

## **An Investigation into the Relationship between the Internal and External Motivations for The Adoption of Management Systems Certification and Productivity Benefits**

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### **Abstract**

*The purpose of management system certification is to improve the performance of an organisation through the achievement of corporate objectives. However, the performance is linked to the reason for the adoption of certification. The aim of this study was to ascertain the relationship between the internal and external motivations for certification adoption and productivity amongst certified companies within KwaZulu-Natal. A quantitative approach was utilised and a survey questionnaire developed that included elements of internal motivations extracted from requirements within the various standards. The results demonstrate that there is a significant relationship between both the internal and external motivations and productivity benefits. ISO worldwide statistics indicate that South Africa is lagging behind in terms of the number of certified firms. It is suggested that government partner with the South African Bureau of Standards (SABS) to educate and offer incentives to assist organisations become certified.*

Keywords: certification; corporate objectives; productivity benefits.

### **1. INTRODUCTION**

Certification is the provision by an independent body of written assurance (a certificate) that the service or system in question meets specific requirements. It can be a useful tool to add credibility by demonstrating that a product or service meets the expectations of the customers. Therefore, as organisations try to meet the ever-increasing demands of their customers, acquiring certification is becoming imminent as seen in the great interest in adopting quality and process-related standards. Too often, companies merely react to external pressures to obtain certification, resulting in a minimalistic approach to achieve it. Simply put, the goal is the certificate on the wall. However, those firms that seek certification to improve the internal business processes are generally driven by the commitment to continually improve their outputs, thus realising improved productivity levels. This study will attempt to investigate the relationship between the internal and external motivations for certification and productivity benefits within the region of KZN.

#### **1.1 Background of the study**

With South Africa being a developing country, the avid interest and trend in companies seeking certification is still on an upward swing. The most prevalent amongst S.A. industries, and by default KZN, are the following system certifications:

- ISO9001: Quality Management systems
- ISO14001: Environmental Management Systems
- OHSAS18001: Occupational Health and Safety Management systems
- ISO22000: Food Safety Management System
- FSSC22000: Food Safety System Certification

- ISOTS16949: Quality management systems – Particular requirements for the application of ISO9001:2008 for automotive production and relevant service part organisations

This upward swing is fuelled by government departments placing pressure on their suppliers to obtain some sort of certification, most notably ISO9001, which are usually formalised in tender documents as a pre-requisite for inclusion into the supplier database. Furthermore, the lack of certification poses a barrier to international markets, which ultimately limits the growth prospects of firms as well as the national GDP. The SABS, as a State-Owned Entity (SOE) and the leading certification body in S.A. is instrumental in partnering with various government departments, business incubators and NGOs to engage organisations on the merits of certification, and specifically educating them on how to determine the most appropriate and suitable certification that would add value to that specific organisation or industry.

Organisations, in their haste to be come certified as a result of external pressure, unwittingly or inadvertently select the simplest of certifications:ISO9001. The lack of due diligence often has repercussions later on with the realisation that ISO9001 was not the most suitable certification. If one has to consider the following example: a chemical company that obtained an ISO9001 certification may have gained more value to its business had it instead applied for and attained the environmental management system certification namely, ISO14001. This is because more and more industries are recognising the adverse impact of industrialisation on the environment. They consequently prefer to conduct business with suppliers that adopt environmental certification to assist the deterioration of the natural resources. These strategies become entrenched in the procurement policies, there by shutting the door to those firms who do not have ISO14001.

The waste of capital is not only applicable to the actual certification costs, but to the costs incurred on associated training as well. Additionally, the time and effort lost are difficult to quantify. Furthermore, many organisations choose to hire the services of a consultant to implement the system. Some companies go even further and retain the consultants on a monthly basis, to maintain the system.

The certification journey, in many cases, is driven by customer or external social demands, rather than an internal need to improve processes and systems, generally reveal that there is seldom buy-in and commitment from top management. The lack of management obligation results in a certification that is minimally maintained and the bare minimum is conducted to ensure that compliance is not compromised. On the opposite continuum, positive organisation performance has been attributed to those firms driven to improve their business processes and productivity, with authors such as Allur, Heras-Saizarbitoria and Casadesus (2014) and Santos, Costa and Leal (2014) supporting this view. Organisations that are internally motivated are supported by a top management that provides the necessary resources to maintain the certified system in order to extract the most benefits possible. Due to increased worldwide externally- Demanded certifications and the interest in this particular field, numerous studies have been conducted regarding the motivators and the benefits of certification. This research will focus on certified companies, across the spectrum of small, medium and large sizes, to determine the business improvement considerations which motivate management to seek certification and its relationship to productivity.

## **1.2 Research problem**

Too often, the acquisition of certification is viewed as a necessary tool for doing business, rather than as a corporate strategy or vision. Despite extensive capital being out laid for the initial certification, the maintenance of the system is supported with minimal resources. Responsibility is usually delegated to the quality assurance person who, without the support of top management, finds it a challenge to sustain compliance. Lack of adequate resources, training, commitment and time are some of the hurdles that the quality assurance person needs to overcome to ensure a sufficient amount of effort is utilised in the maintenance of the system's certification. Experience has shown that most organisations, as a result of being coerced into becoming certified, are unwilling to explore the potential benefits of certification, resulting in a placid view to maintaining the system. They, therefore, do not experience the advantages of continual business improvements, as opposed to those companies that willingly elect to be certified due to their drive to standardise processes and increase productivity. This study will investigate the relationship between the motivational factors and productivity benefits of certified firms.

## **1.3 Model development**

In order to formalise the objectives and aims, a theoretical framework was developed. Sekaran and Bougie (2013) assert that a theoretical framework forms and supports the foundation of a deductive study. As a first step for this study, the independent and dependent variables were formulated. Associations between variables are crucial in formulating

the null and alternate hypotheses, subsequently the network between the variables was identified and defined, and finally translated into two distinct hypotheses.

#### **1.4 Significance of the study**

International certification research has been extensively explored and documented in terms of motivations and the link to the overall benefits received. However, the link between internal and external motivations and its influence on business performance, with particular focus on productivity has been largely overlooked. The product life cycles for the various ISO meta- standards are still indicative of the growth stage in the South African landscape, and by default, KZN. Ultimately this means that a significant amount of resources will be spent to obtain, as well as maintain the system. This research will assist organisations currently certified as well as those contemplating certification, NGO's, certification bodies, Accreditation bodies, business incubators, DTI funders and SEDA's to understand the value of certification if driven and motivated by an internal need to improve business processes that will ultimately lead to firm sustainability.

## **2. LITERATURE REVIEW**

A management system is a framework of policies, procedures, processes or works instructions that are utilised to manage the interrelated processes within a company to enable the achievement of the corporate objectives. Management systems have been around since 1987 and have exponentially grown. Its popularity has given rise to numerous studies and papers based on the perceived benefits and drawbacks. There is no unanimity amongst scholars on the benefits of certification which has caused the topic to become somewhat controversial Both advocates and detractors, through their individual assessments, have put forth valid arguments based on their research findings. Needless to say, the various literature domains indicate that the majority report on the benefits of certification. Further to this, researchers have also linked the reasons for certification adoption to the benefits obtained and discovered that firms that were internally driven to adopt certification reported greater performance than those that were forced to adopt certification.

