.5466	0.595	
					T-Tests Variable c12_11 Method Pooled Satterthwaite		DF 44	t Value -1.99	Pr > t 0.0525	
					Equality of Variances Variable c12_11		Num DF 23	Den DF 21	F Value 1.73	Pr > F 0.2130
Variable	A3	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum
Maximum 3	c12_12	24	1.8452	2.1667	2.4882	0.5918	0.7614	1.068	0.1554	1
3	c12_12	22	2.1271	2.4545	2.782	0.5682	0.7385	1.0554	0.1575	1
3	c12_12		-0.734	-0.288	0.1586	0.6214	0.7506	0.9481	0.2215	
					T-Tests Variable c12_12 Method Pooled Satterthwaite		DF 44	t Value -1.30	Pr > t 0.2006	
					Equality of Variances Variable c12_12		Num DF 23	Den DF 21	F Value 1.06	Pr > F 0.8930
Variable	A3	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum
Maximum 6	c12_13	24	3.3369	4.2083	5.0798	1.604	2.0637	2.8949	0.4213	1
6	c12_13	22	4.3883	5.1818	5.9754	1.377	1.7898	2.5578	0.3816	1
6	c12_13		-2.126	-0.973	0.1793	1.6043	1.9378	2.4479	0.572	
					T-Tests Variable c12_13 Method Pooled Satterthwaite		DF 44	t Value -1.70	Pr > t 0.0958	
					Equality of Variances Variable c12_13		Num DF 23	Den DF 21	F Value 1.33	Pr > F 0.5152
Variable	A3	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum
Maximum 6	c12_14	25	3.3201	4.16	4.9999	1.5888	2.0347	2.8306	0.4069	1
6	c12_14	22	4.8168	5.4545	6.0923	1.1067	1.4385	2.0557	0.3067	1
6	c12_14		-2.343	-1.295	-0.246	1.4776	1.7815	2.2438	0.5208	
					T-Tests Variable c12_14 Method Pooled Satterthwaite		DF 45	t Value -2.49	Pr > t 0.0167	
					Equality of Variances Variable c12_14		Num DF 24	Den DF 21	F Value 2.00	Pr > F 0.1127
Variable	A3	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum
Maximum 3	c12_15	25	1.876	2.16	2.444	0.5372	0.688	0.9571	0.1376	1
3	c12_15	22	2.0836	2.4091	2.7346	0.5648	0.7341	1.0491	0.1565	1
3	c12_15		-0.667	-0.249	0.1689	0.5888	0.7099	0.8941	0.2075	
					T-Tests Variable c12_15 Method Pooled Satterthwaite		DF 45	t Value -1.20	Pr > t 0.2363	
					Equality of Variances Variable c12_15		Num DF 21	Den DF 24	F Value 1.14	Pr > F 0.7538
Variable	A3	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum
Maximum 6	c12_16	25	3.3763	4.28	5.1837	1.7095	2.1894	3.0457	0.4379	1
6	c12_16	22	4.6326	5.3636	6.0947	1.2685	1.6488	2.3563	0.3515	1
6	c12_16		-2.235	-1.084	0.0679	1.6222	1.9558	2.4634	0.5717	

		Variable	Method	T-Tests		DF	t Value	Pr > t			
		C12_16	Pooled	Variances	Equal	45	-1.90	0.0645			
		C12_16	Satterthwaite	Unequal	Unequal	44	-1.93	0.0601			
		Variable	Method	Equality of Variances		DF	F Value	Pr > F			
		C12_16	Folded	Num	Den	24	1.76	0.1932			
Variable	A3	N	Lower CL	Mean	Upper CL	Lower CL	Std Dev	Std Dev	Upper CL	Std Err	Minimum
Maximum	C12_17	Before 2000	25	3.0615	3.84	4.6185	1.4726	1.8859	2.6236	0.3772	1
6	C12_17	2000 and after	21	3.4899	4.3333	5.1768	1.4176	1.8529	2.6758	0.4043	1
6	C12_17	Diff (1-2)		-1.609	-0.493	0.6228	1.5489	1.871	2.3634	0.5538	
		Variable	Method	T-Tests		DF	t Value	Pr > t			
		C12_17	Pooled	Variances	Equal	44	-0.89	0.3779			
		C12_17	Satterthwaite	Unequal	Unequal	42.9	-0.89	0.3773			
		Variable	Method	Equality of Variances		DF	F Value	Pr > F			
		C12_17	Folded	Num	Den	24	1.04	0.9455			
Variable	A3	N	Lower CL	Mean	Upper CL	Lower CL	Std Dev	Std Dev	Upper CL	Std Err	Minimum
Maximum	C12_18	Before 2000	25	2.7243	3.44	4.1557	1.3539	1.734	2.4122	0.3468	1
6	C12_18	2000 and after	22	3.0061	3.6818	4.3575	1.1725	1.524	2.1779	0.3249	1
6	C12_18	Diff (1-2)		-1.207	-0.242	0.7234	1.3597	1.6393	2.0648	0.4792	
		Variable	Method	T-Tests		DF	t Value	Pr > t			
		C12_18	Pooled	Variances	Equal	45	-0.50	0.6163			
		C12_18	Satterthwaite	Unequal	Unequal	45	-0.51	0.6133			
		Variable	Method	Equality of Variances		DF	F Value	Pr > F			
		C12_18	Folded	Num	Den	24	1.29	0.5537			
Variable	A3	N	Lower CL	Mean	Upper CL	Lower CL	Std Dev	Std Dev	Upper CL	Std Err	Minimum
Maximum	C12_19	Before 2000	25	2.4667	2.72	2.9733	0.4792	0.6137	0.8538	0.1227	1
4	C12_19	2000 and after	22	2.4832	2.7273	2.9713	0.4235	0.5505	0.7867	0.1174	1
3	C12_19	Diff (1-2)		-0.352	-0.007	0.3372	0.4853	0.5851	0.7369	0.171	
		Variable	Method	T-Tests		DF	t Value	Pr > t			
		C12_19	Pooled	Variances	Equal	45	-0.04	0.9663			
		C12_19	Satterthwaite	Unequal	Unequal	45	-0.04	0.9660			
		Variable	Method	Equality of Variances		DF	F Value	Pr > F			
		C12_19	Folded	Num	Den	24	1.24	0.6185			
Variable	A3	N	Lower CL	Mean	Upper CL	Lower CL	Std Dev	Std Dev	Upper CL	Std Err	Minimum
Maximum	C12_20	Before 2000	25	2.3258	2.76	3.1942	0.8214	1.052	1.4635	0.2104	1
6	C12_20	2000 and after	22	2.4465	2.8636	3.2808	0.7239	0.9409	1.3446	0.2006	1
6	C12_20	Diff (1-2)		-0.693	-0.104	0.4861	0.8308	1.0017	1.2616	0.2928	
		Variable	Method	T-Tests		DF	t Value	Pr > t			
		C12_20	Pooled	Variances	Equal	45	-0.35	0.7250			
		C12_20	Satterthwaite	Unequal	Unequal	45	-0.36	0.7231			
		Variable	Method	Equality of Variances		DF	F Value	Pr > F			
		C12_20	Folded	Num	Den	24	1.25	0.6093			
Variable	A3	N	Lower CL	Mean	Upper CL	Lower CL	Std Dev	Std Dev	Upper CL	Std Err	Minimum
Maximum	C12_21	Before 2000	25	3.185	4.04	4.895	1.6173	2.0712	2.8814	0.4142	1
6	C12_21	2000 and after	22	4.5594	5.2727	5.9861	1.2379	1.609	2.2993	0.343	1
6	C12_21	Diff (1-2)		-2.334	-1.233	-0.132	1.5509	1.8698	2.355	0.5466	
		Variable	Method	T-Tests		DF	t Value	Pr > t			
		C12_21	Pooled	Variances	Equal	45	-2.26	0.0290			
		C12_21	Satterthwaite	Unequal	Unequal	44.4	-2.29	0.0267			
		Variable	Method	Equality of Variances		DF	F Value	Pr > F			
		C12_21	Folded	Num	Den	24	1.66	0.2460			
Variable	A3	N	Lower CL	Mean	Upper CL	Lower CL	Std Dev	Std Dev	Upper CL	Std Err	Minimum
Maximum	C12_22	Before 2000	25	3.1605	4.04	4.9195	1.6637	2.1307	2.9642	0.4261	1
6	C12_22	2000 and after	22	4.5594	5.2727	5.9861	1.2379	1.609	2.2993	0.343	1
6	C12_22	Diff (1-2)		-2.354	-1.233	-0.111	1.5802	1.9051	2.3995	0.5569	
		Variable	Method	T-Tests		DF	t Value	Pr > t			
		C12_22	Pooled	Variances	Equal	45	-2.21	0.0320			
		C12_22	Satterthwaite	Unequal	Unequal	44	-2.25	0.0293			
		Variable	Method	Equality of Variances		DF	F Value	Pr > F			
		C12_22	Folded	Num	Den	24	1.75	0.1974			

Maximum	Variable	A3	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum																																																
6	c12_23	Before 2000	25	2.5882	3.32	4.0518	1.3844	1.7729	2.4664	0.3546	1																																																
6	c12_23	2000 and after	22	3.5921	4.4545	5.317	1.4965	1.9451	2.7797	0.4147	1																																																
	c12_23	Diff (1-2)		-2.227	-1.135	-0.042	1.5388	1.8553	2.3368	0.5423																																																	
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Maximum	Variable	A3	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum																																																
4	c12_24	Before 2000	24	2.3678	2.7083	3.0489	0.6268	0.8065	1.1313	0.1646	1																																																
6	c12_24	2000 and after	22	2.4959	3.0909	3.6859	1.0324	1.342	1.9178	0.2861	1																																																
	c12_24	Diff (1-2)		-1.034	-0.383	0.2689	0.9067	1.0952	1.3835	0.3233																																																	
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6	c12_25	Before 2000	24	3.6202	4.4167	5.2132	1.466	1.8863	2.646	0.385	1																																																
6	c12_25	2000 and after	22	4.7296	5.4091	6.0886	1.179	1.5325	2.19	0.3267	1																																																
	c12_25	Diff (1-2)		-2.019	-0.992	0.0346	1.4293	1.7265	2.1809	0.5096																																																	
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c12_25	Folded	23	21	1.52	0.3424																																																						
Maximum	Variable	A3	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum																																																
6	c12_26	Before 2000	24	2.2492	2.7917	3.3341	0.9985	1.2847	1.8021	0.2622	1																																																
6	c12_26	2000 and after	22	2.5067	3	3.4933	0.8561	1.1127	1.5901	0.2372	1																																																
	c12_26	Diff (1-2)		-0.926	-0.208	0.5089	0.9981	1.2057	1.523	0.3559																																																	
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				T-Tests																																																							
Variable	Method	Variations	DF	t Value	Pr > t																																																						
c12_26	Pooled	Equal	44	-0.59	0.5612																																																						
c12_26	Satterthwaite	Unequal	43.9	-0.59	0.5588																																																						
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				Equality of Variances																																																							
Variable	Method	Num DF	Den DF	F Value	Pr > F																																																						
c12_26	Folded	23	21	1.33	0.5114																																																						
Maximum	Variable	A3	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum																																																
1	c13_01	Before 2000	25	1	1	1	.	0	.	0	1																																																
1	c13_01	2000 and after	20	1	1	1	.	0	.	0	1																																																
	c13_01	Diff (1-2)		.	0	.	.	0	.	.																																																	
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				T-Tests																																																							
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c13_01	Pooled	Equal	43	.	.																																																						
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Variable	Method	Num DF	Den DF	F Value	Pr > F																																																						
c13_01	Folded	24	19	.	.																																																						
Maximum	Variable	A3	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum																																																
2	c13_02	Before 2000	25	1.0908	1.28	1.4692	0.3578	0.4583	0.6375	0.0917	1																																																
2	c13_02	2000 and after	20	1.2111	1.45	1.6889	0.3882	0.5104	0.7455	0.1141	1																																																
	c13_02	Diff (1-2)		-0.462	-0.17	0.1216	0.3982	0.482	0.6107	0.1446																																																	
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				T-Tests																																																							
Variable	Method	Variations	DF	t Value	Pr > t																																																						
c13_02	Pooled	Equal	43	-1.18	0.2462																																																						
c13_02	Satterthwaite	Unequal	38.7	-1.16	0.2526																																																						
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Variable	Method	Num DF	Den DF	F Value	Pr > F																																																						
c13_02	Folded	19	24	1.24	0.6106																																																						
Maximum	Variable	A3	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum																																																
3	c13_03	Before 2000	25	1.6731	2.04	2.4069	0.694	0.8888	1.2365	0.1778	1																																																
3	c13_03	2000 and after	20	2.4327	2.7	2.9673	0.4344	0.5712	0.8343	0.1277	1																																																
	c13_03	Diff (1-2)		-1.123	-0.66	-0.197	0.632	0.7649	0.9692	0.2295																																																	

Variable	Method	T-Tests		DF	t Value	Pr > t					
C13_03	Pooled	Equal	Variations	43	-2.88	0.0062					
C13_03	Satterthwaite	Unequal	Unequal	41.3	-3.02	0.0044					
Equality of Variances											
Variable	Method	Equality of Variances		F Value	Pr > F						
C13_03	Folded F	Num DF	Den DF	2.42	0.0533						
		24	19								
Variable	A3	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum	
Maximum	C13_04	Before 2000	25	1.0601	1.24	1.4199	0.3404	0.4359	0.6064	0.0872	1
2	C13_04	2000 and after	20	0.9559	1.1	1.2441	0.2341	0.3078	0.4496	0.0688	1
2	C13_04	Diff (1-2)		-0.093	0.14	0.3727	0.3178	0.3846	0.4873	0.1154	
T-Tests											
Variable	Method	T-Tests		DF	t Value	Pr > t					
C13_04	Pooled	Equal	Variations	43	1.21	0.2316					
C13_04	Satterthwaite	Unequal	Unequal	42.4	1.26	0.2144					
Equality of Variances											
Variable	Method	Equality of Variances		F Value	Pr > F						
C13_04	Folded F	Num DF	Den DF	2.01	0.1256						
		24	19								
Variable	A3	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum	
Maximum	C13_05	Before 2000	25	1.2695	1.48	1.6905	0.3981	0.5099	0.7094	0.102	1
2	C13_05	2000 and after	20	1.2111	1.45	1.6889	0.3882	0.5104	0.7455	0.1141	1
2	C13_05	Diff (1-2)		-0.279	0.03	0.3386	0.4215	0.5101	0.6463	0.153	
T-Tests											
Variable	Method	T-Tests		DF	t Value	Pr > t					
C13_05	Pooled	Equal	Variations	43	0.20	0.8455					
C13_05	Satterthwaite	Unequal	Unequal	40.8	0.20	0.8456					
Equality of Variances											
Variable	Method	Equality of Variances		F Value	Pr > F						
C13_05	Folded F	Num DF	Den DF	1.00	0.9828						
		19	24								
Variable	A3	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum	
Maximum	C13_06	Before 2000	25	1.2309	1.44	1.6491	0.3956	0.5066	0.7048	0.1013	1
2	C13_06	2000 and after	20	1.1648	1.4	1.6352	0.3822	0.5026	0.7341	0.1124	1
2	C13_06	Diff (1-2)		-0.265	0.04	0.3454	0.4171	0.5049	0.6397	0.1515	
T-Tests											
Variable	Method	T-Tests		DF	t Value	Pr > t					
C13_06	Pooled	Equal	Variations	43	0.26	0.7930					
C13_06	Satterthwaite	Unequal	Unequal	41	0.26	0.7928					
Equality of Variances											
Variable	Method	Equality of Variances		F Value	Pr > F						
C13_06	Folded F	Num DF	Den DF	1.02	0.9848						
		24	19								
Variable	A3	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum	
Maximum	C13_07	Before 2000	25	1.7241	2.08	2.4359	0.6732	0.8622	1.1994	0.1724	1
3	C13_07	2000 and after	20	2.3648	2.6	2.8352	0.3822	0.5026	0.7341	0.1124	2
3	C13_07	Diff (1-2)		-0.959	-0.52	-0.081	0.5995	0.7256	0.9194	0.2177	
T-Tests											
Variable	Method	T-Tests		DF	t Value	Pr > t					
C13_07	Pooled	Equal	Variations	43	-2.39	0.0214					
C13_07	Satterthwaite	Unequal	Unequal	39.7	-2.53	0.0156					
Equality of Variances											
Variable	Method	Equality of Variances		F Value	Pr > F						
C13_07	Folded F	Num DF	Den DF	2.94	0.0194						
		24	19								
Variable	A3	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum	
Maximum	C13_08	Before 2000	24	1.766	2.125	2.484	0.6608	0.8502	1.1926	0.1735	1
3	C13_08	2000 and after	19	2.454	2.6842	2.9144	0.3609	0.4776	0.7062	0.1096	2
3	C13_08	Diff (1-2)		-1	-0.559	-0.118	0.5851	0.7111	0.9067	0.2184	
T-Tests											
Variable	Method	T-Tests		DF	t Value	Pr > t					
C13_08	Pooled	Equal	Variations	41	-2.56	0.0142					
C13_08	Satterthwaite	Unequal	Unequal	37.4	-2.72	0.0097					
Equality of Variances											
Variable	Method	Equality of Variances		F Value	Pr > F						
C13_08	Folded F	Num DF	Den DF	3.17	0.0153						
		23	18								
Variable	A3	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum	
Maximum	C13_09	Before 2000	25	1.8298	2.16	2.4902	0.6247	0.8	1.1129	0.16	1
3	C13_09	2000 and after	19	2.5876	2.7895	2.9914	0.3165	0.4189	0.6194	0.0961	2
3	C13_09	Diff (1-2)		-1.037	-0.629	-0.222	0.5475	0.664	0.844	0.2021	
T-Tests											
Variable	Method	T-Tests		DF	t Value	Pr > t					
C13_09	Pooled	Equal	Variations	42	-3.11	0.0033					
C13_09	Satterthwaite	Unequal	Unequal	37.9	-3.37	0.0017					
Equality of Variances											
Variable	Method	Equality of Variances		F Value	Pr > F						
C13_09	Folded F	Num DF	Den DF	3.65	0.0067						
		24	18								

Variable	A3	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum	
Maximum	C13_10	23	1.035	1.2174	1.3998	0.3262	0.4217	0.5969	0.0879	1	
2	C13_10	20	1.0079	1.2	1.3921	0.3121	0.4104	0.5994	0.0918	1	
2	C13_10		-0.24	0.0174	0.2746	0.3427	0.4165	0.5311	0.1273		
					T-Tests						
	Variable				Variations	DF	t Value	Pr > t			
	C13_10				Equal	41	0.14	0.8920			
	C13_10				Unequal	40.5	0.14	0.8918			
					Equality of Variances						
	Variable				Num DF	Den DF	F Value	Pr > F			
	C13_10				22	19	1.06	0.9118			
Maximum	Variable	A3	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum
3	C13_11	Before 2000	25	1.4847	1.8	2.1153	0.5964	0.7638	1.0625	0.1528	1
3	C13_11	2000 and after	19	1.9482	2.2632	2.5781	0.4937	0.6534	0.9662	0.1499	1
	C13_11	Diff (1-2)		-0.904	-0.463	-0.022	0.5925	0.7185	0.9133	0.2187	
					T-Tests						
	Variable				Variations	DF	t Value	Pr > t			
	C13_11				Equal	42	-2.12	0.0401			
	C13_11				Unequal	41.4	-2.16	0.0363			
					Equality of Variances						
	Variable				Num DF	Den DF	F Value	Pr > F			
	C13_11				24	18	1.37	0.5016			
Maximum	Variable	A3	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum
2	C14_01	Before 2000	22	1.0068	1.1818	1.3568	0.3037	0.3948	0.5642	0.0842	1
2	C14_01	2000 and after	20	0.9559	1.1	1.2441	0.2341	0.3078	0.4496	0.0688	1
	C14_01	Diff (1-2)		-0.141	0.0818	0.3042	0.2924	0.3561	0.4557	0.11	
					T-Tests						
	Variable				Variations	DF	t Value	Pr > t			
	C14_01				Equal	40	0.74	0.4614			
	C14_01				Unequal	39.1	0.75	0.4562			
					Equality of Variances						
	Variable				Num DF	Den DF	F Value	Pr > F			
	C14_01				21	19	1.65	0.2800			
Maximum	Variable	A3	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum
2	C14_02	Before 2000	21	0.9796	1.1429	1.3061	0.2743	0.3586	0.5178	0.0782	1
2	C14_02	2000 and after	20	0.9785	1.15	1.3215	0.2786	0.3663	0.5351	0.0819	1
	C14_02	Diff (1-2)		-0.236	-0.007	0.2219	0.2968	0.3624	0.4653	0.1132	
					T-Tests						
	Variable				Variations	DF	t Value	Pr > t			
	C14_02				Equal	39	-0.06	0.9500			
	C14_02				Unequal	38.8	-0.06	0.9500			
					Equality of Variances						
	Variable				Num DF	Den DF	F Value	Pr > F			
	C14_02				19	20	1.04	0.9224			
Maximum	Variable	A3	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum
2	C14_03	Before 2000	22	0.9509	1.0455	1.14	0.164	0.2132	0.3047	0.0455	1
2	C14_03	2000 and after	20	1.0079	1.2	1.3921	0.3121	0.4104	0.5994	0.0918	1
	C14_03	Diff (1-2)		-0.356	-0.155	0.0467	0.2646	0.3223	0.4124	0.0996	
					T-Tests						
	Variable				Variations	DF	t Value	Pr > t			
	C14_03				Equal	40	-1.55	0.1285			
	C14_03				Unequal	27.9	-1.51	0.1425			
					Equality of Variances						
	Variable				Num DF	Den DF	F Value	Pr > F			
	C14_03				19	21	3.71	0.0046			
Maximum	Variable	A3	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum
2	C14_04	Before 2000	21	1.4468	1.6667	1.8865	0.3696	0.483	0.6976	0.1054	1
2	C14_04	2000 and after	20	1.421	1.65	1.879	0.3722	0.4894	0.7147	0.1094	1
	C14_04	Diff (1-2)		-0.291	0.0167	0.3239	0.3982	0.4861	0.6242	0.1519	
					T-Tests						
	Variable				Variations	DF	t Value	Pr > t			
	C14_04				Equal	39	0.11	0.9132			
	C14_04				Unequal	38.8	0.11	0.9132			
					Equality of Variances						
	Variable				Num DF	Den DF	F Value	Pr > F			
	C14_04				19	20	1.03	0.9518			
Maximum	Variable	A3	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum
2	C14_05	Before 2000	21	1.6264	1.8095	1.9927	0.3078	0.4024	0.5811	0.0878	1
2	C14_05	2000 and after	20	1.8453	1.95	2.0547	0.1701	0.2236	0.3266	0.05	1
	C14_05	Diff (1-2)		-0.348	-0.14	0.0666	0.2684	0.3277	0.4208	0.1024	

Variable	Method	T-Tests		DF	t Value	Pr > t				
C14_05	Pooled	Variances	Equal	39	-1.37	0.1779				
C14_05	Satterthwaite	Unequal		31.6	-1.39	0.1742				
Equality of Variances										
Variable	Method	Num DF	Den DF	F Value	Pr > F					
C14_05	Folded F	20	19	3.24	0.0132					
Variable	A3	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum
Maximum	C14_06	21	1.1977	1.4286	1.6594	0.388	0.5071	0.7323	0.1107	1
2	C14_06	20	1.2599	1.5	1.7401	0.3901	0.513	0.7493	0.1147	1
2	C14_06		-0.394	-0.071	0.2509	0.4178	0.51	0.6548	0.1593	
T-Tests										
Variable	Method	T-Tests		DF	t Value	Pr > t				
C14_06	Pooled	Variances	Equal	39	-0.45	0.6564				
C14_06	Satterthwaite	Unequal		38.9	-0.45	0.6565				
Equality of Variances										
Variable	Method	Num DF	Den DF	F Value	Pr > F					
C14_06	Folded F	19	20	1.02	0.9567					
Variable	A3	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum
Maximum	C14_07	21	1.6939	1.8571	2.0204	0.2743	0.3586	0.5178	0.0782	1
2	C14_07	20	2	2	2	.	0	.	0	2
2	C14_07		-0.305	-0.143	0.0194	0.2103	0.2568	0.3297	0.0802	
T-Tests										
Variable	Method	T-Tests		DF	t Value	Pr > t				
C14_07	Pooled	Variances	Equal	39	-1.78	0.0828				
C14_07	Satterthwaite	Unequal		20	-1.83	0.0829				
Equality of Variances										
Variable	Method	Num DF	Den DF	F Value	Pr > F					
C14_07	Folded F	20	19	Infty	<.0001					
Variable	A3	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum
Maximum	C14_08	20	0.9559	1.1	1.2441	0.2341	0.3078	0.4496	0.0688	1
2	C14_08	20	0.9453	1.05	1.1547	0.1701	0.2236	0.3266	0.05	1
2	C14_08		-0.122	0.05	0.2222	0.2199	0.269	0.3467	0.0851	
T-Tests										
Variable	Method	T-Tests		DF	t Value	Pr > t				
C14_08	Pooled	Variances	Equal	38	0.59	0.5602				
C14_08	Satterthwaite	Unequal		34.7	0.59	0.5605				
Equality of Variances										
Variable	Method	Num DF	Den DF	F Value	Pr > F					
C14_08	Folded F	19	19	1.89	0.1728					
Variable	A3	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum
Maximum	C14_09	20	1.7559	1.9	2.0441	0.2341	0.3078	0.4496	0.0688	1
2	C14_09	20	1.8453	1.95	2.0547	0.1701	0.2236	0.3266	0.05	1
2	C14_09		-0.222	-0.05	0.1222	0.2199	0.269	0.3467	0.0851	
T-Tests										
Variable	Method	T-Tests		DF	t Value	Pr > t				
C14_09	Pooled	Variances	Equal	38	-0.59	0.5602				
C14_09	Satterthwaite	Unequal		34.7	-0.59	0.5605				
Equality of Variances										
Variable	Method	Num DF	Den DF	F Value	Pr > F					
C14_09	Folded F	19	19	1.89	0.1728					
Variable	A3	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum
Maximum	C14_10	21	1.075	1.2857	1.4964	0.3542	0.4629	0.6685	0.101	1
2	C14_10	20	1.0421	1.25	1.4579	0.3379	0.4443	0.6489	0.0993	1
2	C14_10		-0.251	0.0357	0.3226	0.3718	0.4539	0.5829	0.1418	
T-Tests										
Variable	Method	T-Tests		DF	t Value	Pr > t				
C14_10	Pooled	Variances	Equal	39	0.25	0.8025				
C14_10	Satterthwaite	Unequal		39	0.25	0.8023				
Equality of Variances										
Variable	Method	Num DF	Den DF	F Value	Pr > F					
C14_10	Folded F	20	19	1.09	0.8609					
Variable	A3	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum
Maximum	C14_11	20	1.7559	1.9	2.0441	0.2341	0.3078	0.4496	0.0688	1
2	C14_11	20	2	2	2	.	0	.	0	2
2	C14_11		-0.239	-0.1	0.0393	0.1779	0.2176	0.2805	0.0688	
T-Tests										
Variable	Method	T-Tests		DF	t Value	Pr > t				
C14_11	Pooled	Variances	Equal	38	-1.45	0.1544				
C14_11	Satterthwaite	Unequal		19	-1.45	0.1625				
Equality of Variances										
Variable	Method	Num DF	Den DF	F Value	Pr > F					
C14_11	Folded F	19	19	Infty	<.0001					

Maximum	Variable	A3	N	Lower CL	Mean	Upper CL	Lower CL	Std Dev	Upper CL	Std Err	Minimum
				Mean		Mean	Std Dev		Std Dev		
2	C14_12	Before 2000	20	1.7559	1.9	2.0441	0.2341	0.3078	0.4496	0.0688	1
2	C14_12	2000 and after	20	1.8453	1.95	2.0547	0.1701	0.2236	0.3266	0.05	1
2	C14_12	Diff (1-2)		-0.222	-0.05	0.1222	0.2199	0.269	0.3467	0.0851	

Variable	Method	T-Tests	DF	t Value	Pr > t
C14_12	Pooled	Variances Equal	38	-0.59	0.5602
C14_12	Satterthwaite	Unequal	34.7	-0.59	0.5605

Variable	Method	Equality of Variances	F Value	Pr > F
C14_12	Folded F	Num DF 19, Den DF 19	1.89	0.1728

Maximum	Variable	A3	N	Lower CL	Mean	Upper CL	Lower CL	Std Dev	Upper CL	Std Err	Minimum
				Mean		Mean	Std Dev		Std Dev		
2	C14_13	Before 2000	21	1.3406	1.5714	1.8023	0.388	0.5071	0.7323	0.1107	1
2	C14_13	2000 and after	20	1.48	1.7	1.92	0.3576	0.4702	0.6867	0.1051	1
2	C14_13	Diff (1-2)		-0.438	-0.129	0.1807	0.4009	0.4894	0.6285	0.1529	

Variable	Method	T-Tests	DF	t Value	Pr > t
C14_13	Pooled	Variances Equal	39	-0.84	0.4056
C14_13	Satterthwaite	Unequal	39	-0.84	0.4047

Variable	Method	Equality of Variances	F Value	Pr > F
C14_13	Folded F	Num DF 20, Den DF 19	1.16	0.7450

Maximum	Variable	A3	N	Lower CL	Mean	Upper CL	Lower CL	Std Dev	Upper CL	Std Err	Minimum
				Mean		Mean	Std Dev		Std Dev		
2	C14_14	Before 2000	21	1.6264	1.8095	1.9927	0.3078	0.4024	0.5811	0.0878	1
2	C14_14	2000 and after	20	1.6079	1.8	1.9921	0.3121	0.4104	0.5994	0.0918	1
2	C14_14	Diff (1-2)		-0.247	0.0095	0.2663	0.3328	0.4063	0.5217	0.1269	

Variable	Method	T-Tests	DF	t Value	Pr > t
C14_14	Pooled	Variances Equal	39	0.08	0.9406
C14_14	Satterthwaite	Unequal	38.8	0.07	0.9406

Variable	Method	Equality of Variances	F Value	Pr > F
C14_14	Folded F	Num DF 19, Den DF 20	1.04	0.9284

Maximum	Variable	A3	N	Lower CL	Mean	Upper CL	Lower CL	Std Dev	Upper CL	Std Err	Minimum
				Mean		Mean	Std Dev		Std Dev		
2	C14_15	Before 2000	21	1.6939	1.8571	2.0204	0.2743	0.3586	0.5178	0.0782	1
2	C14_15	2000 and after	20	1.8453	1.95	2.0547	0.1701	0.2236	0.3266	0.05	1
2	C14_15	Diff (1-2)		-0.283	-0.093	0.097	0.2461	0.3005	0.3858	0.0939	

Variable	Method	T-Tests	DF	t Value	Pr > t
C14_15	Pooled	Variances Equal	39	-0.99	0.3287
C14_15	Satterthwaite	Unequal	33.7	-1.00	0.3244

Variable	Method	Equality of Variances	F Value	Pr > F
C14_15	Folded F	Num DF 20, Den DF 19	2.57	0.0444

Maximum	Variable	A3	N	Lower CL	Mean	Upper CL	Lower CL	Std Dev	Upper CL	Std Err	Minimum
				Mean		Mean	Std Dev		Std Dev		
5	C15_01	Before 2000	24	2.2868	2.875	3.4632	1.0826	1.3929	1.9539	0.2843	1
6	C15_01	2000 and after	20	2.6907	3.3	3.9093	0.99	1.3018	1.9014	0.2911	1
6	C15_01	Diff (1-2)		-1.251	-0.425	0.4014	1.1152	1.3525	1.719	0.4095	

Variable	Method	T-Tests	DF	t Value	Pr > t
C15_01	Pooled	Variances Equal	42	-1.04	0.3053
C15_01	Satterthwaite	Unequal	41.4	-1.04	0.3023

Variable	Method	Equality of Variances	F Value	Pr > F
C15_01	Folded F	Num DF 23, Den DF 19	1.14	0.7717

Maximum	Variable	A3	N	Lower CL	Mean	Upper CL	Lower CL	Std Dev	Upper CL	Std Err	Minimum
				Mean		Mean	Std Dev		Std Dev		
6	C15_02	Before 2000	23	3.1751	4.087	4.9988	1.6309	2.1087	2.9846	0.4397	1
6	C15_02	2000 and after	18	4.8561	5.5	6.1439	0.9716	1.2948	1.9411	0.3052	1
6	C15_02	Diff (1-2)		-2.559	-1.413	-0.267	1.4743	1.7998	2.311	0.5664	

Variable	Method	T-Tests	DF	t Value	Pr > t
C15_02	Pooled	Variances Equal	39	-2.49	0.0169
C15_02	Satterthwaite	Unequal	37.1	-2.64	0.0120

Variable	Method	Equality of Variances	F Value	Pr > F
C15_02	Folded F	Num DF 22, Den DF 17	2.65	0.0444

Maximum	Variable	A3	N	Lower CL	Mean	Upper CL	Lower CL	Std Dev	Upper CL	Std Err	Minimum
				Mean		Mean	Std Dev		Std Dev		
6	C15_03	Before 2000	24	3.0006	3.875	4.7494	1.6094	2.0708	2.9048	0.4227	1
6	C15_03	2000 and after	20	4.3799	5.05	5.7201	1.0889	1.4318	2.0912	0.3202	2
6	C15_03	Diff (1-2)		-2.281	-1.175	-0.069	1.4923	1.8099	2.3004	0.548	

			Variable	Method	T-Tests		DF	t Value	Pr > t			
			C15_03	Pooled	Variations	Equal	42	-2.14	0.0378			
			C15_03	Satterthwaite	Unequal	Unequal	40.7	-2.22	0.0323			
			Variable	Method	Equality of Variances		F Value	Pr > F				
			C15_03	Folded F	Num DF	Den DF	23	19	2.09	0.1068		
	Variable	A3	N	Lower CL	Mean	Upper CL	Lower CL	Std Dev	Upper CL	Std Dev	Std Err	Minimum
Maximum	C15_04	Before 2000	23	2.8547	3.4783	4.1018	1.1152	1.4419	2.0408	0.3007	1	
6	C15_04	2000 and after	20	2.7973	3.45	4.1027	1.0605	1.3945	2.0368	0.3118	1	
6	C15_04	Diff (1-2)		-0.849	0.0283	0.9051	1.1685	1.4201	1.8109	0.4342		
			Variable	Method	T-Tests		DF	t Value	Pr > t			
			C15_04	Pooled	Variations	Equal	41	0.07	0.9484			
			C15_04	Satterthwaite	Unequal	Unequal	40.5	0.07	0.9483			
			Variable	Method	Equality of Variances		F Value	Pr > F				
			C15_04	Folded F	Num DF	Den DF	22	19	1.07	0.8903		
	Variable	A3	N	Lower CL	Mean	Upper CL	Lower CL	Std Dev	Upper CL	Std Dev	Std Err	Minimum
Maximum	C15_05	Before 2000	23	3.0228	3.7826	4.5424	1.3588	1.757	2.4867	0.3664	1	
6	C15_05	2000 and after	20	3.5491	4.4	5.2509	1.3826	1.818	2.6554	0.4065	1	
6	C15_05	Diff (1-2)		-1.72	-0.617	0.4851	1.4691	1.7855	2.2768	0.5459		
			Variable	Method	T-Tests		DF	t Value	Pr > t			
			C15_05	Pooled	Variations	Equal	41	-1.13	0.2647			
			C15_05	Satterthwaite	Unequal	Unequal	39.8	-1.13	0.2660			
			Variable	Method	Equality of Variances		F Value	Pr > F				
			C15_05	Folded F	Num DF	Den DF	19	22	1.07	0.8702		
	Variable	A3	N	Lower CL	Mean	Upper CL	Lower CL	Std Dev	Upper CL	Std Dev	Std Err	Minimum
Maximum	C15_06	Before 2000	24	3.2158	4.125	5.0342	1.6734	2.1531	3.0203	0.4395	1	
6	C15_06	2000 and after	20	4.5866	5.35	6.1134	1.2404	1.6311	2.3824	0.3647	1	
6	C15_06	Diff (1-2)		-2.407	-1.225	-0.043	1.5951	1.9345	2.4588	0.5857		
			Variable	Method	T-Tests		DF	t Value	Pr > t			
			C15_06	Pooled	Variations	Equal	42	-2.09	0.0426			
			C15_06	Satterthwaite	Unequal	Unequal	41.7	-2.14	0.0378			
			Variable	Method	Equality of Variances		F Value	Pr > F				
			C15_06	Folded F	Num DF	Den DF	23	19	1.74	0.2228		
	Variable	A3	N	Lower CL	Mean	Upper CL	Lower CL	Std Dev	Upper CL	Std Dev	Std Err	Minimum
Maximum	C15_07	Before 2000	24	3.8629	4.6667	5.4704	1.4794	1.9035	2.6701	0.3885	1	
6	C15_07	2000 and after	20	4.5866	5.35	6.1134	1.2404	1.6311	2.3824	0.3647	1	
6	C15_07	Diff (1-2)		-1.774	-0.683	0.4076	1.4721	1.7854	2.2693	0.5406		
			Variable	Method	T-Tests		DF	t Value	Pr > t			
			C15_07	Pooled	Variations	Equal	42	-1.26	0.2132			
			C15_07	Satterthwaite	Unequal	Unequal	42	-1.28	0.2068			
			Variable	Method	Equality of Variances		F Value	Pr > F				
			C15_07	Folded F	Num DF	Den DF	23	19	1.36	0.4982		
	Variable	A3	N	Lower CL	Mean	Upper CL	Lower CL	Std Dev	Upper CL	Std Dev	Std Err	Minimum
Maximum	C15_08	Before 2000	22	3.603	4.4545	5.306	1.4775	1.9205	2.7445	0.4095	1	
6	C15_08	2000 and after	20	4.2058	4.9	5.5942	1.128	1.4832	2.1664	0.3317	2	
6	C15_08	Diff (1-2)		-1.524	-0.445	0.6327	1.4176	1.7267	2.2093	0.5335		
			Variable	Method	T-Tests		DF	t Value	Pr > t			
			C15_08	Pooled	Variations	Equal	40	-0.84	0.4087			
			C15_08	Satterthwaite	Unequal	Unequal	39	-0.85	0.4030			
			Variable	Method	Equality of Variances		F Value	Pr > F				
			C15_08	Folded F	Num DF	Den DF	21	19	1.68	0.2622		
	Variable	A3	N	Lower CL	Mean	Upper CL	Lower CL	Std Dev	Upper CL	Std Dev	Std Err	Minimum
Maximum	C15_09	Before 2000	22	2.4358	3	3.5642	0.9789	1.2724	1.8184	0.2713	1	
6	C15_09	2000 and after	20	2.7052	3.25	3.7948	0.8853	1.1642	1.7003	0.2603	1	
6	C15_09	Diff (1-2)		-1.013	-0.25	0.5132	1.0034	1.2222	1.5638	0.3776		
			Variable	Method	T-Tests		DF	t Value	Pr > t			
			C15_09	Pooled	Variations	Equal	40	-0.66	0.5117			
			C15_09	Satterthwaite	Unequal	Unequal	40	-0.66	0.5099			
			Variable	Method	Equality of Variances		F Value	Pr > F				
			C15_09	Folded F	Num DF	Den DF	21	19	1.19	0.7011		