### **2.1 International organisation for standardisation and the South African Bureau of Standards**

In February 1947, delegates from twenty-five countries convened and formed the independent, non-governmental, International Organization for Standardization (ISO). Its mandate was to enable the global harmonisation of standards. This would then provide a platform that would assist with the cross-border exchange of commodities and services. Furthermore, it would facilitate member cooperation in the spheres of intellectual, scientific, technological and economic activities. Currently, ISO boasts a membership of 162 member countries and has since published more than 21579 international standards(ISO,2017).

The South African Bureau of Standards (SABS), founded in 1945 was one of the founding members of ISO (SABS,2017). It is a state-owned entity (SOE) and the leading certification body in Africa. It generates its own income through certification, testing, publishing of standards, and training and its footprint lies across South Africa as well as internationally. The regional offices in Durban, Cape Town, Port Elizabeth and Pretoria are responsible for the servicing of the industries within the relevant geographical areas.

### **2.2 ISO certification in South Africa**

South African organisations have been slow to embrace the diverse offering of standards available and mainly standards such as ISO9001, ISO14001, OHSAS, ISOTS16949, FSSC22000 and ISO 22000 are the most popular. Systems such as ISO27001 (Information Security Management System), ISO39001 (Road Traffic Safety Management System), ISO50001 (Energy Management System) and ISO13485 (Medical Device Management System) are slow to take off as compared to the global diffusion. A clear example reflects the passivity of the SA business community: South Africa's historically low energy prices have contributed to a competitive position (Bissoon,2012), however, the downside demonstrated a lack of incentive to save energy, culminating in the energy crisis experienced from 2013 and 2016 (Styan,2013).

A pilot projection ISO50001 (energy management systems) was initiated where by five organisations volunteered to implement the system. Bissoon (2012) further clarifies that a total saving of more than 87 million kilowatt hours (kwh) per year was realised. Although interest in the system has grown, the commitment to actually implement it is seen in the disappointing results of the 2015 annual ISO survey (ISO,2017) where only seven South African firms are currently

certified as compared to BRICS counterpart India with 405 certificates. Furthermore, if we extract ISO9001 statistics, we discover that South Africa has 4346 issued certificates, as compared to BRICS partner Brazil with 17529 certificates and China with a total of 292559. Many local organisations are still reluctant to attain any sort of certification, naming barriers such as lack of funds, availability of skills, resource constraints and the poor economic climate as reasons (Ramdass,2012).

### **2.3 ISO certification globally**

The popularity of management systems worldwide cannot go unreported. The International Accreditation Forum (IAF), the international affiliation of Accreditation Bodies, Certification Body Associations and other bodies involved in certification activities, commissioned independent research company Databuild Research and Solutions, to conduct a Horton line twenty question survey across forty-one countries. A total of 4191 respondents completed the survey, the results of which were published in the 2012 Survey Report (IAF,2017). The results confirmed that organisations were reporting substantial benefits and added value from certification. While it was being used to improve the internal business processes, it also had a positive effect on finance as well as assisting to meet regulatory requirements. Furthermore, the results proved that certification adds value to not only large multinational companies, but to SMES as well this was evidenced by the fact that 57% of respondents employed less than 249 people. Conversely, various detractors cited in Barouch and Kleinhans (2015) have criticised management systems for their sources, expenses and time that needs to be allocated to maintain the system. They further contend that certification does not guarantee the quality of the product or service this is specifically in situations where achieving quality is relinquished in favour of achieving certification.

### **2.4 Motivations for adoption of certification**

According to the SABS website (SABS,2017) the benefits of management systems are many and include aspects such as: more efficient use of resources; access to international markets; improves business processes and reduces scrap, rework and unnecessary costs; internal business processes become reorganised there by improving productivity and reducing costs; accountability and trace ability are improved through the allocation of responsibilities; customers satisfaction improves as the firm consistently delivers on its mandate and most importantly, it gives a sense of direction and goal to all levels of staff within the organisation.

A mandatory clause in every standard (ISO9001,2008; ISO14001,2015; OHSAS18001,2011; ISO22000,2005; FSSC22000, Version 4 and ISOTS16949,2009) is the focus on continual improvement, which ensures that the organisation strives to better its processes, products and services. Certification is thus not a once-off event, but rather a non-going practice: it requires a turnaround of mind-set stagnation, and a culture change, driven and supported by a committed top management. Allur and Heras-Saizarbitoria (2014) warn that the certificate alone will not improve a company's business processes. The objective should be improved business and not a credential for display purposes. They further point out that based on evidence of both exploratory and quantitative research, for internalisation to be successful; there must be active use of the principles within each standard. These will then assist to modify behaviour and decision making within the firm. A common theory based on empirical evidence is that organisations that are driven by internal motivations often report positive improvements internally, in comparison to externally motivated companies who report on external improvements. In simpler terms, it means that results indicate a link between internal motivation and internal benefits, and external motivation and external benefits (Georgiev & Georgiev, 2015). While there is disagreement regarding the benefits of certification, there appears to be a unanimous agreement that motivations may be classified as internal or external. Considering the wide diffusion of certification, which involves 162 (ISO:2017) countries, it is inevitable that considerable research is focused on the reasons for adoption of management systems which is often a critical determinant of certification success.

### **2.5 Internal motivations for the adoption of certification**

Internal motivations are related to genuine organisational improvement with regards to business process improvement, continual improvement and cost analysis. When the decision to adopt originates from within the firm, management support tends to be high, thus the alignment of the management system to the business strategy is prioritized (Sohal & Prajogo 2012). Top management commitment fosters a positive attitude towards the system which becomes a catalyst for a culture change. Sampaio, Saraivaband Antonio (2010) in their study of one hundred research articles, discovered that organisations maximise their benefits if they achieved certification based on internal motivation.

In the local context, the advent of the Consumer Protection Act (2008) saw an increased interest in certification management systems (SABS,2017), specifically those within the food sector and to a lesser degree in other sectors. This was viewed as an opportunity to improve and control business processes such that the risk of contamination, defective goods and unsafe goods were minimised.

### **2.5.1 Business process improvement**

The business process improvement variable consists of three components; customer expectations, process approach as well as policy and procedures. These are requirements of the standards (ISO9001,2008; ISO14001,2015; OHSAS18001,2011; ISO22000,2005, FSSC, Version 4, SANS10330,2007 and ISOTS 16949,2009) through which firms can comply and optimise in order to reap the benefits. These will be discussed further in the following sections

### **2.5.2 Customer expectations**

A major management principle of any management system is customer focus: that is, how to meet customer requirements and to meet or exceed the customer's expectations. Sustained success is achieved when the organisation attracts and retains the confidence of customers. Every aspect of customer interaction provides an opportunity to create more value for the customer (ISO9000:2004), therefore, understanding the current and future needs of the customer is crucial to the sustainability of the firm. Some of the benefits of meeting customer expectations include customer loyalty, repeat business, expanded customer base, increased revenue, increased market share, customer satisfaction and enhanced organisation reputation.