Variable	A3	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum
Maximum										
6	c15_10	Before 2000	22	3.6482	4.4545	5.2609	1.3992	1.8186	0.3877	1
6	c15_10	2000 and after	20	5.0586	5.55	6.0414	0.7986	1.0501	0.2348	2
6	c15_10	Diff (1-2)		-2.034	-1.095	-0.157	1.2343	1.5034	0.4645	
			Variable		Method		T-Tests			
			c15_10		Pooled		Variances		DF	
			c15_10		Satterthwaite		Equal		40	
					Unequal		34.2		t Value	
									-2.36	
									Pr > t	
									0.0233	
									0.0212	
			Variable		Method		Equality of Variances		F Value	
			c15_10		Folded F		Num DF		Den DF	
							21		19	
							3.00		Pr > F	
									0.0193	
Variable	A3	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum
Maximum										
6	c15_11	Before 2000	22	3.3424	4.1818	5.0212	1.4566	1.8933	0.4036	1
6	c15_11	2000 and after	20	4.3042	5	5.6958	1.1307	1.4868	0.3325	1
6	c15_11	Diff (1-2)		-1.887	-0.818	0.251	1.4058	1.7123	0.529	
			Variable		Method		T-Tests		DF	
			c15_11		Pooled		Variances		40	
			c15_11		Satterthwaite		Equal		39.2	
							Unequal		t Value	
									-1.55	
									Pr > t	
									0.1298	
									0.1257	
			Variable		Method		Equality of Variances		F Value	
			c15_11		Folded F		Num DF		Den DF	
							21		19	
							1.62		Pr > F	
									0.2940	
Variable	A3	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum
Maximum										
6	c15_12	Before 2000	22	2.6857	3.3636	4.0415	1.1763	1.5289	0.326	1
6	c15_12	2000 and after	20	3.4019	4.15	4.8981	1.2157	1.5985	0.3574	2
6	c15_12	Diff (1-2)		-1.762	-0.786	0.1892	1.2827	1.5624	0.4827	
			Variable		Method		T-Tests		DF	
			c15_12		Pooled		Variances		40	
			c15_12		Satterthwaite		Equal		39.2	
							Unequal		t Value	
									-1.63	
									Pr > t	
									0.1112	
									0.1121	
			Variable		Method		Equality of Variances		F Value	
			c15_12		Folded F		Num DF		Den DF	
							19		21	
							1.09		Pr > F	
									0.8384	
Variable	A3	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum
Maximum										
5	c15_13	Before 2000	22	2.4339	2.9545	3.4752	0.9034	1.1742	0.2503	1
6	c15_13	2000 and after	20	3.3527	3.95	4.5473	0.9706	1.2763	0.2854	1
6	c15_13	Diff (1-2)		-1.76	-0.995	-0.231	1.0047	1.2238	0.3781	
			Variable		Method		T-Tests		DF	
			c15_13		Pooled		Variances		40	
			c15_13		Satterthwaite		Equal		38.7	
							Unequal		t Value	
									-2.63	
									Pr > t	
									0.0120	
									0.0124	
			Variable		Method		Equality of Variances		F Value	
			c15_13		Folded F		Num DF		Den DF	
							19		21	
							1.18		Pr > F	
									0.7073	
Variable	A3	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum
Maximum										
6	c15_14	Before 2000	22	2.6153	3.3182	4.021	1.2196	1.5852	0.338	1
6	c15_14	2000 and after	20	3.6401	4.15	4.6599	0.8285	1.0894	0.2436	2
6	c15_14	Diff (1-2)		-1.689	-0.832	0.025	1.1266	1.3722	0.424	
			Variable		Method		T-Tests		DF	
			c15_14		Pooled		Variances		40	
			c15_14		Satterthwaite		Equal		37.3	
							Unequal		t Value	
									-1.96	
									Pr > t	
									0.0567	
									0.0532	
			Variable		Method		Equality of Variances		F Value	
			c15_14		Folded F		Num DF		Den DF	
							21		19	
							2.12		Pr > F	
									0.1055	
Variable	A3	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum
Maximum										
6	c15_15	Before 2000	22	3.5806	4.4091	5.2375	1.4375	1.8685	0.3984	1
6	c15_15	2000 and after	20	4.3426	5.15	5.9574	1.312	1.7252	0.3858	1
6	c15_15	Diff (1-2)		-1.866	-0.741	0.3842	1.4794	1.8019	0.5567	
			Variable		Method		T-Tests		DF	
			c15_15		Pooled		Variances		40	
			c15_15		Satterthwaite		Equal		40	
							Unequal		t Value	
									-1.33	
									Pr > t	
									0.1908	
									0.1891	
			Variable		Method		Equality of Variances		F Value	
			c15_15		Folded F		Num DF		Den DF	
							21		19	
							1.17		Pr > F	
									0.7310	
Variable	A3	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum
Maximum										
6	c15_16	Before 2000	22	3.278	4.1818	5.0857	1.5684	2.0386	0.4346	1
6	c15_16	2000 and after	20	4.9723	5.55	6.1277	0.9387	1.2344	0.276	1
6	c15_16	Diff (1-2)		-2.433	-1.368	-0.304	1.3995	1.7046	0.5266	

		Variable	Method	T-Tests		DF	t Value	Pr > t			
		C15_16	Pooled	Variations	Equal	40	-2.60	0.0131			
		C15_16	Satterthwaite	Unequal	Unequal	35.1	-2.66	0.0118			
		Variable	Method	Equality of Variances		F Value	Pr > F				
		C15_16	Folded F	Num DF	Den DF	21	19	2.73	0.0319		
Maximum	Variable	A3	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum
	C15_17	Before 2000	22	3.8679	4.6364	5.4049	1.3335	1.7333	2.477	0.3695	1
6	C15_17	2000 and after	20	4.6019	5.35	6.0981	1.2157	1.5985	2.3348	0.3574	1
6	C15_17	Diff (1-2)		-1.757	-0.714	0.3296	1.3716	1.6706	2.1376	0.5162	
		Variable	Method	T-Tests		DF	t Value	Pr > t			
		C15_17	Pooled	Variations	Equal	40	-1.38	0.1745			
		C15_17	Satterthwaite	Unequal	Unequal	40	-1.39	0.1728			
		Variable	Method	Equality of Variances		F Value	Pr > F				
		C15_17	Folded F	Num DF	Den DF	21	19	1.18	0.7272		
Maximum	Variable	A3	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum
	C15_18	Before 2000	24	2.3001	2.6667	3.0332	0.6747	0.8681	1.2178	0.1772	1
4	C15_18	2000 and after	20	2.7404	3.15	3.5596	0.6655	0.8751	1.2781	0.1957	1
5	C15_18	Diff (1-2)		-1.016	-0.483	0.049	0.7184	0.8713	1.1074	0.2638	
		Variable	Method	T-Tests		DF	t Value	Pr > t			
		C15_18	Pooled	Variations	Equal	42	-1.83	0.0740			
		C15_18	Satterthwaite	Unequal	Unequal	40.5	-1.83	0.0745			
		Variable	Method	Equality of Variances		F Value	Pr > F				
		C15_18	Folded F	Num DF	Den DF	19	23	1.02	0.9600		
Maximum	Variable	A3	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum
	C15_19	Before 2000	24	2.8873	3.7083	4.5294	1.5112	1.9444	2.7276	0.3969	1
6	C15_19	2000 and after	20	3.7639	4.5	5.2361	1.1961	1.5728	2.2972	0.3517	1
6	C15_19	Diff (1-2)		-1.883	-0.792	0.2995	1.4726	1.7859	2.2699	0.5407	
		Variable	Method	T-Tests		DF	t Value	Pr > t			
		C15_19	Pooled	Variations	Equal	42	-1.46	0.1506			
		C15_19	Satterthwaite	Unequal	Unequal	42	-1.49	0.1430			
		Variable	Method	Equality of Variances		F Value	Pr > F				
		C15_19	Folded F	Num DF	Den DF	23	19	1.53	0.3512		
Maximum	Variable	A3	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum
	C15_20	Before 2000	24	2.5726	3.2727	3.9729	1.2149	1.5791	2.2566	0.3367	1
6	C15_20	2000 and after	20	2.9132	3.35	3.7868	0.7098	0.9333	1.3632	0.2087	2
6	C15_20	Diff (1-2)		-0.897	-0.077	0.7423	1.0776	1.3126	1.6794	0.4055	
		Variable	Method	T-Tests		DF	t Value	Pr > t			
		C15_20	Pooled	Variations	Equal	40	-0.19	0.8498			
		C15_20	Satterthwaite	Unequal	Unequal	34.6	-0.20	0.8465			
		Variable	Method	Equality of Variances		F Value	Pr > F				
		C15_20	Folded F	Num DF	Den DF	21	19	2.86	0.0248		
Maximum	Variable	A3	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum
	C15_21	Before 2000	23	3.0791	3.913	4.747	1.4915	1.9286	2.7296	0.4021	1
6	C15_21	2000 and after	20	4.3463	5.05	5.7537	1.1434	1.5035	2.196	0.3362	1
6	C15_21	Diff (1-2)		-2.214	-1.137	-0.06	1.4354	1.7445	2.2245	0.5334	
		Variable	Method	T-Tests		DF	t Value	Pr > t			
		C15_21	Pooled	Variations	Equal	41	-2.13	0.0391			
		C15_21	Satterthwaite	Unequal	Unequal	40.6	-2.17	0.0360			
		Variable	Method	Equality of Variances		F Value	Pr > F				
		C15_21	Folded F	Num DF	Den DF	22	19	1.65	0.2768		
Maximum	Variable	A3	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum
	C15_22	Before 2000	23	1.2653	1.5217	1.7782	0.4587	0.5931	0.8395	0.1237	1
3	C15_22	2000 and after	20	1.08	1.3	1.52	0.3576	0.4702	0.6867	0.1051	1
2	C15_22	Diff (1-2)		-0.111	0.2217	0.5549	0.444	0.5396	0.6881	0.165	
		Variable	Method	T-Tests		DF	t Value	Pr > t			
		C15_22	Pooled	Variations	Equal	41	1.34	0.1863			
		C15_22	Satterthwaite	Unequal	Unequal	40.7	1.37	0.1794			
		Variable	Method	Equality of Variances		F Value	Pr > F				
		C15_22	Folded F	Num DF	Den DF	22	19	1.59	0.3100		

	Variable	A3	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum
Maximum	c15_23	Before 2000	23	1.2788	1.5652	1.8516	0.5123	0.6624	0.9375	0.1381	1
3	c15_23	2000 and after	20	1.121	1.35	1.579	0.3722	0.4894	0.7147	0.1094	1
2	c15_23	Diff (1-2)		-0.148	0.2152	0.5786	0.4843	0.5886	0.7505	0.1799	
	Variable	Method	T-Tests		DF	t Value	Pr > t				
	c15_23	Pooled	Variations	Equal	41	1.20	0.2386				
	c15_23	Satterthwaite	Variations	Unequal	40	1.22	0.2291				
			Equality of Variances				F Value	Pr > F			
	Variable	Method	Num DF	Den DF	F						
	c15_23	Folded	22	19	1.83		0.1868				
	Variable	A3	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum
Maximum	c15_24	Before 2000	23	1.234	1.5217	1.8095	0.5146	0.6653	0.9417	0.1387	1
3	c15_24	2000 and after	20	1.1669	1.45	1.7331	0.4599	0.6048	0.8834	0.1352	1
3	c15_24	Diff (1-2)		-0.322	0.0717	0.4657	0.525	0.638	0.8136	0.1951	
	Variable	Method	T-Tests		DF	t Value	Pr > t				
	c15_24	Pooled	Variations	Equal	41	0.37	0.7149				
	c15_24	Satterthwaite	Variations	Unequal	40.9	0.37	0.7131				
			Equality of Variances				F Value	Pr > F			
	Variable	Method	Num DF	Den DF	F						
	c15_24	Folded	22	19	1.21		0.6793				
	Variable	A3	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum
Maximum	D16_01	Before 2000	24	1.3707	1.5833	1.796	0.3914	0.5036	0.7064	0.1028	1
2	D16_01	2000 and after	21	1.6939	1.8571	2.0204	0.2743	0.3586	0.5178	0.0782	1
2	D16_01	Diff (1-2)		-0.54	-0.274	-0.007	0.3653	0.4421	0.5602	0.1321	
	Variable	Method	T-Tests		DF	t Value	Pr > t				
	D16_01	Pooled	Variations	Equal	43	-2.07	0.0442				
	D16_01	Satterthwaite	Variations	Unequal	41.4	-2.12	0.0401				
			Equality of Variances				F Value	Pr > F			
	Variable	Method	Num DF	Den DF	F						
	D16_01	Folded	23	20	1.97		0.1293				
	Variable	A3	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum
Maximum	D16_02	Before 2000	24	1.8352	2.2083	2.5815	0.6868	0.8836	1.2395	0.1804	1
4	D16_02	2000 and after	21	2.5962	2.8571	3.1181	0.4385	0.5732	0.8278	0.1251	1
4	D16_02	Diff (1-2)		-1.104	-0.649	-0.194	0.624	0.7553	0.957	0.2257	
	Variable	Method	T-Tests		DF	t Value	Pr > t				
	D16_02	Pooled	Variations	Equal	43	-2.87	0.0063				
	D16_02	Satterthwaite	Variations	Unequal	39.8	-2.96	0.0052				
			Equality of Variances				F Value	Pr > F			
	Variable	Method	Num DF	Den DF	F						
	D16_02	Folded	23	20	2.38		0.0548				
	Variable	A3	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum
Maximum	D16_03	Before 2000	24	2.2939	2.7917	3.2894	0.9162	1.1788	1.6535	0.2406	1
4	D16_03	2000 and after	21	3.2144	3.5238	3.8332	0.52	0.6796	0.9814	0.1483	2
4	D16_03	Diff (1-2)		-1.322	-0.732	-0.142	0.8087	0.9788	1.2402	0.2925	
	Variable	Method	T-Tests		DF	t Value	Pr > t				
	D16_03	Pooled	Variations	Equal	43	-2.50	0.0162				
	D16_03	Satterthwaite	Variations	Unequal	37.6	-2.59	0.0136				
			Equality of Variances				F Value	Pr > F			
	Variable	Method	Num DF	Den DF	F						
	D16_03	Folded	23	20	3.01		0.0155				
	Variable	A3	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum
Maximum	D16_04	Before 2000	25	2.325	2.84	3.355	0.9742	1.2477	1.7357	0.2495	1
4	D16_04	2000 and after	21	3.6264	3.8095	3.9927	0.3078	0.4024	0.5811	0.0878	3
4	D16_04	Diff (1-2)		-1.543	-0.97	-0.396	0.7952	0.9606	1.2134	0.2843	
	Variable	Method	T-Tests		DF	t Value	Pr > t				
	D16_04	Pooled	Variations	Equal	44	-3.41	0.0014				
	D16_04	Satterthwaite	Variations	Unequal	29.8	-3.67	0.0010				
			Equality of Variances				F Value	Pr > F			
	Variable	Method	Num DF	Den DF	F						
	D16_04	Folded	24	20	9.61		<.0001				
	Variable	A3	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum
Maximum	D16_05	Before 2000	24	2.1144	2.625	3.1356	0.9397	1.2091	1.6961	0.2468	1
4	D16_05	2000 and after	21	2.9166	3.1905	3.4643	0.4602	0.6016	0.8687	0.1313	2
4	D16_05	Diff (1-2)		-1.153	-0.565	0.022	0.8054	0.9748	1.2351	0.2913	

		Variable	Method	T-Tests		DF	t Value	Pr > t			
		D16_05	Pooled	Variations	Equal	43	-1.94	0.0588			
		D16_05	Satterthwaite	Unequal	Unequal	34.7	-2.02	0.0509			
		Variable	Method	Equality of Variances		DF	F Value	Pr > F			
		D16_05	Folded F	Num DF	Den DF	23	4.04	0.0025			
Variable	A3	N	Lower CL	Mean	Upper CL	Lower CL	Std Dev	Upper CL	Std Dev	Std Err	Minimum
Maximum	D16_06	Before 2000	24	2.051	2.5	2.949	0.8263	1.0632	1.4914	0.217	1
4	D16_06	2000 and after	21	3.1208	3.4286	3.7363	0.5173	0.6761	0.9764	0.1475	2
4	D16_06	Diff (1-2)		-1.473	-0.929	-0.384	0.7469	0.904	1.1454	0.2701	
		Variable	Method	T-Tests		DF	t Value	Pr > t			
		D16_06	Pooled	Variations	Equal	43	-3.44	0.0013			
		D16_06	Satterthwaite	Unequal	Unequal	39.5	-3.54	0.0010			
		Variable	Method	Equality of Variances		DF	F Value	Pr > F			
		D16_06	Folded F	Num DF	Den DF	23	2.47	0.0448			
Variable	A3	N	Lower CL	Mean	Upper CL	Lower CL	Std Dev	Upper CL	Std Dev	Std Err	Minimum
Maximum	D16_07	Before 2000	24	1.8018	2.2917	2.7816	0.9017	1.1602	1.6275	0.2368	1
4	D16_07	2000 and after	21	2.8499	3.0952	3.3406	0.4123	0.539	0.7783	0.1176	2
4	D16_07	Diff (1-2)		-1.361	-0.804	-0.246	0.764	0.9247	1.1716	0.2763	
		Variable	Method	T-Tests		DF	t Value	Pr > t			
		D16_07	Pooled	Variations	Equal	43	-2.91	0.0057			
		D16_07	Satterthwaite	Unequal	Unequal	33.4	-3.04	0.0046			
		Variable	Method	Equality of Variances		DF	F Value	Pr > F			
		D16_07	Folded F	Num DF	Den DF	23	4.63	0.0010			
Variable	A3	N	Lower CL	Mean	Upper CL	Lower CL	Std Dev	Upper CL	Std Dev	Std Err	Minimum
Maximum	D16_08	Before 2000	24	2.2181	2.75	3.2819	0.9791	1.2597	1.7671	0.2571	1
4	D16_08	2000 and after	21	3.5036	3.7143	3.925	0.3542	0.4629	0.6685	0.101	3
4	D16_08	Diff (1-2)		-1.551	-0.964	-0.377	0.8047	0.9739	1.234	0.291	
		Variable	Method	T-Tests		DF	t Value	Pr > t			
		D16_08	Pooled	Variations	Equal	43	-3.31	0.0019			
		D16_08	Satterthwaite	Unequal	Unequal	29.8	-3.49	0.0015			
		Variable	Method	Equality of Variances		DF	F Value	Pr > F			
		D16_08	Folded F	Num DF	Den DF	23	7.41	<.0001			
Variable	A3	N	Lower CL	Mean	Upper CL	Lower CL	Std Dev	Upper CL	Std Dev	Std Err	Minimum
Maximum	D16_09	Before 2000	24	2.051	2.5	2.949	0.8263	1.0632	1.4914	0.217	1
4	D16_09	2000 and after	21	3.075	3.2857	3.4964	0.3542	0.4629	0.6685	0.101	3
4	D16_09	Diff (1-2)		-1.291	-0.786	-0.28	0.6934	0.8392	1.0633	0.2508	
		Variable	Method	T-Tests		DF	t Value	Pr > t			
		D16_09	Pooled	Variations	Equal	43	-3.13	0.0031			
		D16_09	Satterthwaite	Unequal	Unequal	32.3	-3.28	0.0025			
		Variable	Method	Equality of Variances		DF	F Value	Pr > F			
		D16_09	Folded F	Num DF	Den DF	23	5.28	0.0004			
Variable	A3	N	Lower CL	Mean	Upper CL	Lower CL	Std Dev	Upper CL	Std Dev	Std Err	Minimum
Maximum	D16_10	Before 2000	24	2.28	2.75	3.22	0.8652	1.1132	1.5615	0.2272	1
4	D16_10	2000 and after	21	3.2822	3.619	3.9559	0.5662	0.74	1.0686	0.1615	1
4	D16_10	Diff (1-2)		-1.446	-0.869	-0.292	0.7914	0.9579	1.2136	0.2862	
		Variable	Method	T-Tests		DF	t Value	Pr > t			
		D16_10	Pooled	Variations	Equal	43	-3.04	0.0041			
		D16_10	Satterthwaite	Unequal	Unequal	40.3	-3.12	0.0034			
		Variable	Method	Equality of Variances		DF	F Value	Pr > F			
		D16_10	Folded F	Num DF	Den DF	23	2.26	0.0695			

APPENDIX L: THE NPAR1WAY PROCEDURE (KRUSKAL-WALLIS TEST)

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The NPAR1WAY Procedure
Wilcoxon Scores (Rank Sums) for Variable B6_01
Classified by Variable A3
      Sum of      Expected      Std Dev      Mean
A3      Scores      Under H0      Under H0      Score
-----
Before 2000 15      225.0      225.0      0.0      15.0
2000 and after 14      210.0      210.0      0.0      15.0
Average scores were used for ties.

      Kruskal-Wallis Test
      Chi-Square      0.0000
      DF      1
      Pr > Chi-Square      1.0000

Wilcoxon Scores (Rank Sums) for Variable B6_02
Classified by Variable A3
      Sum of      Expected      Std Dev      Mean
A3      Scores      Under H0      Under H0      Score
-----
Before 2000 19      342.0      342.0      0.0      18.0
2000 and after 16      288.0      288.0      0.0      18.0
Average scores were used for ties.

      Kruskal-Wallis Test
      Chi-Square      0.0000
      DF      1
      Pr > Chi-Square      1.0000

Wilcoxon Scores (Rank Sums) for Variable B6_03
Classified by Variable A3
      Sum of      Expected      Std Dev      Mean
A3      Scores      Under H0      Under H0      Score
-----
Before 2000 19      342.0      342.0      0.0      18.0
2000 and after 16      288.0      288.0      0.0      18.0
Average scores were used for ties.

      Kruskal-Wallis Test
      Chi-Square      0.0000
      DF      1
      Pr > Chi-Square      1.0000

Wilcoxon Scores (Rank Sums) for Variable B6_04
Classified by Variable A3
      Sum of      Expected      Std Dev      Mean
A3      Scores      Under H0      Under H0      Score
-----
Before 2000 23      517.50      517.50      0.0      22.50
2000 and after 21      472.50      472.50      0.0      22.50
Average scores were used for ties.

      Kruskal-Wallis Test
      Chi-Square      0.0000
      DF      1
      Pr > Chi-Square      1.0000

Wilcoxon Scores (Rank Sums) for Variable B6_05
Classified by Variable A3
      Sum of      Expected      Std Dev      Mean
A3      Scores      Under H0      Under H0      Score
-----
Before 2000 24      552.0      552.0      0.0      23.0
2000 and after 21      483.0      483.0      0.0      23.0
Average scores were used for ties.

      Kruskal-Wallis Test
      Chi-Square      0.0000
      DF      1
      Pr > Chi-Square      1.0000

Wilcoxon Scores (Rank Sums) for Variable B6_06
Classified by Variable A3
      Sum of      Expected      Std Dev      Mean
A3      Scores      Under H0      Under H0      Score
-----
Before 2000 15      225.0      225.0      0.0      15.0
2000 and after 14      210.0      210.0      0.0      15.0
Average scores were used for ties.

      Kruskal-Wallis Test
      Chi-Square      0.0000
      DF      1
      Pr > Chi-Square      1.0000

Wilcoxon Scores (Rank Sums) for Variable B6_07
Classified by Variable A3
      Sum of      Expected      Std Dev      Mean
A3      Scores      Under H0      Under H0      Score
-----
Before 2000 18      342.0      342.0      0.0      19.0
2000 and after 19      361.0      361.0      0.0      19.0
Average scores were used for ties.

      Kruskal-Wallis Test
      Chi-Square      0.0000
      DF      1
      Pr > Chi-Square      1.0000

Wilcoxon Scores (Rank Sums) for Variable B6_08
Classified by Variable A3
      Sum of      Expected      Std Dev      Mean
A3      Scores      Under H0      Under H0      Score
-----
Before 2000 21      462.0      462.0      0.0      22.0
2000 and after 22      484.0      484.0      0.0      22.0
Average scores were used for ties.

      Kruskal-Wallis Test
      Chi-Square      0.0000
      DF      1
      Pr > Chi-Square      1.0000

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Wilcoxon Scores (Rank Sums) for Variable B6_09
 Classified by Variable A3

A3	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
Before 2000	23	529.0	529.0	0.0	23.0
2000 and after	22	506.0	506.0	0.0	23.0

Average scores were used for ties.

Kruskal-Wallis Test
 Chi-Square 0.0000
 DF 1
 Pr > Chi-Square 1.0000

Wilcoxon Scores (Rank Sums) for Variable B6_10
 Classified by Variable A3

A3	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
Before 2000	20	380.0	380.0	0.0	19.0
2000 and after	17	323.0	323.0	0.0	19.0

Average scores were used for ties.

Kruskal-Wallis Test
 Chi-Square 0.0000
 DF 1
 Pr > Chi-Square 1.0000

Wilcoxon Scores (Rank Sums) for Variable B6_11
 Classified by Variable A3

A3	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
Before 2000	22	462.0	462.0	0.0	21.0
2000 and after	19	399.0	399.0	0.0	21.0

Average scores were used for ties.

Kruskal-Wallis Test
 Chi-Square 0.0000
 DF 1
 Pr > Chi-Square 1.0000

Wilcoxon Scores (Rank Sums) for Variable B6_12
 Classified by Variable A3

A3	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
Before 2000	21	430.50	430.50	0.0	20.50
2000 and after	19	389.50	389.50	0.0	20.50

Average scores were used for ties.

Kruskal-Wallis Test
 Chi-Square 0.0000
 DF 1
 Pr > Chi-Square 1.0000

Wilcoxon Scores (Rank Sums) for Variable B8_01
 Classified by Variable A3

A3	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
Before 2000	24	604.0	564.0	43.606940	25.166667
2000 and after	22	477.0	517.0	43.606940	21.681818

Average scores were used for ties.

Kruskal-Wallis Test
 Chi-Square 0.8414
 DF 1
 Pr > Chi-Square 0.3590

Wilcoxon Scores (Rank Sums) for Variable B8_02
 Classified by Variable A3

A3	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
Before 2000	23	571.0	506.0	39.924347	24.826087
2000 and after	20	375.0	440.0	39.924347	18.750000

Average scores were used for ties.

Kruskal-Wallis Test
 Chi-Square 2.6506
 DF 1
 Pr > Chi-Square 0.1035

Wilcoxon Scores (Rank Sums) for Variable B8_03
 Classified by Variable A3

A3	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
Before 2000	24	610.50	564.0	39.743380	25.437500
2000 and after	22	470.50	517.0	39.743380	21.386364

Average scores were used for ties.

Kruskal-Wallis Test
 Chi-Square 1.3689
 DF 1
 Pr > Chi-Square 0.2420

Wilcoxon Scores (Rank Sums) for Variable B8_04
 Classified by Variable A3

A3	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
Before 2000	22	535.0	495.0	40.020634	24.318182
2000 and after	22	455.0	495.0	40.020634	20.681818

Average scores were used for ties.

Kruskal-Wallis Test
 Chi-Square 0.9990
 DF 1
 Pr > Chi-Square 0.3176

Wilcoxon Scores (Rank Sums) for Variable B8_05
 Classified by Variable A3

A3	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
Before 2000	23	495.50	529.0	41.315655	21.543478
2000 and after	22	539.50	506.0	41.315655	24.522727

Average scores were used for ties.

```

Kruskal-Wallis Test
Chi-Square      0.6574
DF              1
Pr > Chi-Square 0.4175

Wilcoxon Scores (Rank Sums) for Variable B8_06
Classified by Variable A3
Sum of Expected Std Dev Mean
A3 Scores Under H0 Under H0 Score
Before 2000 23 476.0 529.0 41.533119 20.695652
2000 and after 22 559.0 506.0 41.533119 25.409091
Average scores were used for ties.

```

```

Kruskal-Wallis Test
Chi-Square      1.6284
DF              1
Pr > Chi-Square 0.2019

Wilcoxon Scores (Rank Sums) for Variable B8_07
Classified by Variable A3
Sum of Expected Std Dev Mean
A3 Scores Under H0 Under H0 Score
Before 2000 25 601.0 600.0 44.606539 24.040000
2000 and after 22 527.0 528.0 44.606539 23.954545
Average scores were used for ties.

```

```

Kruskal-Wallis Test
Chi-Square      0.0005
DF              1
Pr > Chi-Square 0.9821

Wilcoxon Scores (Rank Sums) for Variable B8_08
Classified by Variable A3
Sum of Expected Std Dev Mean
A3 Scores Under H0 Under H0 Score
Before 2000 25 599.0 600.0 45.006809 23.960000
2000 and after 22 529.0 528.0 45.006809 24.045455
Average scores were used for ties.

```

```

Kruskal-Wallis Test
Chi-Square      0.0005
DF              1
Pr > Chi-Square 0.9823

Wilcoxon Scores (Rank Sums) for Variable B8_09
Classified by Variable A3
Sum of Expected Std Dev Mean
A3 Scores Under H0 Under H0 Score
Before 2000 23 525.50 529.0 41.847275 22.847826
2000 and after 22 509.50 506.0 41.847275 23.159091
Average scores were used for ties.

```

```

Kruskal-Wallis Test
Chi-Square      0.0070
DF              1
Pr > Chi-Square 0.9333

Wilcoxon Scores (Rank Sums) for Variable B8_10
Classified by Variable A3
Sum of Expected Std Dev Mean
A3 Scores Under H0 Under H0 Score
Before 2000 20 447.0 410.0 35.658638 22.350
2000 and after 20 373.0 410.0 35.658638 18.650
Average scores were used for ties.

```

```

Kruskal-Wallis Test
Chi-Square      1.0766
DF              1
Pr > Chi-Square 0.2994

Wilcoxon Scores (Rank Sums) for Variable B9_01
Classified by Variable A3
Sum of Expected Std Dev Mean
A3 Scores Under H0 Under H0 Score
Before 2000 25 664.50 600.0 30.538643 26.580000
2000 and after 22 463.50 528.0 30.538643 21.068182
Average scores were used for ties.

```

```

Kruskal-Wallis Test
Chi-Square      4.4609
DF              1
Pr > Chi-Square 0.0347

Wilcoxon Scores (Rank Sums) for Variable B9_02
Classified by Variable A3
Sum of Expected Std Dev Mean
A3 Scores Under H0 Under H0 Score
Before 2000 25 638.0 600.0 35.432115 25.520000
2000 and after 22 490.0 528.0 35.432115 22.272727
Average scores were used for ties.

```

```

Kruskal-Wallis Test
Chi-Square      1.1502
DF              1
Pr > Chi-Square 0.2835

Wilcoxon Scores (Rank Sums) for Variable B9_03
Classified by Variable A3
Sum of Expected Std Dev Mean
A3 Scores Under H0 Under H0 Score
Before 2000 22 528.0 495.0 26.996554 24.0
2000 and after 22 462.0 495.0 26.996554 21.0
Average scores were used for ties.

```

```

Kruskal-Wallis Test
Chi-Square      1.4942
DF              1
Pr > Chi-Square 0.2216

Wilcoxon Scores (Rank Sums) for Variable B9_04
Classified by Variable A3
Sum of Expected Std Dev Mean

```

A3	N	Scores	Under H0	Under H0	Score
Before 2000	25	619.0	600.0	27.116897	24.760000
2000 and after	22	509.0	528.0	27.116897	23.136364

Average scores were used for ties.

Kruskal-Wallis Test
 Chi-Square 0.4909
 DF 1
 Pr > Chi-Square 0.4835

Wilcoxon Scores (Rank Sums) for Variable B9_05
 Classified by Variable A3

A3	N	Scores	Under H0	Under H0	Std Dev	Mean
Before 2000	25	654.0	600.0	40.546538	26.160000	
2000 and after	22	474.0	528.0	40.546538	21.545455	

Average scores were used for ties.

Kruskal-Wallis Test
 Chi-Square 1.7737
 DF 1
 Pr > Chi-Square 0.1829

Wilcoxon Scores (Rank Sums) for Variable B9_06
 Classified by Variable A3

A3	N	Scores	Under H0	Under H0	Std Dev	Mean
Before 2000	25	594.0	600.0	30.538643	23.760000	
2000 and after	22	534.0	528.0	30.538643	24.272727	

Average scores were used for ties.

Kruskal-Wallis Test
 Chi-Square 0.0386
 DF 1
 Pr > Chi-Square 0.8442

Wilcoxon Scores (Rank Sums) for Variable B9_07
 Classified by Variable A3

A3	N	Scores	Under H0	Under H0	Std Dev	Mean
Before 2000	24	573.0	564.0	24.522099	23.875000	
2000 and after	22	508.0	517.0	24.522099	23.090909	

Average scores were used for ties.

Kruskal-Wallis Test
 Chi-Square 0.1347
 DF 1
 Pr > Chi-Square 0.7136

Wilcoxon Scores (Rank Sums) for Variable B9_08
 Classified by Variable A3

A3	N	Scores	Under H0	Under H0	Std Dev	Mean
Before 2000	24	518.0	540.0	31.828026	21.583333	
2000 and after	20	472.0	450.0	31.828026	23.600000	

Average scores were used for ties.

Kruskal-Wallis Test
 Chi-Square 0.4778
 DF 1
 Pr > Chi-Square 0.4894

Wilcoxon Scores (Rank Sums) for Variable B9_09
 Classified by Variable A3

A3	N	Scores	Under H0	Under H0	Std Dev	Mean
Before 2000	25	542.50	575.0	36.773261	21.7000	
2000 and after	20	492.50	460.0	36.773261	24.6250	

Average scores were used for ties.

Kruskal-Wallis Test
 Chi-Square 0.7811
 DF 1
 Pr > Chi-Square 0.3768

Wilcoxon Scores (Rank Sums) for Variable B9_10
 Classified by Variable A3

A3	N	Scores	Under H0	Under H0	Std Dev	Mean
Before 2000	25	595.50	600.0	27.116897	23.820000	
2000 and after	22	532.50	528.0	27.116897	24.204545	

Average scores were used for ties.

Kruskal-Wallis Test
 Chi-Square 0.0275
 DF 1
 Pr > Chi-Square 0.8682

Wilcoxon Scores (Rank Sums) for Variable B9_11
 Classified by Variable A3

A3	N	Scores	Under H0	Under H0	Std Dev	Mean
Before 2000	25	602.0	600.0	36.348255	24.080000	
2000 and after	22	526.0	528.0	36.348255	23.909091	

Average scores were used for ties.

Kruskal-Wallis Test
 Chi-Square 0.0030
 DF 1
 Pr > Chi-Square 0.9561

Wilcoxon Scores (Rank Sums) for Variable B9_12
 Classified by Variable A3

A3	N	Scores	Under H0	Under H0	Std Dev	Mean
Before 2000	24	585.0	564.0	22.199099	24.375000	
2000 and after	22	496.0	517.0	22.199099	22.545455	

Average scores were used for ties.

Kruskal-Wallis Test
 Chi-Square 0.8949
 DF 1

Pr > Chi-Square 0.3442

Wilcoxon Scores (Rank Sums) for Variable B9_13

Classified by Variable A3

A3	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
Before 2000	24	629.0	564.0	29.861904	26.208333
2000 and after	22	452.0	517.0	29.861904	20.545455

Average scores were used for ties.

Kruskal-Wallis Test
Chi-Square 4.7380
DF 1
Pr > Chi-Square 0.0295

Wilcoxon Scores (Rank Sums) for Variable C10_01

Classified by Variable A3

A3	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
Before 2000	24	438.50	564.0	43.745642	18.270833
2000 and after	22	642.50	517.0	43.745642	29.204545

Average scores were used for ties.

Kruskal-Wallis Test
Chi-Square 8.2303
DF 1
Pr > Chi-Square 0.0041

Wilcoxon Scores (Rank Sums) for Variable C10_02

Classified by Variable A3

A3	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
Before 2000	22	441.50	495.0	40.546126	20.068182
2000 and after	22	548.50	495.0	40.546126	24.931818

Average scores were used for ties.

Kruskal-Wallis Test
Chi-Square 1.7410
DF 1
Pr > Chi-Square 0.1870

Wilcoxon Scores (Rank Sums) for Variable C10_03

Classified by Variable A3

A3	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
Before 2000	25	541.0	600.0	43.681607	21.640000
2000 and after	22	587.0	528.0	43.681607	26.681818

Average scores were used for ties.

Kruskal-Wallis Test
Chi-Square 1.8243
DF 1
Pr > Chi-Square 0.1768

Wilcoxon Scores (Rank Sums) for Variable C10_04

Classified by Variable A3

A3	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
Before 2000	25	578.0	600.0	33.464051	23.120
2000 and after	22	550.0	528.0	33.464051	25.000

Average scores were used for ties.

Kruskal-Wallis Test
Chi-Square 0.4322
DF 1
Pr > Chi-Square 0.5109

Wilcoxon Scores (Rank Sums) for Variable C10_05

Classified by Variable A3

A3	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
Before 2000	25	538.0	600.0	45.561559	21.520000
2000 and after	22	590.0	528.0	45.561559	26.818182

Average scores were used for ties.

Kruskal-Wallis Test
Chi-Square 1.8518
DF 1
Pr > Chi-Square 0.1736

Wilcoxon Scores (Rank Sums) for Variable C10_06

Classified by Variable A3

A3	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
Before 2000	24	566.0	564.0	30.015262	23.583333
2000 and after	22	515.0	517.0	30.015262	23.409091

Average scores were used for ties.

Kruskal-Wallis Test
Chi-Square 0.0044
DF 1
Pr > Chi-Square 0.9469

Wilcoxon Scores (Rank Sums) for Variable C10_07

Classified by Variable A3

A3	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
Before 2000	23	528.50	529.0	21.740515	22.978261
2000 and after	22	506.50	506.0	21.740515	23.022727

Average scores were used for ties.

Kruskal-Wallis Test
Chi-Square 0.0005
DF 1
Pr > Chi-Square 0.9817

Wilcoxon Scores (Rank Sums) for Variable C10_08

Classified by Variable A3

A3	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
Before 2000	23	495.0	506.0	26.388779	21.521739
2000 and after	20	451.0	440.0	26.388779	22.550000

Average scores were used for ties.

Kruskal-Wallis Test
Chi-Square 0.1738
DF 1
Pr > Chi-Square 0.6768

Wilcoxon Scores (Rank Sums) for Variable C10_09
Classified by Variable A3

A3	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
Before 2000	24	530.0	564.0	42.518538	22.083333
2000 and after	22	551.0	517.0	42.518538	25.045455

Average scores were used for ties.

Kruskal-Wallis Test
Chi-Square 0.6394
DF 1
Pr > Chi-Square 0.4239

Wilcoxon Scores (Rank Sums) for Variable C10_10
Classified by Variable A3

A3	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
Before 2000	25	590.0	587.50	32.705593	23.600000
2000 and after	21	491.0	493.50	32.705593	23.380952

Average scores were used for ties.

Kruskal-Wallis Test
Chi-Square 0.0058
DF 1
Pr > Chi-Square 0.9391

Wilcoxon Scores (Rank Sums) for Variable C10_11
Classified by Variable A3

A3	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
Before 2000	25	594.0	600.0	45.112666	23.760000
2000 and after	22	534.0	528.0	45.112666	24.272727

Average scores were used for ties.

Kruskal-Wallis Test
Chi-Square 0.0177
DF 1
Pr > Chi-Square 0.8942

Wilcoxon Scores (Rank Sums) for Variable C10_12
Classified by Variable A3

A3	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
Before 2000	24	523.0	564.0	43.228010	21.791667
2000 and after	22	558.0	517.0	43.228010	25.363636

Average scores were used for ties.

Kruskal-Wallis Test
Chi-Square 0.8996
DF 1
Pr > Chi-Square 0.3429

Wilcoxon Scores (Rank Sums) for Variable C10_13
Classified by Variable A3

A3	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
Before 2000	24	513.50	564.0	43.226535	21.395833
2000 and after	22	567.50	517.0	43.226535	25.795455

Average scores were used for ties.

Kruskal-Wallis Test
Chi-Square 1.3648
DF 1
Pr > Chi-Square 0.2427

Wilcoxon Scores (Rank Sums) for Variable C11_01
Classified by Variable A3

A3	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
Before 2000	25	623.0	600.0	37.878524	24.920000
2000 and after	22	505.0	528.0	37.878524	22.954545

Average scores were used for ties.

Kruskal-Wallis Test
Chi-Square 0.3687
DF 1
Pr > Chi-Square 0.5437

Wilcoxon Scores (Rank Sums) for Variable C11_02
Classified by Variable A3

A3	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
Before 2000	25	595.0	600.0	38.054412	23.800000
2000 and after	22	533.0	528.0	38.054412	24.227273

Average scores were used for ties.