ISO (2017) prescribes that the firm needs to plan, design, develop, produce, deliver and support goods and services to meet customer expectations. Organisations, therefore, need to indicate how customer expectations are met and exceeded. This encompasses the entire firm, including support and outsourced processes, so as to ensure that the customer receives what they require.

### **2.5.3 Process approach**

ISO (2017) describes a process as "a set of inter related or interacting activities that use inputs to deliver an intended result". Its simplicity allows it to be used by any entity or management system, irrespective of the complexity of the business. All processes are sub systems of a larger process that are interrelated and function together with the aim to convert inputs in to outputs consistently. The outputs of one process can be inputs into another which are interlinked into the overall network of processes that ultimately strive to satisfy the customer's requirement. It must be noted that processes can be defined, measured and improved.

The purpose of the process approach is to enhance an organisation's effectiveness and efficiency inconsistently achieving its defined objectives.

According to ISO9000:2015, benefits of the process approach are:

- Ability to focus effort on process effectiveness and efficiency;
- Provision of confidence to customers, and other interested parties, about the consistent performance of the organisation;
- Transparency of operations within the organisation;
- Lower costs and creation of shorter cycle times, through the effective use of resources;
- Improved, consistent and predictable results;
- Provision of opportunities for focused and prioritized improvement initiatives; and
- Encouragement of the involvement of people and the clarification of the irresponsibilities.

Within the food certifications, this approach is of paramount importance as it considers food safety and traceability as processes.

### **2.5.4 Policies and procedures**

Each standard dictates that top management shall formulate and communicate a policy based on the firm's strategic intent. These policies shall also be continually reviewed (and amended where necessary) to reflect the fluctuating

external and internal environment, taking into account customers changing expectations (ISO9001,2008; ISO14001,2015; OHSAS18001,2011; ISO22000,2005, FSSC, Version 4 and ISOTS16949,2009). Objectives (corporate, divisional and sectional) are then expected to flow from these policies, which are then translated in to measurable goals. A procedure, however, is a working tool and defined as “a specified way to carry out an activity or a process” (ISO9000:2015). The application of procedures, policies, standard operating procedures and works instructions instils uniformity across all processes and serves as control measures. It provides clarity in respect of responsibilities and tasks.

### 2.5.5 Continual improvement

Continual improvement is another important requirement for each standard. According to ISO9000:2015, improvement may be defined as an activity to enhance performance, while continual improvement refers to the *recurring* activity that enhances performance. It should be a permanent objective of the organisation as it will allow flexibility to react quickly to opportunities and help improve organisational capabilities. It is, however, along-term approach to work, and systematically seeks to achieve small, incremental changes in processes in order to improve efficiency and quality. Tari, Heras-Saizarbitoria and Pereira (2013) maintain that where the system is continually improved rather than maintained at the minimum level, it is a reflection of active execution and buy in which is synonymous with internal motivation. The essence of continual improvement lies in employees’ involvement. This happens when they improve their processes, product or services by applying their creative faculties to their work-related problems and routine jobs. Whilst there are many catalysts that drive improvement initiatives, data analysis, the setting of objectives and a risk-based approach to business are mandatory requirements which are considered as overarching triggers (ISO9001,2008; ISO14001,2015; OHSAS18001,2011; ISO22000,2005, FSSC, Version 4 and ISOTS16949,2009). These three requirements are discussed in the sections below.

## 2.6 Data analysis

ISO9000 (2015) proposes two key concepts. Firstly, that continual data analysis assists in the setting of objectives and secondly, that the analysis of data assists in objective and factual decision making. The comparison of actual results against planned goals should be periodically performed. To support the continual improvement strategy, organisations are expected to gather, examine and analyse trends that may provide opportunities or risks in the business, thereby proactively engaging in preventive measures. A few of the areas where the analysis of data can provide in valuable input according to ISO9001, ISO14001 and OHSAS18001 standards are:

- Customer satisfaction results
- Supplier performance results
- The results of product and process monitoring
- Customer complaints
- Rates of non-conformities
- FMEA’s
- Environmental and health accidents
- Trends and opportunities for corrective and preventive action

### 2.6.1 Objectives

Objectives are strong predictors of sustainability and may be formally defined as a result to be achieved (ISO14001:2015). All standards mandate that the organisation, through the analysis of data, should define objectives that will improve the products, processes and the structure of the firm. As part of its strategic intent, the firm needs to set measurable objectives, targets and programmes that are aligned with the company strategy and policy at corporate as well as departmental level. A key criterion is that objectives and targets must be communicated to all stakeholders and reported at the management review. Inline with improvement initiatives, these objectives are continually reviewed and revised to better each performance.

### **2.6.2 Risk-based approach**

A key purpose of management systems is to act as a preventive tool, which is expressed through the use of risk-based approach mechanisms within the firm (Deysher,2015). This critical determinant of success is a mandatory requirement in all standards (ISO9001,2015; ISO14001,2015; OHSAS18001,2011; ISO22000,2005; FSSC, Version 4 and ISOTS16949,2009) and encompasses the entire organisation, giving rise to a culture of applying risk-based principles which are then analysed to detect trends and ultimately reduce fixed and variable costs. The identification of risks forms the bases for planning. In the environmental (ISO14001,2015) and health and safety (OHSAS18001,2011) disciplines, the risks identified can assist to mitigate legal non-conformities that may otherwise cause a firm to be in breach of the law or regulation.

### **2.6.3 Cost analysis**

Cost analysis is synonymous with lean operations (Jones,2013). It entails separating the components, identifying the associated costs and analysing each in a bid to reduce wastages. In alignment with the concepts of data analysis and improvement initiatives, organisations are expected to identify trends, quantify and reduce errors. An ISO standard does just that, by helping business cut costs linked to waste, rework, errors and emissions amongst others. Not only do organisations increase profits, but they improve their environmental, quality and safety performance which contributes to sustainable development. The lack of calibration of instruments may also lead to inconsistencies in product quality, once again affecting the cost of quality (Tillison,2008).

### **2.6.4 Cost of waste**

According to Bailey Waste (2013), when an ISO standard is implemented and if it is applied as a strategic tool, the organisation will reduce costs by minimising waste and errors and increasing productivity. Waste is a constant drain on financial resources, process time, and also a huge environmental negative in most organisations. Analysis of processes and methodologies within a manufacturing organisation will eliminate waste. Service-oriented industries are equally expected to minimize waste, for example, by minimising time between activities. From an environmental perspective, the holistic approach to waste management is reflected in a firm's ability to identify, manage, monitor and control their environmental issues such that year on year improvements are noted (ISO14001,2015). The cost of waste and emissions are closely linked not only to the financial bottom line, but to corporate social responsibility as well.

### **2.6.5 Cost of rework**

Ezeanyimet, Onwurah, Okoli and Okpala (2015) express rework as quality deviations as “the process by which an item is made to conform to the original requirement by completion or correction”. Rework is an indication of inefficiency. In the manufacturing sector, rework can result from design changes, sabotage, machine failures, product failures, damages, poor maintenance, errors, untrained employees, misinterpretation, miscommunication and so forth (Daneshgari & Moore, 2016). Contrary to wide spread perception, rework also occurs within the service industry. Consider an incorrect delivery. The driver needs to redo that delivery whether it is 5 kilometres away or 200 kilometres away. The costs associated with rework activities can be overwhelming and tends to diminish the profit margins. Daneshgari & Moore (2016) also maintain that rework impacts the productivity of a project at least 3 times over. They also allude to the fact that the root cause of rework stems from a lack of planning and communication.

### **2.6.6 Cost of non-conformities**

While rework is part of the non-conformance process (ISO9001,2008), a greater challenge is to minimize the cost of total rejects that cannot be reworked. These goods can either be scrapped or sold as seconds. While it is possible that “out-of-spec” products may be accepted by the client under concession (ISO9001,2008) it still comes with a cost attached. Bar the financial loss, of greater importance, is the loss of customer satisfaction. Within the environmental domain, the cost of non-conformities may be tremendous, for example, major spillages or explosions. From a health and safety point of view, accidents concerning people may cause a shutdown of the plant or legal ramifications. Furthermore, the Consumer Protection Act 68 of 2008 as well as the Foodstuff, Cosmetics and Disinfectants Act 54 of 1972 provide the legislation and regulations regarding food safety. Non-compliance with Act54 may lead to severe repercussions for the firm. It is for these reasons that ISO standards stipulate controlled environments within which the company shall operate to mitigate risks.

## **2.7 External motivations for the adoption of certification**

While companies with internal motivation are more likely to use the standard and underlying principles on a day-to-day decision making to improve quality, organisations with external motivations tend to implement measures prescribed by the standard as a quick fix to be able to win more contracts or recognition. Too often, firms that are pressurised into obtaining certification view it as a necessary requirement in order to gain access to markets or to achieve legitimacy by copying peer organisations. This is supported by Georgiev and Georgiev (2015) who found that in their study of Bulgarian firms, 39.4% of respondents indicated that competitiveness and enhanced corporate image were the driving factors for adoption of certification. External motivations are therefore those reasons that are influenced by the external environment, but not limited to external pressure, corporate image and market share.

### **2.7.1 External pressure**

Globally, external pressure is another significant factor. Reactive motives are related to the adoption of a standard in response to certain pressures or external stimuli (Roman, del Castillo-Peces, Idoeta, del Castillo-Peces & del Castillo-Peces, 2017). Considerable attention is given to pressure received from customers; however, holistically this dimension includes pressure or influence from competitors, society, regulators, technical associations, the public and government. The results of the 2015 client satisfaction survey by the British Assessment Bureau (2015) revealed that 45% of firms stated that industry requirements and expectations were major motivations for implementing the standard. Although there exist various external influences (Santos *et al.*, 2014 and Sampaio *et al.*, 2010), the following three (stakeholder influence, complaints and customer satisfaction) are discussed in the following section.

### **2.7.2 Stakeholder influence**

Consulting Engineers of South Africa (CESA) (2016) reports that in the 2015 year, 97% of affiliated engineering firms had a QMS system in place following a mandatory condition of CESA membership. In some industries, certification has become a prerequisite, given the intimidating nature of clients such as SOEs, Municipalities, vehicle manufacturers, major retailers and others. For example, certification to ISOTS16949 empowers organisations to enter into the automotive sector, whether they are first or second-tier suppliers. If we reflect on the pressure within a specific value chain, the implications are even larger (Walfish, 2016).

Consider a packaging company certified to ISO9001 that wishes to supply plastic packets to a cereal plant. The company will be requested to become ISO22000 (food safety management system) compliant for consideration as a supplier within the food supply chain. Similarly, the supplier of the labels will be expected to demonstrate compliance as well. Consideration for a greener environment and sustainability can be caused by pressures from competitors, strategic partners, customers and community watchdogs. Health and safety certification (OHSAS18001, 2011) provides confidence to all stakeholders, including government that a health and safety policy provides the framework that enforces the creation and maintenance of a safe working environment, thereby reducing the risk and liability exposure of the organisation.

### **2.7.3 Complaints**

Should complaints be a major concern of a customer, they may request the supplier to adopt certification in a bid to reduce the number and severity of complaints. This is because complaints analysis, corrective action and complaints resolution are part of the mandatory requirements within each standard. That is, a formal system for complaints handling needs to exist. Failure to report the status of customer complaints leads to non-compliance of the standard (ISO9001; ISO14001; ISO22000). Non-compliance may then lead to the organisation losing clients.



#### **2.7.4 Customer satisfaction**

Customer satisfaction is the fulfilment of customers' expectation that comes with product / service consumption. ISO9001:2008 dictates that the organisation shall implement a methodology for ascertaining customer feedback, the results of which ultimately feeds back into the continual improvement cycle. Dongmo and Onojaefe (2013), in their study of 110 manufacturing firms in Cape Town, found that customer satisfaction was one of the two main motivators for certification.

#### **2.7.5 Corporate image**

Organisations, in a bid to elevate their status in the business environment, become certified. The certification affords a certain prestige that the firm can use to their advantage. Aspects such as image improvement, competitive advantage and promotional aspects will be hence forth discussed.

#### **2.7.6 Image improvement**

Organisations, in a quest to increase their levels of quality, invest in physical resources, human resources, research and development, or organisational restructuring. Customers, however, do not directly see these investments or their results, giving rise to a "moral hazard problem" as defined by Marinovic, Skrzypacz and Varas (2016), thus creating a perception of the lack of quality in that firm. The firm, therefore, elects to build a reputation for quality. Nonetheless, for the reputation to be credible, customers need to observe those signals of quality. Because ISO certification is a globally recognised and authentic third-party certification, businesses strategically select this methodology to improve their image. Following certification, a company may market themselves through the use of the third-party ISO certification logo in press releases, advertorials, marketing brochures, videos, staff announcements, websites and stationery.

#### **2.7.7 Competitive advantage**

The certification process takes months to achieve, therefore compliance with ISO certification is an advantage that is not easily, quickly or cheaply duplicated. The globally recognised certification demonstrates credibility since it signifies that an organisation adheres to industry standards as well as meeting stakeholder expectations. The firm demonstrates that it is committed to quality and this instils confidence in customers and business partners regarding the company's ability to deliver on their quality promises (WWISE,2017).

#### **2.7.8 Promotional tool**

Once firms receive their certificate, they are keen to exploit the marketing opportunities by aligning their brand with the ISO logo (ISO,2017). These are usually through channels such as business cards, banners, websites, stationery, publications in print media and trade magazines, press releases, social media, background graphics at tradeshow or business fairs and printed promotional items such as t-shirts and caps (9000Store,2016). A popular method is to arrange a networking session in which VIPs are invited and the certificate is formally handed over by the certification body. This event is then advertised in the media. A renowned pioneer in the ISO certification research field, Buttle (1997) conducted a survey on the marketing dimension of certification motivation and benefits. The survey was conducted on 4250 certified organisations within the UK the results of which indicated that 94% of respondents reported that using the standard as a promotional tool, was a fourth benefit out of the 23 listed.