Kruskal-Wallis Test
Chi-Square 0.0173
DF 1
Pr > Chi-Square 0.8955

Wilcoxon Scores (Rank Sums) for Variable C11_03
Classified by Variable A3

A3	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
Before 2000	25	605.0	600.0	39.016588	24.200000
2000 and after	22	523.0	528.0	39.016588	23.772727

Average scores were used for ties.

Kruskal-Wallis Test
Chi-Square 0.0164
DF 1
Pr > Chi-Square 0.8980

Wilcoxon Scores (Rank Sums) for Variable C11_04
Classified by Variable A3

A3	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
Before 2000	25	584.0	600.0	40.147738	23.360000
2000 and after	22	544.0	528.0	40.147738	24.727273

Average scores were used for ties.

Kruskal-Wallis Test
 Chi-Square 0.1588
 DF 1
 Pr > Chi-Square 0.6902

Wilcoxon Scores (Rank Sums) for Variable C11_05
 Classified by Variable A3

A3	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
Before 2000	25	604.0	587.50	33.696751	24.160000
2000 and after	21	477.0	493.50	33.696751	22.714286

Average scores were used for ties.

Kruskal-Wallis Test
 Chi-Square 0.2398
 DF 1
 Pr > Chi-Square 0.6244

Wilcoxon Scores (Rank Sums) for Variable C11_06
 Classified by Variable A3

A3	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
Before 2000	25	563.50	587.50	41.052723	22.540000
2000 and after	21	517.50	493.50	41.052723	24.642857

Average scores were used for ties.

Kruskal-Wallis Test
 Chi-Square 0.3418
 DF 1
 Pr > Chi-Square 0.5588

Wilcoxon Scores (Rank Sums) for Variable C11_07
 Classified by Variable A3

A3	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
Before 2000	25	534.0	587.50	43.204938	21.360000
2000 and after	21	547.0	493.50	43.204938	26.047619

Average scores were used for ties.

Kruskal-Wallis Test
 Chi-Square 1.5333
 DF 1
 Pr > Chi-Square 0.2156

Wilcoxon Scores (Rank Sums) for Variable C11_08
 Classified by Variable A3

A3	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
Before 2000	24	479.0	552.0	40.730824	19.958333
2000 and after	21	556.0	483.0	40.730824	26.476190

Average scores were used for ties.

Kruskal-Wallis Test
 Chi-Square 3.2122
 DF 1
 Pr > Chi-Square 0.0731

Wilcoxon Scores (Rank Sums) for Variable C11_09
 Classified by Variable A3

A3	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
Before 2000	25	551.50	600.0	43.632076	22.060000
2000 and after	22	576.50	528.0	43.632076	26.204545

Average scores were used for ties.

Kruskal-Wallis Test
 Chi-Square 1.2356
 DF 1
 Pr > Chi-Square 0.2663

Wilcoxon Scores (Rank Sums) for Variable C11_10
 Classified by Variable A3

A3	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
Before 2000	25	533.50	587.50	42.068784	21.340000
2000 and after	21	547.0	493.50	42.068784	26.071429

Average scores were used for ties.

Kruskal-Wallis Test
 Chi-Square 1.6477
 DF 1
 Pr > Chi-Square 0.1993

Wilcoxon Scores (Rank Sums) for Variable C11_11
 Classified by Variable A3

A3	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
Before 2000	24	481.0	540.0	38.762572	20.041667
2000 and after	20	509.0	450.0	38.762572	25.450000

Average scores were used for ties.

Kruskal-Wallis Test
 Chi-Square 2.3167
 DF 1
 Pr > Chi-Square 0.1280

Wilcoxon Scores (Rank Sums) for Variable C11_12
 Classified by Variable A3

A3	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
Before 2000	24	464.0	540.0	39.788022	19.333333
2000 and after	20	526.0	450.0	39.788022	26.300000

Average scores were used for ties.

Kruskal-Wallis Test
 Chi-Square 3.6486

```

DF > Chi-Square 0.0561
Wilcoxon Scores (Rank Sums) for Variable C11_13
Classified by Variable A3
Sum of Expected Std Dev Mean
A3 Scores Under H0 Under H0 Score
Before 2000 24 549.50 552.0 41.437137 22.895833
2000 and after 21 485.50 483.0 41.437137 23.119048
Average scores were used for ties.

```

```

Kruskal-Wallis Test
Chi-Square 0.0036
DF 1
Pr > Chi-Square 0.9519

```

```

Wilcoxon Scores (Rank Sums) for Variable C11_14
Classified by Variable A3
Sum of Expected Std Dev Mean
A3 Scores Under H0 Under H0 Score
Before 2000 25 637.50 587.50 31.329247 26.300000
2000 and after 21 423.50 493.50 31.329247 20.166667
Average scores were used for ties.

```

```

Kruskal-Wallis Test
Chi-Square 4.9922
DF 1
Pr > Chi-Square 0.0255

```

```

Wilcoxon Scores (Rank Sums) for Variable C11_15
Classified by Variable A3
Sum of Expected Std Dev Mean
A3 Scores Under H0 Under H0 Score
Before 2000 21 384.50 420.0 22.258829 18.309524
2000 and after 18 395.50 360.0 22.258829 21.972222
Average scores were used for ties.

```

```

Kruskal-Wallis Test
Chi-Square 2.5436
DF 1
Pr > Chi-Square 0.1107

```

```

Wilcoxon Scores (Rank Sums) for Variable C11_16
Classified by Variable A3
Sum of Expected Std Dev Mean
A3 Scores Under H0 Under H0 Score
Before 2000 24 522.0 552.0 34.777474 21.750000
2000 and after 21 513.0 483.0 34.777474 24.428571
Average scores were used for ties.

```

```

Kruskal-Wallis Test
Chi-Square 0.7441
DF 1
Pr > Chi-Square 0.3883

```

```

Wilcoxon Scores (Rank Sums) for Variable C11_17
Classified by Variable A3
Sum of Expected Std Dev Mean
A3 Scores Under H0 Under H0 Score
Before 2000 24 526.0 552.0 39.878224 21.916667
2000 and after 21 509.0 483.0 39.878224 24.238095
Average scores were used for ties.

```

```

Kruskal-Wallis Test
Chi-Square 0.4251
DF 1
Pr > Chi-Square 0.5144

```

```

Wilcoxon Scores (Rank Sums) for Variable C11_18
Classified by Variable A3
Sum of Expected Std Dev Mean
A3 Scores Under H0 Under H0 Score
Before 2000 25 549.0 575.0 40.151229 21.960
2000 and after 20 486.0 460.0 40.151229 24.300
Average scores were used for ties.

```

```

Kruskal-Wallis Test
Chi-Square 0.4193
DF 1
Pr > Chi-Square 0.5173

```

```

Wilcoxon Scores (Rank Sums) for Variable C11_19
Classified by Variable A3
Sum of Expected Std Dev Mean
A3 Scores Under H0 Under H0 Score
Before 2000 24 517.0 552.0 36.556308 21.541667
2000 and after 21 518.0 483.0 36.556308 24.666667
Average scores were used for ties.

```

```

Kruskal-Wallis Test
Chi-Square 0.9167
DF 1
Pr > Chi-Square 0.3384

```

```

Wilcoxon Scores (Rank Sums) for Variable C11_20
Classified by Variable A3
Sum of Expected Std Dev Mean
A3 Scores Under H0 Under H0 Score
Before 2000 25 537.0 587.50 38.763263 21.480000
2000 and after 21 544.0 493.50 38.763263 25.904762
Average scores were used for ties.

```

```

Kruskal-Wallis Test
Chi-Square 1.6972
DF 1
Pr > Chi-Square 0.1926

```

```

Wilcoxon Scores (Rank Sums) for Variable C12_01
Classified by Variable A3
Sum of Expected Std Dev Mean
A3 Scores Under H0 Under H0 Score
Before 2000 25 605.0 600.0 39.016588 24.200000

```

```

2000 and after      22      523.0      528.0      39.016588      23.772727
Average scores were used for ties.

Kruskal-wallis Test
Chi-Square          0.0164
DF                  1
Pr > Chi-Square     0.8980

Wilcoxon Scores (Rank Sums) for Variable C12_02
Classified by Variable A3
Sum of Expected Std Dev Mean
A3 Scores Under H0 Under H0 Score
Before 2000      24      548.0      564.0      42.423947      22.833333
2000 and after   22      533.0      517.0      42.423947      24.227273
Average scores were used for ties.

Kruskal-wallis Test
Chi-Square          0.1422
DF                  1
Pr > Chi-Square     0.7061

Wilcoxon Scores (Rank Sums) for Variable C12_03
Classified by Variable A3
Sum of Expected Std Dev Mean
A3 Scores Under H0 Under H0 Score
Before 2000      25      536.50      587.50      42.554313      21.460000
2000 and after   21      544.50      493.50      42.554313      25.928571
Average scores were used for ties.

Kruskal-wallis Test
Chi-Square          1.4363
DF                  1
Pr > Chi-Square     0.2307

Wilcoxon Scores (Rank Sums) for Variable C12_04
Classified by Variable A3
Sum of Expected Std Dev Mean
A3 Scores Under H0 Under H0 Score
Before 2000      24      496.0      552.0      42.181426      20.666667
2000 and after   21      539.0      483.0      42.181426      25.666667
Average scores were used for ties.

Kruskal-wallis Test
Chi-Square          1.7625
DF                  1
Pr > Chi-Square     0.1843

Wilcoxon Scores (Rank Sums) for Variable C12_05
Classified by Variable A3
Sum of Expected Std Dev Mean
A3 Scores Under H0 Under H0 Score
Before 2000      25      503.50      600.0      43.037696      20.140000
2000 and after   22      624.50      528.0      43.037696      28.386364
Average scores were used for ties.

Kruskal-wallis Test
Chi-Square          5.0276
DF                  1
Pr > Chi-Square     0.0249

Wilcoxon Scores (Rank Sums) for Variable C12_06
Classified by Variable A3
Sum of Expected Std Dev Mean
A3 Scores Under H0 Under H0 Score
Before 2000      24      513.0      564.0      42.698132      21.375000
2000 and after   22      568.0      517.0      42.698132      25.818182
Average scores were used for ties.

Kruskal-wallis Test
Chi-Square          1.4267
DF                  1
Pr > Chi-Square     0.2323

Wilcoxon Scores (Rank Sums) for Variable C12_07
Classified by Variable A3
Sum of Expected Std Dev Mean
A3 Scores Under H0 Under H0 Score
Before 2000      23      489.50      529.0      34.234161      21.282609
2000 and after   22      545.50      506.0      34.234161      24.795455
Average scores were used for ties.

Kruskal-wallis Test
Chi-Square          1.3313
DF                  1
Pr > Chi-Square     0.2486

Wilcoxon Scores (Rank Sums) for Variable C12_08
Classified by Variable A3
Sum of Expected Std Dev Mean
A3 Scores Under H0 Under H0 Score
Before 2000      25      543.0      587.50      43.082958      21.720000
2000 and after   21      538.0      493.50      43.082958      25.619048
Average scores were used for ties.

Kruskal-wallis Test
Chi-Square          1.0669
DF                  1
Pr > Chi-Square     0.3017

Wilcoxon Scores (Rank Sums) for Variable C12_09
Classified by Variable A3
Sum of Expected Std Dev Mean
A3 Scores Under H0 Under H0 Score
Before 2000      25      582.0      587.50      42.017508      23.280000
2000 and after   21      499.0      493.50      42.017508      23.761905
Average scores were used for ties.

```

```

Kruskal-wallis Test
Chi-Square      0.0171
DF              1
Pr > Chi-Square 0.8959

Wilcoxon Scores (Rank Sums) for Variable C12_10
Classified by Variable A3
Sum of Expected Std Dev Mean
A3 Scores Under H0 Under H0 Score
Before 2000 25 540.0 600.0 42.418502 21.600000
2000 and after 22 588.0 528.0 42.418502 26.727273
Average scores were used for ties.

```

```

Kruskal-wallis Test
Chi-Square      2.0007
DF              1
Pr > Chi-Square 0.1572

Wilcoxon Scores (Rank Sums) for Variable C12_11
Classified by Variable A3
Sum of Expected Std Dev Mean
A3 Scores Under H0 Under H0 Score
Before 2000 24 490.50 564.0 37.733466 20.437500
2000 and after 22 590.50 517.0 37.733466 26.840909
Average scores were used for ties.

```

```

Kruskal-wallis Test
Chi-Square      3.7942
DF              1
Pr > Chi-Square 0.0514

Wilcoxon Scores (Rank Sums) for Variable C12_12
Classified by Variable A3
Sum of Expected Std Dev Mean
A3 Scores Under H0 Under H0 Score
Before 2000 24 507.0 564.0 41.769554 21.125000
2000 and after 22 574.0 517.0 41.769554 26.090909
Average scores were used for ties.

```

```

Kruskal-wallis Test
Chi-Square      1.8622
DF              1
Pr > Chi-Square 0.1724

Wilcoxon Scores (Rank Sums) for Variable C12_13
Classified by Variable A3
Sum of Expected Std Dev Mean
A3 Scores Under H0 Under H0 Score
Before 2000 24 500.0 564.0 37.777380 20.833333
2000 and after 22 581.0 517.0 37.777380 26.409091
Average scores were used for ties.

```

```

Kruskal-wallis Test
Chi-Square      2.8701
DF              1
Pr > Chi-Square 0.0902

Wilcoxon Scores (Rank Sums) for Variable C12_14
Classified by Variable A3
Sum of Expected Std Dev Mean
A3 Scores Under H0 Under H0 Score
Before 2000 25 507.0 600.0 38.656317 20.280000
2000 and after 22 621.0 528.0 38.656317 28.227273
Average scores were used for ties.

```

```

Kruskal-wallis Test
Chi-Square      5.7880
DF              1
Pr > Chi-Square 0.0161

Wilcoxon Scores (Rank Sums) for Variable C12_15
Classified by Variable A3
Sum of Expected Std Dev Mean
A3 Scores Under H0 Under H0 Score
Before 2000 25 543.50 600.0 43.064287 21.740000
2000 and after 22 584.50 528.0 43.064287 26.568182
Average scores were used for ties.

```

```

Kruskal-wallis Test
Chi-Square      1.7213
DF              1
Pr > Chi-Square 0.1895

Wilcoxon Scores (Rank Sums) for Variable C12_16
Classified by Variable A3
Sum of Expected Std Dev Mean
A3 Scores Under H0 Under H0 Score
Before 2000 25 532.0 600.0 36.859077 21.280000
2000 and after 22 596.0 528.0 36.859077 27.090909
Average scores were used for ties.

```

```

Kruskal-wallis Test
Chi-Square      3.4035
DF              1
Pr > Chi-Square 0.0651

Wilcoxon Scores (Rank Sums) for Variable C12_17
Classified by Variable A3
Sum of Expected Std Dev Mean
A3 Scores Under H0 Under H0 Score
Before 2000 25 549.50 587.50 42.333219 21.980000
2000 and after 21 531.50 493.50 42.333219 25.309524
Average scores were used for ties.

```

```

Kruskal-wallis Test
Chi-Square      0.8058
DF              1
Pr > Chi-Square 0.3694

Wilcoxon Scores (Rank Sums) for Variable C12_18
Classified by Variable A3
Sum of Expected Std Dev Mean
A3 Scores Under H0 Under H0 Score
Before 2000 25 558.0 600.0 43.052471 22.320000
2000 and after 22 570.0 528.0 43.052471 25.909091
Average scores were used for ties.

```

```

Kruskal-wallis Test
Chi-Square      0.9517
DF              1
Pr > Chi-Square 0.3293

Wilcoxon Scores (Rank Sums) for Variable C12_19
Classified by Variable A3
Sum of Expected Std Dev Mean
A3 Scores Under H0 Under H0 Score
Before 2000 25 595.0 600.0 36.693060 23.800000
2000 and after 22 533.0 528.0 36.693060 24.227273
Average scores were used for ties.

```

```

Kruskal-wallis Test
Chi-Square      0.0186
DF              1
Pr > Chi-Square 0.8916

Wilcoxon Scores (Rank Sums) for Variable C12_20
Classified by Variable A3
Sum of Expected Std Dev Mean
A3 Scores Under H0 Under H0 Score
Before 2000 25 581.50 600.0 39.486470 23.260000
2000 and after 22 546.50 528.0 39.486470 24.840909
Average scores were used for ties.

```

```

Kruskal-wallis Test
Chi-Square      0.2195
DF              1
Pr > Chi-Square 0.6394

Wilcoxon Scores (Rank Sums) for Variable C12_21
Classified by Variable A3
Sum of Expected Std Dev Mean
A3 Scores Under H0 Under H0 Score
Before 2000 25 509.0 600.0 40.187322 20.360000
2000 and after 22 619.0 528.0 40.187322 28.136364
Average scores were used for ties.

```

```

Kruskal-wallis Test
Chi-Square      5.1275
DF              1
Pr > Chi-Square 0.0235

Wilcoxon Scores (Rank Sums) for Variable C12_22
Classified by Variable A3
Sum of Expected Std Dev Mean
A3 Scores Under H0 Under H0 Score
Before 2000 25 516.50 600.0 39.396171 20.660000
2000 and after 22 611.50 528.0 39.396171 27.795455
Average scores were used for ties.

```

```

Kruskal-wallis Test
Chi-Square      4.4923
DF              1
Pr > Chi-Square 0.0340

Wilcoxon Scores (Rank Sums) for Variable C12_23
Classified by Variable A3
Sum of Expected Std Dev Mean
A3 Scores Under H0 Under H0 Score
Before 2000 25 514.50 600.0 44.680617 20.580000
2000 and after 22 613.50 528.0 44.680617 27.886364
Average scores were used for ties.

```

```

Kruskal-wallis Test
Chi-Square      3.6618
DF              1
Pr > Chi-Square 0.0557

Wilcoxon Scores (Rank Sums) for Variable C12_24
Classified by Variable A3
Sum of Expected Std Dev Mean
A3 Scores Under H0 Under H0 Score
Before 2000 24 543.50 564.0 38.562579 22.645833
2000 and after 22 537.50 517.0 38.562579 24.431818
Average scores were used for ties.

```

```

Kruskal-wallis Test
Chi-Square      0.2826
DF              1
Pr > Chi-Square 0.5950

Wilcoxon Scores (Rank Sums) for Variable C12_25
Classified by Variable A3
Sum of Expected Std Dev Mean
A3 Scores Under H0 Under H0 Score
Before 2000 24 487.50 564.0 36.982409 20.312500
2000 and after 22 593.50 517.0 36.982409 26.977273
Average scores were used for ties.

```

```

Kruskal-wallis Test
Chi-Square      4.2789
DF              1
Pr > Chi-Square 0.0386

Wilcoxon Scores (Rank Sums) for Variable C12_26
Classified by Variable A3
Sum of Expected Std Dev Mean
A3 Scores Under H0 Under H0 Score
Before 2000 24 529.50 564.0 41.299753 22.062500
2000 and after 22 551.50 517.0 41.299753 25.068182
Average scores were used for ties.

```

```

Kruskal-wallis Test
Chi-Square      0.6978
DF              1
Pr > Chi-Square 0.4035

Wilcoxon Scores (Rank Sums) for Variable C13_01
Classified by Variable A3
Sum of Expected Std Dev Mean
A3 Scores Under H0 Under H0 Score
Before 2000 25 575.0 575.0 0.0 23.0
2000 and after 20 460.0 460.0 0.0 23.0
Average scores were used for ties.
z includes a continuity correction of 0.5.

```

```

Kruskal-wallis Test
Chi-Square      0.0000
DF              1
Pr > Chi-Square 1.0000

Wilcoxon Scores (Rank Sums) for Variable C13_02
Classified by Variable A3
Sum of Expected Std Dev Mean
A3 Scores Under H0 Under H0 Score
Before 2000 25 532.50 575.0 36.306774 21.3000
2000 and after 20 502.50 460.0 36.306774 25.1250
Average scores were used for ties.