#### **2.7.9 Market share**

Organisations may embark on the certification journey in order to expand their markets and ultimately increase profits. Common theory, according to Kotler and Keller (2012), propose four market share strategies as follows:

- Market-penetration strategy -Increase market share with current products in the current markets.
- Market-development strategy- Develop new markets for current products.
- Product-development strategy- Development of new products to current markets.
- Diversification strategy- Introduce new products in new markets.

Depending on the selection, firms may decide to adopt certification that will assist them in achieving growth.

### **2.7.10 Growth opportunities**

Whereas an organisation may not previously have been able to increase its' market share, certification allows many growth strategies to be pursued (British Assessment Bureau, 2015). Barriers to international markets are reduced (ISO,2017), since ISO certification is a world wide concept. This is significant for companies wishing to export, particularly considering the current weak exchange rate in South Africa and its positive relation with exports. Additionally, certification allows the organisation to participate in a level playing field, by being able to compete with competitors, multinationals and regional firms. Globally, the tender market is equally lucrative-the results of the 2015 client satisfaction survey by the British Assessment Bureau (2015) indicated that 48% of respondents declared that the main motivational reasons for obtaining ISO9001 were to win new business and to improve the chances of winning tenders.

### **2.7.11 Access to global markets**

ISO's (2017) mission statement: to "promote standardisation and related activities in order to facilitate the international exchange of goods and services..." is indicative of a strategic intent to break down international trade barriers. The fact that 162 countries are currently members of ISO bears testimony to the fact that the ISO management system certification model is universally accepted and used. There is a common perception that developing countries do not produce goods of an acceptable quality (Wilcock&Boys,2017). This has strategic implications for organisations wishing to enter the international market. Certification, however, offers a platform for the firms within these countries to be able to export without prejudice—it is an assurance to the international market that the company is reliable. Wilcock and Boys (2017) in their study onagri-food firms in Guyana, reported that entry into the international market was cited as the most important motivation.

## **2.8 Productivity benefits of certification**

Min and Kanapathy (2014) define operational performance as incorporating efficiency, productivity, quality of work, improvement of internal processes and procedures, improvement of employee motivation, on-time delivery and customer satisfaction while business performance includes the domains of marketing and finance.

### **2.8.1 Improved quality of products and or services**

Quality can be defined as "a dynamic state associated with products, services, people, processes, and environments that meets or exceeds expectations and helps produce superior value" (Goetsch & Davis,2014). None of the certification standards specifies objectives related to the quality of a product. Instead, management systems are designed to improve processes within an organisation. The holistic application of the management principles become the key driver for achieving enhanced performance. Policies and procedures assist to implement controls (minimise errors) within the work place environment. These controls become embedded within each process of the company, resulting in increased quality of the products and processes. Furthermore, the principles of "monitoring and measurement" (ISO9001,2008; ISO14001,2015; OHSAS18001,2011; ISO22000;2005, FSSC, Version 4, SANS 10330, 2007 and ISOTS16949,2009) prescribe that should quality issues arise, then adequate measures shall be taken to correct, and prevent the reoccurrence of the problem. This ultimately leads to continual improvement through better operations, products and services.

### **2.8.2 Improved efficiency**

According to Productivity South Africa (2017), the measure of how effectively resources are used to produce outputs is defined as productivity. It, therefore, measures outputs relative to the input (Tangen,2004). A point to note is that inputs and outputs may be tangible (materials, components or equipment) or intangible (data, information, skills or knowledge). A better management of inputs and processes ensures higher productivity level, outputs that are of better quality and lower costs-it necessitates a continuous determination to improve knowledge, skills, discipline, effort and teamwork.

### **2.8.3 Improved consistency of processes**

ISO9004 (2010) states that a key benefit of the systems approach in certification provides confidence to interested parties concerning the consistency, effectiveness and efficiency of the organisation. Certification, through the use of policies, procedures, or works instructions, help to harmonise and integrate processes such that a network of input and outputs together work to achieve a consistent outcome, which may be a product, service or a combination of both. Consistency within all processes in an organisation thus minimizes the opportunity for error.

Speegle (2009) coined the term “operating consistency” as performing tasks the same way every time, according to standard operating procedures. He goes onto say that consistency controls variations in the processes and further adds that when there is a lack of consistency, time and resources are wasted during the process of trying to return to consistent levels.

### **2.8.4 Overall improved productivity**

An interesting angle towards the concept of productivity as related to certification stems from the productivity of people. Studies by Sanchez-Ollero, García-Pozo and Marchante-Lara (2015) contend that ISO certifications positively impact labour productivity within a company, thus leading to increased performance. However, Albulescu, Draghicia, Fistis and Truşculescu (2016), in their panel data framework of EU-27 countries argued that the adoption of certification alone is insufficient for improving the level of labour productivity. The commitment of firms ‘personnel and top management is of paramount importance in order to reap the benefits.

## **3. RESEARCH METHODOLOGY**

Of principal importance during the planning of this research, consideration was given to the experimental nature of the study; the aim, the research problem, the target population and the end users of this report. Consequently, the positivist approach encompassed those research components that would best answer the research question. The target population in this study comprised of three hundred and eighty certified clients of the SABS, within the geographical area of KZN. Resource constraints and impracticability dictated that a representative sample should be selected. The method selected for this study took cognisance of the technical nature of the SABS services. Clients are classified into technical sectors once they embark on the certification journey. Using the technical sectors as stratum, a stratified sampling method (probability sampling) was carefully and logically selected. It is acknowledged that this methodology is more challenging than simple or systematic random sampling; however, it was perceived that it would be value adding to the study. On the opposite continuum, a major benefit of this methodology is that each stratum is represented proportionally within the sample, thus reflecting accurate trends. The population of three hundred and eighty (380) clients were stratified into six discrete strata (technical clusters) and a selection of cases was randomly chosen from each strata. This ensured that an adequate selection of firms across the various types of industries or spectrum was chosen, which could add value during data analysis by detecting possible trends. The sample size of two hundred and five (205) was based on Sekaran and Bougie’s (2013) sampling plan and deemed appropriate for the intended level of precision and confidence required for the study. One hundred and forty-five (145) questionnaires were returned, which indicated a total response rate of 71%.

### **3.1 Data analysis**

The data collected from the responses were analysed with SPSS version 24.0. The reliability of the questionnaire was done using Cronbach’s alpha, with an alpha value greater than or equal to 0.70 indicating an acceptable degree of consistency for a newly developed questionnaire. Factor analysis was done to determine the factor loadings of the statements for each section, where the Kaiser-Meyer-Olkin Measure of Sampling Adequacy and the Bartlett’s Test of Sphericity conditions were satisfied. The results were presented using descriptive statistics in the form of graphs, cross tabulations and other figures for the quantitative data. Inferential techniques include the use of correlations and chi-square test values which were interpreted using the p-values.

#### **3.1.2 Editing data**

The process of editing data is to provide an assurance that the data is accurate, consistent, uniform and complete. While the questionnaire contained close-ended questions, steps had to be taken to minimise the risks of errors, omissions and

contamination. Saunders, Lewis and Thornhill (2016) point out that missing data can adversely affect the results especially if a pattern is discernible for certain questions or themes. It is an indication that the results will unlikely be representative of the population. Blank responses, in this study, which were few, were left as is. Furthermore, a strategic decision taken during the planning phase was that if any of the responses were more than 25% incomplete, the response would be discarded. Fortunately, none fell into this category. The data was then coded and the variables grouped into sub-themes. This facilitated the easy input into the program.

### 3.2 Limitations

In general, limitations refer to the restrictions experienced and for which the researcher has no control thereof while Kumar (2011) refers to it as structural problems within the methodology. Despite the fact that an assurance of confidentiality and other ethical considerations were communicated together with the questionnaire, respondents may have been reluctant to express their frank and candid views due to the fact that the study was conducted by a member of the SABS management team itself. Their attitude may have leaned towards socially acceptable opinions. In such instances, such a stance would adversely influence the results obtained.

Scaling techniques are simple to understand, however, the meaning of agree / strongly agree or disagree / strongly disagree depends on the respondent's frame of mind at the time and could influence the selection of the most appropriate indicator there by affecting the results.

The permission and approval to conduct the study took longer than anticipated. This negatively impacted on time constraints. Compounded to this, the availability and accessibility of up to date client information were mired by red tape. It is possible that this may have led to a slightly skewed stratified selection within the sampling process. While every effort was made to source secondary data from reputable sources, the level of accuracy of such data could not always be ascertained due to the limited timeframe of the study.

### 3.3 Elimination of bias

Bias is a deliberate attempt to influence a study either by concealment or highlighting an issue. The objectivity of the research is therefore compromised (Kumar2011).

An advantage afforded to this study is that quantitative studies offer a substantially reduced degree of risk when it comes to bias because of the lack of interviews. Therefore, interviewer / researcher bias has been eliminated. Be that as it may, every effort was made to ensure that the design, sampling procedure, data collection, data analysis and conclusion were free from bias. Statements in the research instrument were sequentially scrambled so as not to influence the choice of selection. Gender, ethnicity, age and other stereotypical descriptions were eliminated. While the level of education was included, it was merely for statistical purposes to base assumptions upon. Preferences in the sampling process were eliminated as a result of the stratified and random selection. Data collection was controlled through the allocation of unique consecutive numbering upon receipt, ensuring that the identification of the respondent was there after not visible. Conclusions were based on data actually received.

### 3.4 Ethical considerations

Ethical considerations in research refer to the accepted codes of conduct by researchers (Kumar2011). The role of the researcher in ensuring the ethical principles of anonymity, confidentiality, informed consent, respondents' dignity, respondents' safety, authentic permission and trust is vital if the integrity of the research is to be maintained. Saunders *et al.*, (2016) caution that contrary to the belief that qualitative research, due to its intrusive nature, is more prone to ethical concerns, research instruments may also pose risks. The nature of these risks pertains to the sensitivity of the questions and the sensitivity of the respondents. The following ethical concerns were addressed:

*Ensuring respondents have given informed consent:* Accompanying the questionnaire, each respondent received an informed letter of consent that explained the research background, the purpose and importance of the research, their voluntary participation and the ability to leave the study at any given time.

*Ensuring that no harm comes to respondents:* The nature of the study was not sensitive, which ensured that the safety of the respondents was not compromised.

*Ensuring confidentiality and anonymity:* Respondents were assured their names and details would not be divulged at any stage of the process. Additionally, no persons, besides the researcher, have access to the raw data and possible confidential information.

*Ensuring that permission is obtained:* The researcher, in seeking permission from the organisation to conduct the study, is bound by a signed agreement to uphold the values and ethics of the SABS, as well as safeguard the confidentiality of its clients' information.

#### **4. RESULTS**

Of the one hundred and forty-five responses received, the ratio of males to females is approximately 1:1 (49.0%:51.0%). The largest component of respondents were SHEQ managers (42%), with top management forming 30% of the sample. The reason for a high percentage of SHEQ managers could be attributed to the fact that obsolete versions of some standards dictated the appointment of a dedicated management representative to oversee all matters of certification. The management representative had to be part of the management team. The 30% relevant to top management indicates those organisations where the head of the company himself or herself has been appointed as the management representative. All of the respondents had a post-school qualification while one-tenth of the respondents (11%) a Masters degree. This is a useful statistic as it indicates that a fair proportion of the respondents have a higher qualification further demonstrating that the responses gathered would have been from an informed (learned) source. The degrees may be related to the technological discipline or industry of the particular company. In the South African context, these are usually Bachelor of Technology degrees. The popularity of Total Quality Management (TQM) diplomas cannot go unmentioned and may constitute the bulk of 32.6% diploma graduates. Since 16.7% of respondents listed a certificate / s as the highest qualification, this may be construed as the mandatory training requirement specified within each standard. Nearly 70% of the respondents had been in employ for more than 5 years. This implies that respondents had been in employ for a while and this is also a useful fact as it indicates responses from employees who have many years of experience as well as a wealth of knowledge about the organisation and the area under study.

According to trends within the SABS client base, a contributing factor to the large SMME sector originates from tender requirements as part of corporate social responsibility, as well as the increase in the growth of consulting services. The reduction in the KZN manufacturing sector specifically within the clothing, textiles, leather and footwear industries during the past few years have given rise to companies that are smaller in nature.

For purposes of this study, the mechanical / material sector is all inclusive of the mechanical engineering, textiles, fibre, steel and civil industries, hence it comprises the largest percentage at 35.9%. The chemical sector at the second position is inclusive of chemical, rubber, plastics and packaging companies. In third position, is the services sector which incorporates the consulting, general services, shipping and project management organisations mainly. The food sector is notably smaller which may perhaps be due to organisations preferring to meet prescribed (legislated and regulated) requirements, rather than applying for certification which is voluntary. Applicable food safety regulations such as R908, R500, R962, R146 and R246 are prescribed by Act 54. The automotive and electro-technical clusters are relatively small due to the effects of minimal first tier auto-manufacturing and the import of goods respectively within the KZN province. Certification has been predominant for longer periods ( $p < 0.001$ ) with nearly 80% of the respondents indicating that the process has been in existence for at least 6 years. This too is important in terms of the study as it indicates that responses would be from experienced organisational history. It is not surprising that ISO9001 is the most widely adopted certification in KZN. This lends itself to the popularity of ISO9001 countrywide as well as globally. An astronomical 1106356 certificates up until 2016 have been issued worldwide (ISO:2017). In comparison, ISO14001, although lagging far behind, is the second most popular standard. These patterns offer duplication within KZN at 90% and 26% respectively, notwithstanding the fact that some companies may hold dual certifications. The popularity of ISO9001 is due to its simplistic understanding and requirements. Of all the standards, it requires the least amount of discipline purely because it can be adopted by any organisation, large or small, regardless of its technological classification. Additionally, it is the most cost-effective of all. It must be emphasized that it also forms the foundation of all other standards.

The length of certification also yielded a strong positive relationship ( $p = .013$ ) with the statement "Objectives are continuously reviewed and revised at organisational and departmental levels". This is in line with expectations that as firms' management systems mature, the benefits of this mandatory clause in the standards are realised and optimised.