```

```

Kruskal-wallis Test
Chi-Square      1.3703
DF              1
Pr > Chi-Square 0.2418

Wilcoxon Scores (Rank Sums) for Variable C13_03
Classified by Variable A3
Sum of Expected Std Dev Mean
A3 Scores Under H0 Under H0 Score
Before 2000 25 472.50 575.0 39.328325 18.9000
2000 and after 20 562.50 460.0 39.328325 28.1250
Average scores were used for ties.

```

```

Kruskal-wallis Test
Chi-Square      6.7926
DF              1
Pr > Chi-Square 0.0092

Wilcoxon Scores (Rank Sums) for Variable C13_04
Classified by Variable A3
Sum of Expected Std Dev Mean
A3 Scores Under H0 Under H0 Score
Before 2000 25 610.0 575.0 28.998433 24.400
2000 and after 20 425.0 460.0 28.998433 21.250
Average scores were used for ties.

```

```

Kruskal-wallis Test
Chi-Square      1.4568
DF              1
Pr > Chi-Square 0.2274

Wilcoxon Scores (Rank Sums) for Variable C13_05
Classified by Variable A3
Sum of Expected Std Dev Mean
A3 Scores Under H0 Under H0 Score
Before 2000 25 582.50 575.0 37.839373 23.3000
2000 and after 20 452.50 460.0 37.839373 22.6250
Average scores were used for ties.

```

```

Kruskal-wallis Test
Chi-Square      0.0393
DF              1
Pr > Chi-Square 0.8429

Wilcoxon Scores (Rank Sums) for Variable C13_06
Classified by Variable A3
Sum of Expected Std Dev Mean
A3 Scores Under H0 Under H0 Score
Before 2000 25 585.0 575.0 37.462102 23.40
2000 and after 20 450.0 460.0 37.462102 22.50
Average scores were used for ties.

```

```

Kruskal-wallis Test
Chi-Square      0.0713
DF              1
Pr > Chi-Square 0.7895

Wilcoxon Scores (Rank Sums) for Variable C13_07
Classified by Variable A3
Sum of Expected Std Dev Mean
A3 Scores Under H0 Under H0 Score
Before 2000 25 493.0 575.0 40.146512 19.720
2000 and after 20 542.0 460.0 40.146512 27.100
Average scores were used for ties.

```

```

Kruskal-wallis Test
Chi-Square      4.1719
DF              1
Pr > Chi-Square 0.0411

Wilcoxon Scores (Rank Sums) for Variable C13_08
Classified by Variable A3
Sum of Expected Std Dev Mean
A3      N      Scores Under H0 Under H0 Under H0 Score
-----
Before 2000 24      446.0      528.0      36.924994      18.583333
2000 and after 19      500.0      418.0      36.924994      26.315789
Average scores were used for ties.

```

```

Kruskal-wallis Test
Chi-Square      4.9316
DF              1
Pr > Chi-Square 0.0264

Wilcoxon Scores (Rank Sums) for Variable C13_09
Classified by Variable A3
Sum of Expected Std Dev Mean
A3      N      Scores Under H0 Under H0 Under H0 Score
-----
Before 2000 25      458.0      562.50      37.480527      18.320
2000 and after 19      532.0      427.50      37.480527      28.000
Average scores were used for ties.

```

```

Kruskal-wallis Test
Chi-Square      7.7736
DF              1
Pr > Chi-Square 0.0053

Wilcoxon Scores (Rank Sums) for Variable C13_10
Classified by Variable A3
Sum of Expected Std Dev Mean
A3      N      Scores Under H0 Under H0 Under H0 Score
-----
Before 2000 23      510.0      506.0      28.945762      22.173913
2000 and after 20      436.0      440.0      28.945762      21.800000
Average scores were used for ties.

```

```

Kruskal-wallis Test
Chi-Square      0.0191
DF              1
Pr > Chi-Square 0.8901

Wilcoxon Scores (Rank Sums) for Variable C13_11
Classified by Variable A3
Sum of Expected Std Dev Mean
A3      N      Scores Under H0 Under H0 Under H0 Score
-----
Before 2000 25      482.50      562.50      39.274606      19.300000
2000 and after 19      507.50      427.50      39.274606      26.710526
Average scores were used for ties.

```

```

Kruskal-wallis Test
Chi-Square      4.1491
DF              1
Pr > Chi-Square 0.0417

Wilcoxon Scores (Rank Sums) for Variable C14_01
Classified by Variable A3
Sum of Expected Std Dev Mean
A3      N      Scores Under H0 Under H0 Under H0 Score
-----
Before 2000 22      491.0      473.0      24.073060      22.318182
2000 and after 20      412.0      430.0      24.073060      20.600000
Average scores were used for ties.

```

```

Kruskal-wallis Test
Chi-Square      0.5591
DF              1
Pr > Chi-Square 0.4546

Wilcoxon Scores (Rank Sums) for Variable C14_02
Classified by Variable A3
Sum of Expected Std Dev Mean
A3      N      Scores Under H0 Under H0 Under H0 Score
-----
Before 2000 21      439.50      441.0      23.478714      20.928571
2000 and after 20      421.50      420.0      23.478714      21.075000
Average scores were used for ties.

```

```

Kruskal-wallis Test
Chi-Square      0.0041
DF              1
Pr > Chi-Square 0.9491

Wilcoxon Scores (Rank Sums) for Variable C14_03
Classified by Variable A3
Sum of Expected Std Dev Mean
A3      N      Scores Under H0 Under H0 Under H0 Score
-----
Before 2000 22      439.0      473.0      22.278722      19.954545
2000 and after 20      464.0      430.0      22.278722      23.200000
Average scores were used for ties.

```

```

Kruskal-wallis Test
Chi-Square      2.3290
DF              1
Pr > Chi-Square 0.1270

Wilcoxon Scores (Rank Sums) for Variable C14_04
Classified by Variable A3
Sum of Expected Std Dev Mean
A3      N      Scores Under H0 Under H0 Under H0 Score
-----
Before 2000 21      444.50      441.0      31.50      21.166667
2000 and after 20      416.50      420.0      31.50      20.825000
Average scores were used for ties.

```



```

Kruskal-wallis Test
Chi-Square      0.0123
DF              1
Pr > Chi-Square 0.9115

Wilcoxon Scores (Rank Sums) for Variable C14_05
Classified by Variable A3
Sum of Expected Std Dev Mean
A3 Scores Under H0 Under H0 Score
Before 2000 21 411.50 441.0 21.737065 19.595238
2000 and after 20 449.50 420.0 21.737065 22.475000
Average scores were used for ties.

```

```

Kruskal-wallis Test
Chi-Square      1.8418
DF              1
Pr > Chi-Square 0.1747

Wilcoxon Scores (Rank Sums) for Variable C14_06
Classified by Variable A3
Sum of Expected Std Dev Mean
A3 Scores Under H0 Under H0 Score
Before 2000 21 426.0 441.0 33.124764 20.285714
2000 and after 20 435.0 420.0 33.124764 21.750000
Average scores were used for ties.

```

```

Kruskal-wallis Test
Chi-Square      0.2051
DF              1
Pr > Chi-Square 0.6507

Wilcoxon Scores (Rank Sums) for Variable C14_07
Classified by Variable A3
Sum of Expected Std Dev Mean
A3 Scores Under H0 Under H0 Score
Before 2000 21 411.0 441.0 17.298844 19.571429
2000 and after 20 450.0 420.0 17.298844 22.500000
Average scores were used for ties.

```

```

Kruskal-wallis Test
Chi-Square      3.0075
DF              1
Pr > Chi-Square 0.0829

Wilcoxon Scores (Rank Sums) for Variable C14_08
Classified by Variable A3
Sum of Expected Std Dev Mean
A3 Scores Under H0 Under H0 Score
Before 2000 20 420.0 410.0 16.870548 21.0
2000 and after 20 400.0 410.0 16.870548 20.0
Average scores were used for ties.

```

```

Kruskal-wallis Test
Chi-Square      0.3514
DF              1
Pr > Chi-Square 0.5533

Wilcoxon Scores (Rank Sums) for Variable C14_09
Classified by Variable A3
Sum of Expected Std Dev Mean
A3 Scores Under H0 Under H0 Score
Before 2000 20 400.0 410.0 16.870548 20.0
2000 and after 20 420.0 410.0 16.870548 21.0
Average scores were used for ties.

```

```

Kruskal-wallis Test
Chi-Square      0.3514
DF              1
Pr > Chi-Square 0.5533

Wilcoxon Scores (Rank Sums) for Variable C14_10
Classified by Variable A3
Sum of Expected Std Dev Mean
A3 Scores Under H0 Under H0 Score
Before 2000 21 448.50 441.0 29.432125 21.357143
2000 and after 20 412.50 420.0 29.432125 20.625000
Average scores were used for ties.

```

```

Kruskal-wallis Test
Chi-Square      0.0649
DF              1
Pr > Chi-Square 0.7989

Wilcoxon Scores (Rank Sums) for Variable C14_11
Classified by Variable A3
Sum of Expected Std Dev Mean
A3 Scores Under H0 Under H0 Score
Before 2000 20 390.0 410.0 13.959649 19.50
2000 and after 20 430.0 410.0 13.959649 21.50
Average scores were used for ties.

```

```

Kruskal-wallis Test
Chi-Square      2.0526
DF              1
Pr > Chi-Square 0.1519

Wilcoxon Scores (Rank Sums) for Variable C14_12
Classified by Variable A3
Sum of Expected Std Dev Mean
A3 Scores Under H0 Under H0 Score
Before 2000 20 400.0 410.0 16.870548 20.0
2000 and after 20 420.0 410.0 16.870548 21.0
Average scores were used for ties.

```

```

Kruskal-wallis Test
Chi-Square      0.3514
DF              1
Pr > Chi-Square 0.5533

Wilcoxon Scores (Rank Sums) for Variable C14_13
Classified by Variable A3
Sum of Expected Std Dev Mean
A3 Scores Under H0 Under H0 Score
Before 2000 21 414.0 441.0 31.996094 19.714286
2000 and after 20 447.0 420.0 31.996094 22.350000
Average scores were used for ties.

```

```

Kruskal-wallis Test
Chi-Square      0.7121
DF              1
Pr > Chi-Square 0.3988

Wilcoxon Scores (Rank Sums) for Variable C14_14
Classified by Variable A3
Sum of Expected Std Dev Mean
A3 Scores Under H0 Under H0 Score
Before 2000 21 443.0 441.0 26.324893 21.095238
2000 and after 20 418.0 420.0 26.324893 20.900000
Average scores were used for ties.

```

```

Kruskal-wallis Test
Chi-Square      0.0058
DF              1
Pr > Chi-Square 0.9394

Wilcoxon Scores (Rank Sums) for Variable C14_15
Classified by Variable A3
Sum of Expected Std Dev Mean
A3 Scores Under H0 Under H0 Score
Before 2000 21 421.50 441.0 19.710403 20.071429
2000 and after 20 439.50 420.0 19.710403 21.975000
Average scores were used for ties.

```

```

Kruskal-wallis Test
Chi-Square      0.9788
DF              1
Pr > Chi-Square 0.3225

Wilcoxon Scores (Rank Sums) for Variable C15_01
Classified by Variable A3
Sum of Expected Std Dev Mean
A3 Scores Under H0 Under H0 Score
Before 2000 24 502.50 540.0 40.630340 20.937500
2000 and after 20 487.50 450.0 40.630340 24.375000
Average scores were used for ties.

```

```

Kruskal-wallis Test
Chi-Square      0.8518
DF              1
Pr > Chi-Square 0.3560

Wilcoxon Scores (Rank Sums) for Variable C15_02
Classified by Variable A3
Sum of Expected Std Dev Mean
A3 Scores Under H0 Under H0 Score
Before 2000 23 411.50 483.0 32.110546 17.891304
2000 and after 18 449.50 378.0 32.110546 24.972222
Average scores were used for ties.

```

```

Kruskal-wallis Test
Chi-Square      4.9581
DF              1
Pr > Chi-Square 0.0260

Wilcoxon Scores (Rank Sums) for Variable C15_03
Classified by Variable A3
Sum of Expected Std Dev Mean
A3 Scores Under H0 Under H0 Score
Before 2000 24 464.50 540.0 38.642942 19.354167
2000 and after 20 525.50 450.0 38.642942 26.275000
Average scores were used for ties.

```

```

Kruskal-wallis Test
Chi-Square      3.8173
DF              1
Pr > Chi-Square 0.0507

Wilcoxon Scores (Rank Sums) for Variable C15_04
Classified by Variable A3
Sum of Expected Std Dev Mean
A3 Scores Under H0 Under H0 Score
Before 2000 23 512.50 506.0 39.247137 22.282609
2000 and after 20 433.50 440.0 39.247137 21.675000
Average scores were used for ties.

```

```

Kruskal-wallis Test
Chi-Square      0.0274
DF              1
Pr > Chi-Square 0.8685

Wilcoxon Scores (Rank Sums) for Variable C15_05
Classified by Variable A3
Sum of Expected Std Dev Mean
A3 Scores Under H0 Under H0 Score
Before 2000 23 456.0 506.0 39.732494 19.826087
2000 and after 20 490.0 440.0 39.732494 24.500000
Average scores were used for ties.

```

```

Kruskal-wallis Test
Chi-Square      1.5836
DF              1
Pr > Chi-Square 0.2082

Wilcoxon Scores (Rank Sums) for Variable C15_06
Classified by Variable A3
Sum of      Expected      Std Dev      Mean
A3          Scores      Under H0      Under H0      Score
-----
Before 2000  24          469.0          540.0          34.969029      19.541667
2000 and after 20          521.0          450.0          34.969029      26.050000
Average scores were used for ties.

```

```

Kruskal-wallis Test
Chi-Square      4.1224
DF              1
Pr > Chi-Square 0.0423

Wilcoxon Scores (Rank Sums) for Variable C15_07
Classified by Variable A3
Sum of      Expected      Std Dev      Mean
A3          Scores      Under H0      Under H0      Score
-----
Before 2000  24          491.0          540.0          33.239473      20.458333
2000 and after 20          499.0          450.0          33.239473      24.950000
Average scores were used for ties.

```

```

Kruskal-wallis Test
Chi-Square      2.1731
DF              1
Pr > Chi-Square 0.1404

Wilcoxon Scores (Rank Sums) for Variable C15_08
Classified by Variable A3
Sum of      Expected      Std Dev      Mean
A3          Scores      Under H0      Under H0      Score
-----
Before 2000  22          447.0          473.0          35.707549      20.318182
2000 and after 20          456.0          430.0          35.707549      22.800000
Average scores were used for ties.

```

```

Kruskal-wallis Test
Chi-Square      0.5302
DF              1
Pr > Chi-Square 0.4665

Wilcoxon Scores (Rank Sums) for Variable C15_09
Classified by Variable A3
Sum of      Expected      Std Dev      Mean
A3          Scores      Under H0      Under H0      Score
-----
Before 2000  22          447.50         473.0          37.876105      20.340909
2000 and after 20          455.50         430.0          37.876105      22.775000
Average scores were used for ties.

```

```

Kruskal-wallis Test
Chi-Square      0.4533
DF              1
Pr > Chi-Square 0.5008

Wilcoxon Scores (Rank Sums) for Variable C15_10
Classified by Variable A3
Sum of      Expected      Std Dev      Mean
A3          Scores      Under H0      Under H0      Score
-----
Before 2000  22          405.50         473.0          33.248964      18.431818
2000 and after 20          497.50         430.0          33.248964      24.875000
Average scores were used for ties.

```

```

Kruskal-wallis Test
Chi-Square      4.1215
DF              1
Pr > Chi-Square 0.0423

Wilcoxon Scores (Rank Sums) for Variable C15_11
Classified by Variable A3
Sum of      Expected      Std Dev      Mean
A3          Scores      Under H0      Under H0      Score
-----
Before 2000  22          419.50         473.0          36.547425      19.068182
2000 and after 20          483.50         430.0          36.547425      24.175000
Average scores were used for ties.

```

```

Kruskal-wallis Test
Chi-Square      2.1429
DF              1
Pr > Chi-Square 0.1432

Wilcoxon Scores (Rank Sums) for Variable C15_12
Classified by Variable A3
Sum of      Expected      Std Dev      Mean
A3          Scores      Under H0      Under H0      Score
-----
Before 2000  22          413.50         473.0          38.313761      18.795455
2000 and after 20          489.50         430.0          38.313761      24.475000
Average scores were used for ties.

```

```

Kruskal-wallis Test
Chi-Square      2.4117
DF              1
Pr > Chi-Square 0.1204

Wilcoxon Scores (Rank Sums) for Variable C15_13
Classified by Variable A3
Sum of      Expected      Std Dev      Mean
A3          Scores      Under H0      Under H0      Score
-----
Before 2000  22          378.50         473.0          37.325669      17.204545
2000 and after 20          524.50         430.0          37.325669      26.225000
Average scores were used for ties.

```

```

Kruskal-wallis Test
Chi-Square      6.4099
DF              1
Pr > Chi-Square 0.0113

Wilcoxon Scores (Rank Sums) for Variable C15_14
Classified by Variable A3
Sum of      Expected      Std Dev      Mean
Scores      Under H0      Under H0      Score
A3
Before 2000  22      403.0      473.0      37.608689      18.318182
2000 and after 20      500.0      430.0      37.608689      25.000000
Average scores were used for ties.

```

```

Kruskal-wallis Test
Chi-Square      3.4643
DF              1
Pr > Chi-Square 0.0627

Wilcoxon Scores (Rank Sums) for Variable C15_15
Classified by Variable A3
Sum of      Expected      Std Dev      Mean
Scores      Under H0      Under H0      Score
A3
Before 2000  22      429.50     473.0      33.965549      19.522727
2000 and after 20      473.50     430.0      33.965549      23.675000
Average scores were used for ties.

```

```

Kruskal-wallis Test
Chi-Square      1.6402
DF              1
Pr > Chi-Square 0.2003

Wilcoxon Scores (Rank Sums) for Variable C15_16
Classified by Variable A3
Sum of      Expected      Std Dev      Mean
Scores      Under H0      Under H0      Score
A3
Before 2000  22      392.0      473.0      33.237435      17.818182
2000 and after 20      511.0      430.0      33.237435      25.550000
Average scores were used for ties.

```

```

Kruskal-wallis Test
Chi-Square      5.9390
DF              1
Pr > Chi-Square 0.0148

Wilcoxon Scores (Rank Sums) for Variable C15_17
Classified by Variable A3
Sum of      Expected      Std Dev      Mean
Scores      Under H0      Under H0      Score
A3
Before 2000  22      415.50     473.0      32.475310      18.886364
2000 and after 20      487.50     430.0      32.475310      24.375000
Average scores were used for ties.

```

```

Kruskal-wallis Test
Chi-Square      3.1349
DF              1
Pr > Chi-Square 0.0766

Wilcoxon Scores (Rank Sums) for Variable C15_18
Classified by Variable A3
Sum of      Expected      Std Dev      Mean
Scores      Under H0      Under H0      Score
A3
Before 2000  24      464.50     540.0      40.122961      19.354167
2000 and after 20      525.50     450.0      40.122961      26.275000
Average scores were used for ties.

```

```

Kruskal-wallis Test
Chi-Square      3.5409
DF              1
Pr > Chi-Square 0.0599

Wilcoxon Scores (Rank Sums) for Variable C15_19
Classified by Variable A3
Sum of      Expected      Std Dev      Mean
Scores      Under H0      Under H0      Score
A3
Before 2000  24      476.50     540.0      40.499002      19.854167
2000 and after 20      513.50     450.0      40.499002      25.675000
Average scores were used for ties.

```

```

Kruskal-wallis Test
Chi-Square      2.4584
DF              1
Pr > Chi-Square 0.1169

Wilcoxon Scores (Rank Sums) for Variable C15_20
Classified by Variable A3
Sum of      Expected      Std Dev      Mean
Scores      Under H0      Under H0      Score
A3
Before 2000  22      449.0      473.0      37.798445      20.409091
2000 and after 20      454.0      430.0      37.798445      22.700000
Average scores were used for ties.

```

```

Kruskal-wallis Test
Chi-Square      0.4032
DF              1
Pr > Chi-Square 0.5255

Wilcoxon Scores (Rank Sums) for Variable C15_21
Classified by Variable A3
Sum of      Expected      Std Dev      Mean
Scores      Under H0      Under H0      Score
A3
Before 2000  23      428.50     506.0      38.082791      18.630435
2000 and after 20      517.50     440.0      38.082791      25.875000
Average scores were used for ties.

```

```

Kruskal-wallis Test
Chi-Square      4.1414
DF              1
Pr > Chi-Square 0.0418

Wilcoxon Scores (Rank Sums) for Variable C15_22
Classified by Variable A3
Sum of      Expected      Std Dev      Mean
A3          Scores      Under H0      Under H0      Score
-----
Before 2000 23          550.0          506.0          35.036526      23.913043
2000 and after 20          396.0          440.0          35.036526      19.800000
Average scores were used for ties.

```

```

Kruskal-wallis Test
Chi-Square      1.5771
DF              1
Pr > Chi-Square 0.2092

Wilcoxon Scores (Rank Sums) for Variable C15_23
Classified by Variable A3
Sum of      Expected      Std Dev      Mean
A3          Scores      Under H0      Under H0      Score
-----
Before 2000 23          542.50          506.0          35.620508      23.586957
2000 and after 20          403.50          440.0          35.620508      20.175000
Average scores were used for ties.

```

```

Kruskal-wallis Test
Chi-Square      1.0500
DF              1
Pr > Chi-Square 0.3055

Wilcoxon Scores (Rank Sums) for Variable C15_24
Classified by Variable A3
Sum of      Expected      Std Dev      Mean
A3          Scores      Under H0      Under H0      Score
-----
Before 2000 23          517.0          506.0          35.829051      22.478261
2000 and after 20          429.0          440.0          35.829051      21.450000
Average scores were used for ties.

```

```

Kruskal-wallis Test
Chi-Square      0.0943
DF              1
Pr > Chi-Square 0.7588

Wilcoxon Scores (Rank Sums) for Variable D16_01
Classified by Variable A3
Sum of      Expected      Std Dev      Mean
A3          Scores      Under H0      Under H0      Score
-----
Before 2000 24          483.0          552.0          34.514819      20.125000
2000 and after 21          552.0          483.0          34.514819      26.285714
Average scores were used for ties.

```

```

Kruskal-wallis Test
Chi-Square      3.9966
DF              1
Pr > Chi-Square 0.0456

Wilcoxon Scores (Rank Sums) for Variable D16_02
Classified by Variable A3
Sum of      Expected      Std Dev      Mean
A3          Scores      Under H0      Under H0      Score
-----
Before 2000 24          451.50          552.0          37.382543      18.812500
2000 and after 21          583.50          483.0          37.382543      27.785714
Average scores were used for ties.

```

```

Kruskal-wallis Test
Chi-Square      7.2276
DF              1
Pr > Chi-Square 0.0072

Wilcoxon Scores (Rank Sums) for Variable D16_03
Classified by Variable A3
Sum of      Expected      Std Dev      Mean
A3          Scores      Under H0      Under H0      Score
-----
Before 2000 24          464.50          552.0          40.782349      19.354167
2000 and after 21          570.50          483.0          40.782349      27.166667
Average scores were used for ties.

```

```

Kruskal-wallis Test
Chi-Square      4.6033
DF              1
Pr > Chi-Square 0.0319

Wilcoxon Scores (Rank Sums) for Variable D16_04
Classified by Variable A3
Sum of      Expected      Std Dev      Mean
A3          Scores      Under H0      Under H0      Score
-----
Before 2000 25          472.50          587.50          39.657501      18.900000
2000 and after 21          608.50          493.50          39.657501      28.976190
Average scores were used for ties.

```

```

Kruskal-wallis Test
Chi-Square      8.4090
DF              1
Pr > Chi-Square 0.0037

Wilcoxon Scores (Rank Sums) for Variable D16_05
Classified by Variable A3
Sum of      Expected      Std Dev      Mean
A3          Scores      Under H0      Under H0      Score
-----
Before 2000 24          491.50          552.0          41.703499      20.479167
2000 and after 21          543.50          483.0          41.703499      25.880952
Average scores were used for ties.

```

```

Kruskal-wallis Test
Chi-Square      2.1046
DF              1
Pr > Chi-Square 0.1469

Wilcoxon Scores (Rank Sums) for Variable D16_06
Classified by Variable A3
Sum of Expected Std Dev Mean
A3 Scores Under H0 Under H0 Score
Before 2000 24 426.0 552.0 41.575124 17.750
2000 and after 21 609.0 483.0 41.575124 29.000
Average scores were used for ties.

```

```

Kruskal-wallis Test
Chi-Square      9.1849
DF              1
Pr > Chi-Square 0.0024

Wilcoxon Scores (Rank Sums) for Variable D16_07
Classified by Variable A3
Sum of Expected Std Dev Mean
A3 Scores Under H0 Under H0 Score
Before 2000 24 455.0 552.0 40.569581 18.958333
2000 and after 21 580.0 483.0 40.569581 27.619048
Average scores were used for ties.

```

```

Kruskal-wallis Test
Chi-Square      5.7167
DF              1
Pr > Chi-Square 0.0168

Wilcoxon Scores (Rank Sums) for Variable D16_08
Classified by Variable A3
Sum of Expected Std Dev Mean
A3 Scores Under H0 Under H0 Score
Before 2000 24 447.0 552.0 39.678251 18.6250
2000 and after 21 588.0 483.0 39.678251 28.0000
Average scores were used for ties.

```

```

Kruskal-wallis Test
Chi-Square      7.0028
DF              1
Pr > Chi-Square 0.0081

Wilcoxon Scores (Rank Sums) for Variable D16_09
Classified by Variable A3
Sum of Expected Std Dev Mean
A3 Scores Under H0 Under H0 Score
Before 2000 24 447.0 552.0 39.678251 18.6250
2000 and after 21 588.0 483.0 39.678251 28.0000
Average scores were used for ties.

```

```

Kruskal-wallis Test
Chi-Square      7.0028
DF              1
Pr > Chi-Square 0.0081

Wilcoxon Scores (Rank Sums) for Variable D16_10
Classified by Variable A3
Sum of Expected Std Dev Mean
A3 Scores Under H0 Under H0 Score
Before 2000 24 431.50 552.0 40.542907 17.979167
2000 and after 21 603.50 483.0 40.542907 28.738095
Average scores were used for ties.

```

```

Kruskal-wallis Test
Chi-Square      8.8337
DF              1
Pr > Chi-Square 0.0030

```

APPENDIX M: PROPOSED BALANCED SCORECARD MODEL

FINANCIAL PERSPECTIVE					
Mid-Term Objective:					
Strategy	Short Term Objectives	Initiatives	KPA	Measures/KPI	Target
CUSTOMER PERSPECTIVE					
Mid-Term Objective:					
Strategy	Short Term Objectives	Initiatives	KPA	Measures/KPI	Target

INTERNAL PROCESSES PERSPECTIVE

Mid-Term Objective:

Strategy	Short Term Objectives	Initiatives	KPA	Measures/KPI	Target

LEARNING AND GROWTH PERSPECTIVE

Mid-Term Objective:

Strategy	Short Term Objectives	Initiatives	KPA	Measures/KPI	Target

APPENDIX N: Descriptive statistics for categorical variables

TABLE 4.2: Descriptive statistics for categorical variables

Variables	Categories	Frequency	Percentage out of total
SECTION A: RESPONDENT AND ENTERPRISE PROFILE			
A1. Is your business part of a franchise?	Yes	47	92.2%
	No	4	7.8%
A2. Are you the owner, manager / both of the franchise?	Owner	4	7.8%
	Manager	31	60.8%
	Both	16	31.4%
A3. Year Franchise was established	1969-1979	5	9.8%
	1980-1989	7	13.7%
	1990-1999	15	29.4%
	2000 +	22	43.1%
	Unknown	4	7.8%
A4 Managerial experience related to fast food industry.	< 5 yrs	10	19.6%
	5-<10 yrs	8	15.7%
	10-<20 yrs	9	17.6%
	20 + yrs	4	7.8%
	Unknown	20	39.2%
A5. Number of employee classification.	Very small	4	7.8%
	Small	41	80.4%
	Medium	3	5.9%
	Larger than medium	2	3.9%
	Unknown	1	2.0%
SECTION B: SUPPORT FOR MANAGEMENT OF THE BUSINESS ACTIVITIES			
B6. What did you receive when you acquired the outlet:			
B6.01 Guidelines on how to write up the books.	Yes	32	62.8%
	No	19	37.2%
B6.02 How to measure success.	Yes	39	76.5%
	No	12	23.5%
B6.03 How to motivate the staff.	Yes	39	76.5%
	No	12	23.5%
B6.04 How to monitor the stock.	Yes	48	94.1%
	No	3	5.9%

Variables		Categories	Frequency	Percentage out of total
B6.05	Food preparation requirements.	Yes	49	96.1%
		No	2	3.9%
B6.06	Accounting systems.	Yes	33	64.7%
		No	18	35.3%
B6.07	Site (location).	Yes	40	78.4%
		No	11	21.6%
B6.08	Staff training.	Yes	47	92.2%
		No	4	7.8%
B6.09	Menu.	Yes	49	96.1%
		No	2	3.9%
B6.10	Marketing plan.	Yes	41	80.4%
		No	10	19.6%
B6.11	Equipment.	Yes	45	88.2%
		No	6	11.8%
B6.12	Décor.	Yes	44	86.3%
		No	7	13.7%
B7.01	Who is responsible for preparing the financial statements	Bookkeeper / Accountant	33	64.7%
		Owner	10	19.6%
		Manager	5	9.8%
		Consultant	3	5.9%
B8. What statements and reports are generated from the financial records and how often:				
B8.01	Cash flow statement.	Never	1	2.0%
		On demand	9	17.6%
		Daily	2	3.9%
		Weekly	20	39.2%
		Monthly	13	25.5%
		Quarterly	1	2.0%
		Annually	3	5.9%
		Unknown	2	3.9%
B8.02	Statement of changes in Equity	Never	3	5.9%
		On demand	9	17.6%
		Daily	1	2.0%
		Weekly	4	7.8%
		Monthly	15	29.4%
		Quarterly	6	11.8%
		Annually	7	13.7%
		Unknown	6	11.8%

Variables	Categories	Frequency	Percentage out of total
.03 Income statement.	Never	0	0.0%
	On demand	1	2.0%
	Daily	1	2.0%
	Weekly	11	21.6%
	Monthly	30	58.8%
	Quarterly	2	3.9%
	Annually	4	7.8%
	Unknown	2	3.9%
B8.04 Balance sheet.	Never	2	3.9%
	On demand	2	3.9%
	Daily	0	0.0%
	Weekly	9	17.6%
	Monthly	22	43.1%
	Quarterly	6	11.8%
	Annually	6	11.8%
	Unknown	4	7.8%
B8.05 Bank reconciliation.	Never	2	3.9%
	On demand	6	11.8%
	Daily	1	2.0%
	Weekly	19	37.2%
	Monthly	18	35.3%
	Quarterly	0	0.0%
	Annually	1	2.0%
	Unknown	4	7.8%
B8.06 Analysis of cash register.	Never	1	2.0%
	On demand	19	37.2%
	Daily	8	15.7%
	Weekly	16	31.4%
	Monthly	2	3.9%
	Quarterly	0	0.0%
	Annually	1	2.0%
	Unknown	4	7.8%
B8.07 Stock variance reports.	Never	3	5.9%
	On demand	15	29.4%
	Daily	9	17.6%
	Weekly	22	43.1%
	Monthly	1	2.0%
	Quarterly	0	0.0%

Variables		Categories	Frequency	Percentage out of total
		Annually	1	2.0%
		Unknown	0	0.0%
B8.08	Sales variance reports.	Never	2	3.9%
		On demand	15	29.4%
		Daily	9	17.6%
		Weekly	19	37.2%
		Monthly	5	9.8%
		Quarterly	0	0.0%
		Annually	1	2.0%
		Unknown	0	0.0%
B8.09	Debtors and Suppliers reports	Never	3	5.9%
		On demand	4	7.8%
		Daily	6	11.8%
		Weekly	21	41.2%
		Monthly	13	25.5%
		Quarterly	0	0.0%
		Annually	1	2.0%
		Unknown	3	5.9%
B8.10	Lead time reports.	Never	13	25.5%
		On demand	9	17.6%
		Daily	3	5.8%
		Weekly	13	25.5%
		Monthly	3	5.9%
		Quarterly	0	0.0%
		Annually	1	2.0%
		Unknown	9	17.6%
B9.	Does the franchisor prescribe performance measures to evaluate the business performance in the following activities:			
B9.01	Marketing.	Yes	43	84.3%
		No	8	15.7%
		Unknown	0	0.0%
B9.02	Advertising.	Yes	38	74.5%
		No	13	25.5%
		Unknown	0	0.0%
B9.03	Purchases.	Yes	41	80.4%
		No	7	13.7%
		Unknown	3	5.9%
B9.04	Stock Control.	Yes	45	88.2%
		No	6	11.8%

Variables		Categories	Frequency	Percentage out of total
		Unknown	0	0.0%
B9.05	Payment of suppliers.	Yes	28	54.9%
		No	23	45.1%
		Unknown	0	0.0%
B9.06	Customer's Orders / Sales	Yes	42	82.4%
		No	9	17.6%
		Unknown	0	0.0%
B9.07	Product Preparation.	Yes	45	88.2%
		No	5	9.8%
		Unknown	1	2.0%
B9.08	Delivery to customers.	Yes	35	68.6%
		No	12	23.5%
		Unknown	4	7.8%
B9.09	Deposit sales takings.	Yes	30	58.8%
		No	18	35.3%
		Unknown	3	5.9%
B9.10	Customer satisfaction.	Yes	45	88.1%
		No	6	11.8%
		Unknown	0	0.0%
B9.11	Employees.	Yes	36	70.6%
		No	14	27.4%
		Unknown	1	2.0%
B9.12	Quality Assurance.	Yes	46	90.2%
		No	4	7.8%
		Unknown	1	2.0%
B9.13	Law Compliance.	Yes	41	80.4%
		No	8	15.7%
		Unknown	2	3.9%
SECTION C: BUSINESS CYCLES AND PERFORMANCE MEASURES				
C10. To what extend do you use performance measures in your business activities:				
C10.01	Marketing.	Never	6	11.8%
		On demand	6	11.8%
		Daily	5	9.8%
		Weekly	17	33.3%
		Monthly	16	31.4%
		Quarterly	0	0.0%
		Unknown	1	2.0%
C10.02	Advertising.	Never	7	13.7%

Variables	Categories	Frequency	Percentage out of total
	On demand	5	9.8%
	Daily	2	2.0%
	Weekly	14	27.4%
	Monthly	19	37.2%
	Quarterly	1	20.0%
	Unknown	3	5.9%
C10.03 Purchases.	Never	4	7.8%
	On demand	3	5.9%
	Daily	21	41.2%
	Weekly	21	41.2%
	Monthly	2	3.9%
	Quarterly	0	0.0%
	Unknown	0	0.0%
C10.04 Stock Control.	Never	1	2.0%
	On demand	1	2.0%
	Daily	39	76.5%
	Weekly	9	17.6%
	Monthly	1	2.0%
	Quarterly	0	0.0%
	Unknown	0	0.0%
C10.05 Payment of suppliers.	Never	12	23.5%
	On demand	5	9.8%
	Daily	8	15.7%
	Weekly	9	17.6%
	Monthly	17	33.3%
	Quarterly	0	0.0%
	Unknown	0	0.0%
C10.06 Customer's Orders / Sales	Never	3	5.9%
	On demand	4	7.8%
	Daily	41	80.4%
	Weekly	2	3.9%
	Monthly	0	0.0%
	Quarterly	0	0.0%
	Unknown	1	2.0%
C10.07 Product Preparation.	Never	1	2.0%
	On demand	2	3.9%
	Daily	45	88.2%
	Weekly	1	2.0%

Variables	Categories	Frequency	Percentage out of total
	Monthly	0	0.0%
	Quarterly	0	0.0%
	Unknown	2	3.9%
C10.08 Delivery to customers.	Never	4	7.8%
	On demand	3	5.9%
	Daily	38	74.5%
	Weekly	2	3.9%
	Monthly	0	0.0%
	Quarterly	0	0.0%
	Unknown	4	7.8%
C10.09 Deposit sales takings.	Never	9	17.6%
	On demand	0	0.0%
	Daily	19	37.2%
	Weekly	20	39.2%
	Monthly	1	2.0%
	Quarterly	1	2.0%
	Unknown	1	2.0%
C10.10 Customer satisfaction.	Never	2	3.9%
	On demand	3	5.9%
	Daily	40	78.4%
	Weekly	3	5.9%
	Monthly	2	3.9%
	Quarterly	0	0.0%
	Unknown	1	2.0%
C10.11 Employees.	Never	14	27.4%
	On demand	15	29.4%
	Daily	16	31.4%
	Weekly	3	5.9%
	Monthly	3	5.9%
	Quarterly	0	0.0%
	Unknown	0	0.0%
C10.12 Quality Assurance.	Never	5	9.8%
	On demand	19	37.2%
	Daily	16	31.4%
	Weekly	7	13.7%
	Monthly	3	5.9%
	Quarterly	0	0.0%
	Unknown	1	2.0%

Variables	Categories	Frequency	Percentage out of total
C10.13 Law Compliance.	Never	5	9.8%
	On demand	21	41.2%
	Daily	11	21.6%
	Weekly	5	9.8%
	Monthly	8	15.7%
	Quarterly	0	0.0%
	Unknown	1	2.0%
C11. Which of the following areas of organisation performance are key drives of success for your outlet:			
C11.01 Customer satisfaction.	Critical driver	17	33.3%
	Important driver	34	66.7%
	Minor driver	0	0.0%
	Not a driver	0	0.0%
	Unknown	0	0.0%
C11.02 Product quality.	Critical driver	16	31.4%
	Important driver	34	66.7%
	Minor driver	1	2.0%
	Not a driver	0	0.0%
	Unknown	0	0.0%
C11.03 Product preparation.	Critical driver	15	29.4%
	Important driver	33	64.7%
	Minor driver	3	5.9%
	Not a driver	0	0.0%
	Unknown	0	0.0%
C11.04 Service quality.	Critical driver	17	33.3%
	Important driver	31	60.8%
	Minor driver	3	5.9%
	Not a driver	0	0.0%
	Unknown	0	0.0%
C11.05 Financial results.	Critical driver	36	70.6%
	Important driver	12	23.5%
	Minor driver	2	3.9%
	Not a driver	0	0.0%
	Unknown	1	2.0%
C11.06 Employee commitment.	Critical driver	8	15.7%
	Important driver	13	25.5%
	Minor driver	26	51.0%
	Not a driver	3	5.9%

Variables	Categories	Frequency	Percentage out of total
	Unknown	1	2.0%
C11.07 Quality of management processes.	Critical driver	7	13.7%
	Important driver	17	33.3%
	Minor driver	18	35.3%
	Not a driver	8	15.7%
	Unknown	1	2.0%
C11.08 Innovation.	Critical driver	4	7.8%
	Important driver	13	25.5%
	Minor driver	24	47.1%
	Not a driver	8	15.7%
	Unknown	2	3.9%
C11.09 Progress towards your vision.	Critical driver	6	11.8%
	Important driver	12	23.5%
	Minor driver	24	47.1%
	Not a driver	9	17.6%
	Unknown	0	0.0%
C11.10 Achievement of desired results in daily activities.	Critical driver	7	13.7%
	Important driver	24	47.1%
	Minor driver	16	31.4%
	Not a driver	3	5.9%
	Unknown	1	2.0%
C11.11 Quality of relationship with external stakeholders.	Critical driver	3	5.9%
	Important driver	6	11.8%
	Minor driver	16	31.4%
	Not a driver	23	45.1%
	Unknown	3	5.9%
C11.12 Impact on society and the environment.	Critical driver	5	9.8%
	Important driver	9	17.6%
	Minor driver	13	25.5%
	Not a driver	21	41.2%
	Unknown	3	5.9%
C11.13 Compliance with the laws performance.	Critical driver	9	%
	Important driver	17	%
	Minor driver	19	%
	Not a driver	4	%
	Unknown	2	3.9%
C11.14 Deposit sales takings.	Critical driver	3	5.9%
	Important driver	41	80.4%