##### **4.1 Factor analysis**

Factor analysis is a multi variate statistical technique that attempts to identify and illuminate the pattern of correlations within a set of variables. Sekaran and Bougie (2013) further state that it ascertains the appropriateness of each item within a specified dimension, thereby establishing construct validity. It is predominantly adopted in large surveys and

ultimately used in data reduction to facilitate the identification of a small number of factors that will help explain most of the variance observed in a larger set of variables (IBM Knowledge Centre,2017). Based on the correlation between variables, this technique allows the researcher to group variables into factors which are then treated as new variables, often called latent variables.

According to the IBM Knowledge Centre (2017) the Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy is a test that indicates the proportion of variance among variables that might be common variance. The lower the proportion, the more suited is data to factor analysis

#### **4.2 Rotated component matrix**

In terms of business process improvement, the following factor variable “The structured flow of business processes ensures that inputs are processed into outputs” had the highest inter-correlation loading, indicating that it had the most effect on the independent variable.

Within the continual improvement initiative category, the factor variable “Objectives are continuously reviewed and revised at organisational and departmental levels” had the highest inter correlation loading, indicating that it had the highest impact.

The statement “The costs of rework are analysed and quantified” appeared to be the strongest inter correlation loading within the cost analysis category. “We adopted certification to reduce customer complaints” proved to be the main inter-correlation loading that affects business, within the external pressure cluster.

With respect to the corporate image dimension, the strongest inter correlation loading stemmed from the statement “We have gained a competitive edge within the industry since certification”.

In the final category of the independent variables, the strongest inter-correlation loading emanated from the statement “We have been able to increase our market share as a result of certification”.

In the matter of the dependent variables, the highest inter-correlation loading was found in the following statements, “Adopting certification improved our efficiency” and “Adopting certification improved the consistency of our processes”.

#### **4.3 Analysis of independent variables**

This section summarises and presents the results of the internal and external motivations for certification. It provides a description of the scoring patterns of the respondents per variable per section. Results are then further analysed according to the importance of the statements.

##### **4.3.1 Internal motivations for certification**

The section on internal motivators consists of three independent variables, namely business process improvement, continual improvement and cost analysis A discussion of each of these variables will follow.

##### **4.3.2 IM1- Business process improvement**

The following patterns are observed:

- All statements show (significantly) higher levels of agreement compared to levels of disagreement
- The levels of agreement are high and similar.
- The significance of the differences is tested and shown in the table.
- Respondents mostly agreed that the statements that constituted this section contributed to business process improvement.

The basis for this lies with the standards’ collective goal of satisfying customer and stakeholder expectations in everything that the organisation does, using the process based approach within its operations. Equally important is the acknowledgement of the value of the mandatory use of policies and procedures.

##### **4.3.3 IM2 - Continual improvement**

This section analyses the firms’ approach to continually improve on their practices in an endeavour to exceed current and past performances. Patterns are very similar to IM1 with a high level of agreement, indicative of a willingness to apply holistic measures. All the certification standards advocate the use of a corrective action system to correct and prevent the reoccurrence of non-conformities. They also espouse their viewing and revising of objectives and targets for all levels of the firm.

A noticeable level of respondents (5%) disagreed on applying the risk-based approach. This is attributable to the ISO9001:2008 transition to ISO9001:2015, where by the latter version calls for risk-based thinking. At the time of this study, some of the organisations were still in the transition stage.

#### **4.3.4 IM3 – Cost analysis**

Complementing continual improvement initiatives, another mandatory clause is the control of non-conforming products and / or services and the costs (intrinsic and extrinsic) that are associated with them. The importance attached to these statistics is deemed vital enough such that the results are required to be tabled at the management review meetings. Year on year improvements to the trends are expected. The above findings, with a variation of slightly more neutrals, still remain strongly positive. The neutrals and disagreements can be probably explained by those organisations that are service rather than product oriented.

#### **4.3.5 External motivations for certification**

External pressure, corporate image and market share are the three independent variables within the research model and will be discussed.

#### **4.3.6 EM1 – External pressure**

In all instances, the differences are significant- all the p-values are less than 0.05. A surprising and unexpected result is that there is significantly more disagreement for external pressure (46%) and neutrality at 23% which makes up for approximately 70% of respondents. Whilst the literature review has indicated that companies have willingly divulged that certification adoption has been influenced by some sort of external pressure (where applicable), this is not necessarily the case per the study findings. A possible explanation could be due to respondents not being comfortable to declare that motivations were not internally driven (proactive), but rather reactive. Alternatively, it may mean that respondents did not fully understand the concept of “pressure from external parties” A significant 90% indicated more agreement for customer satisfaction, which is indirect contrast to the result of the first variable, namely: “we adopted certification due to pressure from external parties.” The customer complaint variable shows slightly more agreement (47%) than disagreement (31%), which is acceptable based on their individual motivations. However, the neutrality of 23% may be indicative of clients not willing to allude to the fact they do have customer complaints, which is common practice during certification audits.

#### **4.3.7 EM2 – Corporate image**

A fundamental benefit of certification is the platform it affords an organisation within the marketing arena. The levels of agreement are high and somewhat similar suggesting that how the company is perceived is indeed an external motivator for certification. Nevertheless, the levels of neutrality at 20.1%, 24.3% and 8.3% possibly reflects ignorance by the respondents on the improved status of the company from an external point of view. Given that most respondents are responsible for SHEQ activities, it is expected that they may not be privy to market and marketing dynamics. A true reflection of how certification is used as a promotional tool is reflected in the 89.6% of respondents who acknowledge this.

#### **4.3.8 EM3 – Market share**

Although the levels of agreement are still higher than disagreement, there are stronger levels of neutrality. Barring top management, respondents may not be aware of this type of information and hence chose to remain neutral. The SABS has, for the past few years, seen a trend in increased applications received as a result of tender requirements. However, contrary to that, a majority 29% dispute that tender opportunities were a motivating factor, and 31% chose to remain neutral. A plausible reason for this result may relate to the fact that respondents were not comfortable to declare that to the researcher, who is an employee of their certification body or they may not be aware of the reasons for certification. 38% of the candidates indicated a neutral stance or disagreement with regard to the entry into the international markets. This should not necessarily be seen in a negative light, and cognisance should be taken that many firms are restricted to local and or regional supply due to the nature and complexity of their products and or services, for example, water purification and supply. Additionally, some services such as organ harvesting may not be possible to export due to the time restrictions of the process.