Variables	Categories	Frequency	Percentage out of total
	Minor driver	6	11.8%
	Not a driver	0	0.0%
	Unknown	1	20.0%
C11.15 Delivery to customer.	Critical driver	5	9.8%
	Important driver	35	68.6%
	Minor driver	0	0.0%
	Not a driver	2	3.9%
	Unknown	9	17.6%
C11.16 Customer orders and sales.	Critical driver	14	27.4%
	Important driver	33	64.7%
	Minor driver	2	3.9%
	Not a driver	0	0.0%
	Unknown	2	3.9%
C11.17 Stock activities.	Critical driver	14	27.4%
	Important driver	25	49.0%
	Minor driver	10	19.6%
	Not a driver	0	0.0%
	Unknown	2	3.9%
C11.18 Purchases activities.	Critical driver	9	17.6%
	Important driver	19	37.2%
	Minor driver	21	41.2%
	Not a driver	0	0.0%
	Unknown	2	3.9%
C11.19 Advertising activities.	Critical driver	5	9.8%
	Important driver	13	25.5%
	Minor driver	31	60.8%
	Not a driver	0	0.0%
	Unknown	2	3.9%
C11.20 Marketing activities.	Critical driver	6	11.8%
	Important driver	14	27.4%
	Minor driver	30	58.8%
	Not a driver	0	0.0%
	Unknown	1	2.0%
C12. Please rank your opinions of your organisation with regard to the following:			
C12.01 Financial measures used by the organisation.	Excellent	14	27.4%
	Good	33	64.7%
	Average	4	7.8%
	Poor	0	0.0%

Variables	Categories	Frequency	Percentage out of total
	Very Poor	0	0.0%
	Don't know	0	0.0%
	Unknown	0	0.0%
C12.02 Non-Financial measures used by the organisation.	Excellent	6	11.8%
	Good	5	9.5%
	Average	14	27.4%
	Poor	22	43.1%
	Very Poor	0	0.0%
	Don't know	3	5.9%
	Unknown	1	2.0%
C12.03 Achieving the objectives and targets on a daily basis.	Excellent	7	13.7%
	Good	6	11.8%
	Average	22	43.1%
	Poor	8	15.7%
	Very Poor	0	0.0%
	Don't know	7	13.7%
	Unknown	1	2.0%
C12.04 Ability to retrieve information anytime when required.	Excellent	9	17.6%
	Good	5	9.8%
	Average	8	15.7%
	Poor	18	35.3%
	Very Poor	0	0.0%
	Don't know	9	17.6%
	Unknown	2	3.9%
C12.05 Organisation's ability to analyze weaknesses and strengths.	Excellent	6	11.8%
	Good	10	19.6%
	Average	5	9.8%
	Poor	4	7.8%
	Very Poor	0	0.0%
	Don't know	26	51.0%
	Unknown	0	0.0%
C12.06 Sufficient feedback from franchisor.	Excellent	4	7.8%
	Good	6	11.8%
	Average	25	49.0%
	Poor	8	15.7%
	Very Poor	1	2.0%
	Don't know	6	11.8%
	Unknown	1	2.0%

Variables		Categories	Frequency	Percentage out of total
C12.07	Market share.	Excellent	5	9.8%
		Good	4	7.8%
		Average	5	9.8%
		Poor	1	2.0%
		Very Poor	0	0.0%
		Don't know	34	66.7%
		Unknown	2	3.9%
C12.08	Awareness of what competitors are doing.	Excellent	6	11.8%
		Good	6	11.8%
		Average	20	39.2%
		Poor	3	5.9%
		Very Poor	0	0.0%
		Don't know	15	29.4%
		Unknown	1	2.0%
C12.09	Compliance with laws and regulations requirements.	Excellent	11	21.6%
		Good	5	9.8%
		Average	24	47.1%
		Poor	0	0.0%
		Very Poor	0	0.0%
		Don't know	10	19.6%
		Unknown	1	2.0%
C12.10	Clear definition and understanding of business objectives.	Excellent	8	15.7%
		Good	12	23.5%
		Average	27	52.9%
		Poor	1	20.0%
		Very Poor	0	0.0%
		Don't know	3	5.9%
		Unknown	0	0.0%
C12.11	Customer perception on the business.	Excellent	9	17.6%
		Good	6	11.8%
		Average	2	3.9%
		Poor	1	2.0%
		Very Poor	0	0.0%
		Don't know	32	62.8%
		Unknown	1	2.0%
C12.12	Ability of organisation to monitor customer complaints.	Excellent	11	21.6%
		Good	16	31.4%
		Average	23	45.1%

Variables	Categories	Frequency	Percentage out of total
	Poor	0	0.0%
	Very Poor	0	0.0%
	Don't know	0	0.0%
	Unknown	1	2.0%
C12.13 Measuring customer expectations.	Excellent	8	15.7%
	Good	6	11.8%
	Average	4	7.8%
	Poor	0	0.0%
	Very Poor	0	0.0%
	Don't know	32	62.8%
	Unknown	1	2.0%
C12.14 Number of new customers.	Excellent	5	9.8%
	Good	8	15.7%
	Average	4	7.8%
	Poor	1	2.0%
	Very Poor	0	0.0%
	Don't know	33	64.7%
	Unknown	0	0.0%
C12.15 Customers services.	Excellent	9	17.6%
	Good	21	41.2%
	Average	21	41.2%
	Poor	0	0.0%
	Very Poor	0	0.0%
	Don't know	0	0.0%
	Unknown	0	0.0%
C12.16 Customer retention.	Excellent	7	13.7%
	Good	8	15.7%
	Average	1	2.0%
	Poor	0	0.0%
	Very Poor	0	0.0%
	Don't know	35	68.6%
	Unknown	0	0.0%
C12.17 Customer delivery lead- time.	Excellent	4	7.8%
	Good	10	19.6%
	Average	14	27.4%
	Poor	0	0.0%
	Very Poor	0	0.0%
	Don't know	22	43.1%

Variables	Categories	Frequency	Percentage out of total
	Unknown	1	2.0%
C12.18 Alignment of employee to business vision.	Excellent	5	9.8%
	Good	8	15.7%
	Average	25	49.0%
	Poor	0	0.0%
	Very Poor	0	0.0%
	Don't know	13	25.5%
	Unknown	0	0.0%
C12.19 Ability of employees to complete work on scheduled time.	Excellent	3	5.9%
	Good	11	21.6%
	Average	36	70.6%
	Poor	1	2.0%
	Very Poor	0	0.0%
	Don't know	0	0.0%
	Unknown	0	0.0%
C12.20 Employees understanding of operational procedures.	Excellent	6	11.8%
	Good	9	17.6%
	Average	32	62.8%
	Poor	2	3.9%
	Very Poor	0	0.0%
	Don't know	2	3.9%
	Unknown	0	0.0%
C12.21 Employees satisfaction / motivation.	Excellent	5	9.8%
	Good	10	19.6%
	Average	4	7.8%
	Poor	0	0.0%
	Very Poor	1	2.0%
	Don't know	31	60.8%
	Unknown	0	0.0%
C12.22 Existing agreed performance standards.	Excellent	5	9.8%
	Good	11	21.6%
	Average	3	5.9%
	Poor	0	0.0%
	Very Poor	0	0.0%
	Don't know	32	62.8%
	Unknown	0	0.0%
C12.23 Rewarding achievement of short term financial target.	Excellent	6	11.8%
	Good	13	25.5%

Variables	Categories	Frequency	Percentage out of total
	Average	10	19.6%
	Poor	1	2.0%
	Very Poor	1	2.0%
	Don't know	20	39.2%
	Unknown	0	0.0%
C12.24 Staff accountability of use of resources.	Excellent	6	11.8%
	Good	8	15.7%
	Average	31	60.8%
	Poor	2	3.9%
	Very Poor	0	0.0%
	Don't know	3	5.9%
	Unknown	1	2.0%
C12.25 Monitoring learning and reporting capabilities.	Excellent	3	5.9%
	Good	6	11.8%
	Average	6	11.8%
	Poor	2	3.9%
	Very Poor	0	0.0%
	Don't know	33	64.7%
	Unknown	1	2.0%
C12.26 Internal communication.	Excellent	6	11.8%
	Good	12	23.5%
	Average	26	51.0%
	Poor	2	3.9%
	Very Poor	0	0.0%
	Don't know	4	7.8%
	Unknown	1	2.0%
C13. In your capacity as manager / owner, indicate the level of attention you give to each area:			
C13.01 Financial results.	Highest attention	48	94.1%
	Some attention	1	2.0%
	No attention	0	0.0%
	Unknown	2	3.9%
C13.02 Operational performance.	Highest attention	33	64.7%
	Some attention	16	31.4%
	No attention	0	0.0%
	Unknown	2	3.9%
C13.03 Employee commitment.	Highest attention	13	25.5%
	Some attention	10	19.6%
	No attention	26	51.0%

Variables	Categories	Frequency	Percentage out of total
	Unknown	2	3.9%
C13.04 Customer satisfaction.	Highest attention	41	80.4%
	Some attention	8	15.7%
	No attention	0	0.0%
	Unknown	2	3.9%
C13.05 Product quality.	Highest attention	27	52.9%
	Some attention	22	43.1%
	No attention	0	0.0%
	Unknown	2	3.9%
C13.06 Service quality.	Highest attention	29	56.9%
	Some attention	20	39.2%
	No attention	0	0.0%
	Unknown	2	3.9%
C13.07 Innovation.	Highest attention	10	19.6%
	Some attention	17	33.3%
	No attention	22	43.1%
	Unknown	2	3.9%
C13.08 Quality of relationships with external stakeholders.	Highest attention	9	17.6%
	Some attention	15	29.4%
	No attention	23	45.1%
	Unknown	4	7.8%
C13.09 Impact of society and environment.	Highest attention	9	17.6%
	Some attention	13	25.5%
	No attention	26	51.0%
	Unknown	3	5.9%
C13.10 Brand strength.	Highest attention	37	72.6%
	Some attention	9	17.6%
	No attention	0	0.0%
	Unknown	5	9.8%
C13.11 Quality of governance and management processes.	Highest attention	15	29.4%
	Some attention	21	41.2%
	No attention	12	22.5%
	Unknown	3	5.9%
C14. What type of management mechanisms do you use:			
C14.01 Activity based costing.	Yes	40	78.4%
	No	6	11.8%
	Unknown	5	9.8%
C14.02 Standard costing.	Yes	38	74.5%

Variables	Categories	Frequency	Percentage out of total
	No	7	13.7%
	Unknown	6	11.8%
C14.03 Breakeven Analysis.	Yes	41	80.4%
	No	5	9.8%
	Unknown	5	9.8%
C14.04 Capital Budgeting.	Yes	17	33.3%
	No	27	52.9%
	Unknown	7	13.7%
C14.05 Balanced Scorecard.	Yes	6	11.8%
	No	39	76.5%
	Unknown	6	11.8%
C14.06 Management by objectives.	Yes	25	49.0%
	No	20	39.2%
	Unknown	6	11.8%
C14.07 Performance Prism.	Yes	6	11.8%
	No	39	76.5%
	Unknown	6	11.8%
C14.08 Ratio Analysis.	Yes	40	78.4%
	No	4	7.8%
	Unknown	7	13.7%
C14.09 Six Sigma.	Yes	4	7.8%
	No	40	78.4%
	Unknown	7	13.7%
C14.10 Total Quality Management.	Yes	33	64.7%
	No	12	23.5%
	Unknown	6	11.8%
C14.11 Baldrige.	Yes	4	7.8%
	No	40	78.4%
	Unknown	7	13.7%
C14.12 CRM Measurement Framework.	Yes	5	9.8%
	No	39	76.5%
	Unknown	7	13.7%
C14.13 Leadership Driven Measurement.	Yes	17	33.3%
	No	28	54.9%
	Unknown	6	11.8%
C14.14 Accountability Scorecard.	Yes	9	17.6%
	No	36	70.6%
	Unknown	6	11.8%

Variables		Categories	Frequency	Percentage out of total
C14.15	HR Scorecard.	Yes	5	9.8%
		No	40	78.4%
		Unknown	6	11.8%
C15. How would you rate the quality of information as provided by your current performance measurement system to measure the following areas:				
C15.01	Price comparisons to competition.	Excellent	11	21.6%
		Good	8	15.7%
		Average	6	11.8%
		Fair	19	37.2%
		Poor	3	5.9%
		Don't know	1	2.0%
		Unknown	3	5.9%
C15.02	Number of on-time deliveries.	Excellent	6	11.8%
		Good	5	9.8%
		Average	3	5.9%
		Fair	2	3.9%
		Poor	0	0.0%
		Don't know	28	54.9%
		Unknown	7	13.7%
C15.03	Response times.	Excellent	5	9.8%
		Good	9	17.6%
		Average	5	9.8%
		Fair	4	7.8%
		Poor	0	0.0%
		Don't know	25	49.0%
		Unknown	3	5.9%
C15.04	Customer complaints.	Excellent	8	17.7%
		Good	5	9.8%
		Average	9	17.6%
		Fair	19	37.2%
		Poor	1	2.0%
		Don't know	5	9.8%
		Unknown	4	7.8%
C15.05	Number of products returns.	Excellent	6	11.8%
		Good	6	11.8%
		Average	8	15.7%
		Fair	7	13.7%
		Poor	3	5.9%

Variables	Categories	Frequency	Percentage out of total
	Don't know	17	33.3%
	Unknown	4	7.8%
C15.06 Customer survey results.	Excellent	8	15.7%
	Good	4	7.8%
	Average	5	9.8%
	Fair	0	0.0%
	Poor	0	0.0%
	Don't know	31	60.8%
	Unknown	3	5.9%
C15.07 Service rewards.	Excellent	5	9.8%
	Good	4	7.8%
	Average	5	9.8%
	Fair	0	0.0%
	Poor	1	2.0%
	Don't know	33	64.7%
	Unknown	3	5.9%
C15.08 Cycle times.	Excellent	3	5.9%
	Good	6	11.8%
	Average	6	11.8%
	Fair	6	11.8%
	Poor	1	2.0%
	Don't know	24	47.1%
	Unknown	5	9.8%
C15.09 Inventory turnover.	Excellent	6	11.8%
	Good	10	19.6%
	Average	10	19.6%
	Fair	18	35.3%
	Poor	0	0.0%
	Don't know	2	3.9%
	Unknown	5	9.8%
C15.10 Defect rates.	Excellent	2	3.9%
	Good	4	7.8%
	Average	7	13.7%
	Fair	3	5.9%
	Poor	1	2.0%
	Don't know	29	58.9%
	Unknown	5	9.8%
C15.11 Resources utilization.	Excellent	5	9.8%

Variables	Categories	Frequency	Percentage out of total
	Good	3	5.9%
	Average	6	11.8%
	Fair	8	15.7%
	Poor	1	2.0%
	Don't know	23	45.1%
	Unknown	5	9.8%
C15.12 Target met.	Excellent	3	5.9%
	Good	13	25.5%
	Average	4	7.8%
	Fair	15	29.4%
	Poor	1	2.0%
	Don't know	10	19.6%
	Unknown	5	9.8%
C15.13 Unit cost compared to competition.	Excellent	6	11.8%
	Good	8	15.7%
	Average	6	11.8%
	Fair	21	41.2%
	Poor	2	3.9%
	Don't know	3	5.9%
	Unknown	5	9.8%
C15.14 Overhead trends.	Excellent	4	7.8%
	Good	8	15.7%
	Average	7	13.7%
	Fair	19	37.2%
	Poor	1	2.0%
	Don't know	7	13.7%
	Unknown	5	9.8%
C15.15 Employee morale.	Excellent	5	9.8%
	Good	6	11.8%
	Average	4	7.8%
	Fair	2	3.9%
	Poor	1	2.0%
	Don't know	28	54.9%
	Unknown	5	9.8%
C15.16 Market share.	Excellent	5	9.8%
	Good	5	9.8%
	Average	2	3.9%
	Fair	5	9.8%

Variables	Categories	Frequency	Percentage out of total
	Poor	0	0.0%
	Don't know	29	56.9%
	Unknown	5	9.8%
C15.17 Employee talent.	Excellent	3	5.9%
	Good	7	13.7%
	Average	2	3.9%
	Fair	3	5.9%
	Poor	1	2.0%
	Don't know	30	58.8%
	Unknown	5	9.8%
C15.18 Number of new products.	Excellent	3	5.9%
	Good	14	27.4%
	Average	19	37.2%
	Fair	11	21.6%
	Poor	1	2.0%
	Don't know	0	0.0%
	Unknown	3	5.9%
C15.19 Systems improvements implemented.	Excellent	4	7.8%
	Good	11	21.6%
	Average	7	13.7%
	Fair	7	13.7%
	Poor	1	2.0%
	Don't know	18	35.3%
	Unknown	3	5.9%
C15.20 Number of patents.	Excellent	3	5.9%
	Good	9	17.6%
	Average	19	37.2%
	Fair	9	17.6%
	Poor	1	2.0%
	Don't know	5	9.8%
	Unknown	5	9.8%
C15.21 New technologies adopted.	Excellent	5	9.8%
	Good	6	11.8%
	Average	7	13.7%
	Fair	5	9.8%
	Poor	2	3.9%
	Don't know	22	43.1%
	Unknown	4	7.8%

Variables	Categories	Frequency	Percentage out of total
C15.22 Cash balances.	Excellent	29	56.9%
	Good	17	33.3%
	Average	1	2.0%
	Fair	0	0.0%
	Poor	0	0.0%
	Don't know	0	0.0%
	Unknown	4	7.8%
C15.23 Payment of payables.	Excellent	28	54.9%
	Good	17	33.3%
	Average	2	3.9%
	Fair	0	0.0%
	Poor	0	0.0%
	Don't know	0	0.0%
	Unknown	4	7.8%
C15.24 Sales margins	Excellent	27	52.9%
	Good	17	33.3%
	Average	3	5.9%
	Fair	0	0.0%
	Poor	0	0.0%
	Don't know	0	0.0%
	Unknown	4	7.8%
SECTION D: BARRIERS			
D16. What problems are you currently experiencing with performance measures in your daily activities:			
C16.01 Too complicated.	N/A	16	31.4%
	Minor problems	33	64.7%
	Some problems	0	0.0%
	Major Problems	0	0.0%
	Unknown	2	3.9%
C16.02 Not suitable for daily activities.	N/A	10	19.6%
	Minor problems	8	15.7%
	Some problems	30	58.8%
	Major Problems	1	2.0%
	Unknown	2	3.9%
C16.03 Too focused on financials.	N/A	7	13.7%
	Minor problems	6	11.8%
	Some problems	13	25.5%
	Major Problems	23	45.1%
	Unknown	2	3.9%

Variables	Categories	Frequency	Percentage out of total
C16.04 Difficulty measuring non-financials.	N/A	8	15.7%
	Minor problems	3	5.9%
	Some problems	11	21.6%
	Major Problems	28	54.9%
	Unknown	1	2.0%
C16.05 Lack of information.	N/A	9	17.6%
	Minor problems	7	13.7%
	Some problems	19	37.2%
	Major Problems	14	27.4%
	Unknown	2	3.9%
C16.06 Lack of knowledge on performance measured.	N/A	7	13.7%
	Minor problems	7	13.7%
	Some problems	19	37.2%
	Major Problems	15	29.4%
	Unknown	3	5.9%
C16.07 No one to consult.	N/A	11	21.6%
	Minor problems	5	9.8%
	Some problems	24	47.1%
	Major Problems	8	15.7%
	Unknown	3	5.9%
C16.08 Support more costly than expected.	N/A	7	13.7%
	Minor problems	5	9.8%
	Some problems	10	19.6%
	Major Problems	26	51.0%
	Unknown	3	5.9%
C16.09 Lack of readily available support.	N/A	7	13.7%
	Minor problems	5	9.8%
	Some problems	26	51.0%
	Major Problems	10	19.6%
	Unknown	3	5.9%
C16.10 Different from original promise.	N/A	7	13.7%
	Minor problems	4	7.8%
	Some problems	15	29.4%
	Major Problems	22	43.1%
	Unknown	3	5.9%