#### **4.4 Analysis of dependent variables**

This section discusses the productivity benefits which are the dependent variables as depicted within the research model of this study. The results illustrate significantly high levels of agreements to all statements as compared to disagreements. In respect of improved overall productivity, 92% of respondents were in favour of the statement, while

86% concurred with the second statement. Respondents who indicated their support of the statement on the consistency of processes totalled 91%. While the last statement elicited a healthy 89%, it was, however, the only statement that indicated a percentage of strong agreement. We can surmise two reasons for the high levels of agreement. Firstly, the standards are designed to ensure that processes are controlled so that maximum benefit may be achieved, resulting in improved productivity levels and efficiencies. It could be that the samples in this study were incidentally those that experienced high levels of benefits. Alternatively, it may possibly be the respondents' pre conception to indicate what he or she thought would be a positive and expected response. There were mostly significant positive correlations and thirteen negative correlations. Twelve of the negative correlations were derived from the statement "We adopted certification due to pressure from external parties". This means that external pressure was poorly correlated with:

- The structured flow of business processes ensures that inputs are processed into outputs.
- Our business processes are controlled by procedures and policies that instil uniformity amongst departments.
- We continually analyse data for trends ensure immediate corrective actions.
- Objectives are continuously reviewed and revised at organisational and departmental levels.
- We apply a risk-based approach to problems and opportunities.
- The costs of rework are analysed and quantified.
- The costs of non-conformities are analysed and quantified.
- Our corporate image has improved since certification.
- Certification has opened doors to the international markets.
- Adopting certification improved the overall productivity of the organisation.
- Adopting certification improved the consistency of our processes.
- Adopting certification led to the improved quality of products and / or services

The rest of the correlations within the above statement were mostly weak with the exception of two strong coefficients. The negative and weak correlations emanate from both the dependent and independent variables, with no discernible pattern. Factors that could have influenced this result may be attributed to the respondent's bias or the fact that the statement was not clearly understood.

Another noteworthy pattern related to the statement "We adopted certification in order to be eligible to apply for tenders". It was the only statement that yielded no significant correlations with any of the four independent variables (productivity).

To determine the relationship between the sum of the individual internal and external motivations and each of the dependent variables a Pearson's correlation analysis was carried out. To examine the collective correlation of each of the internal and external motivations to the DV, a further analysis was done. It is noted that, individually, there are mostly moderate to strong positive correlations between each of the internal and external motivations and the dependent variable. Within the internal motivation variables, IM1 (business process improvement) had the strongest effect ( $r=0.684$ ,  $p<0.001$ ) on the dependent variable. This is not surprising since internally motivated organisations will implement an adequately controlled environment which is what the standards advocate. Its processes will thus be well equipped to optimise efficiencies within the firm. IM3 cost analysis ( $r=0.481$ ,  $p<0.001$ ) had a lower than expected result. A likely explanation for this may possibly be the fact that respondents who worked in service companies did not adequately quantify the effect of non-conforming services. A surprising strong positive correlation of  $r=0.674$ ,  $p<0.001$  was revealed in the corporate image (EM2) variable, indicating that it had a strong effect on productivity benefits. The lowest correlation was realised in the external motivation variables; that is, EM1 (external pressure) had the least effect on productivity benefits. This is to be expected, as firms that are certified because of outside influence tend to do so purely for the certificate, rather than to improve productivity.

This study concentrated on three internal motivations: business process improvement, continual improvement and cost analysis. Research has indicated that when firms wish to improve their performance, management system certification is the medium deployed. However, commitment from top management is key to success; the system needs to be driven from the top (Sampaio *et al.*, 2008). The provision of adequate financial and human resources, as well as time, is crucial in implementing and maintaining the system, without which the implications would be detrimental to the objective.

Additionally, firms need to internalize the requirements for maximum benefit. That is, the more the system is "lived", the greater are the benefits, and consequently, performance (Manders & deVries, 2012). Failure to internalize will result in a certificate for display purposes as well as the possibility of certification suspension as a consequence of not maintaining the system adequately.



The three external motivations in this study comprised of external pressure, corporate image and market share. While a positive relationship to productivity has been noted, it is not as high as the results for internal motivations. This is consistent with current literature. When firms are driven to certify due to external influences and pressures, the commitment to making the system work is lacking and as a result, the certification is viewed as a “necessary evil”.

## 5. CONCLUSIONS AND RECOMMENDATIONS

The findings of this research are summarised below in order to answer the study’s stated objectives.

*Objective 1:* To assess the relationship between the internal motivations for the adoption of management system certification and productivity benefits.

The hypothesis testing proved that there is a significant relationship between the internal motivations for the adoption of certification and productivity benefits. The research results established that there was a medium to strong positive relationship between the internal motivations (business process improvement, continual improvement and cost analysis) and productivity benefits.

- IM1–DV ( $r=0.684$ ,  $p<0.001$ )-strong positive correlation
- IM2–DV ( $r=0.564$ ,  $p<0.001$ )-moderate positive correlation
- IM3–DV ( $r=0.481$ ,  $p<0.001$ )-moderate positive correlation

These results indicate that respondents are committed (internally motivated) to implementing and incorporating the certification standards’ principles and requirements which has resulted in improved efficiencies and productivity benefits. Literature reviews such as Nair and Prajogo (2009), Roman *et al.*, (2014, 2017) and Allur and Heras-Saizarbitoria (2014) similarly indicate that internal motivations have a positive impact on the performance of an organisation.

*Objective 2:* To assess the relationship between the external motivations for the adoption of management system certification and productivity benefits.

The hypothesis testing proved that there is a significant relationship between the external motivations for the adoption of certification and productivity benefits. Through the correlation analysis, a similar positive relationship, albeit a weaker one, was found between the external motivations and productivity benefits.

External Motivations:

- EM1–DV ( $r=0.287$ ,  $p<0.001$ )-weak positive correlation
- EM2–DV ( $r=0.674$ ,  $p<0.001$ )-strong positive correlation
- EM3–DV ( $r=0.332$ ,  $p<0.001$ )-weak positive correlation

It can then be deduced that the variables of external pressure, corporate image and market share did have an impact on the productivity of the organisations. These results are similar to various researchers discussed in the literature review section who have reported on the influence of external motivations on the organisation performance. There is consensus that the degree to which systems are entrenched is strongly linked to the motivation and firms that are externally motivated tend to implement the system as a quick fix. Consideration must be afforded to the fact that efficiencies and productivity are internal benefits; they are strongly linked and related to internal motivations and not as strongly to external motivations. Whilst the final results are in line with current research, an anomaly with regards to the concept of external pressure was noted. Many respondents stated that external pressure was not an influencing motivation. A plausible reason for this is that respondents preferred to offer a socially acceptable answer due to two influencing factors. Firstly, certification standards dictate management’s commitment to the system, and secondly, the researcher is a member of a certification body. Although respondents were assured of confidentiality, they exhibited restraint with regards to this statement, for fear of possible negative outcomes.

### 5.1 Recommendations

The following recommendations have been made based on the results of the study and the analysis of associated literature:

- The growing global popularity as indicative of the ISO survey and literature reviews, suggests that South African organisations are lagging behind in certifications. This means that SA firms are not on a par with international competitors in terms of sourcing new business. There is insufficient awareness of the benefits of certification. The DTI and SEDA, in partnership with the SABS could conduct roadshows throughout SA commercial hubs to market the benefits of certification and to encourage firms to capitalise on the subsidies offered.

- Government could offer incentives for organisations to adopt ISO50001 (Energy Management Systems). The benefits would be two fold. Firstly, firms will benefit from the certification itself, and secondly, the demand for power would decrease, easing the burden on the national grid.
- Certification is not a short-term quick fix. Rather, it is an investment that must be converted into a vibrant tool that is utilised on a daily basis. Firms that obtain certification purely for the certificate will not experience maximum benefits. This paper has managerial implications in that the study emphasises that the requirements in each standard must be complied with fully in order to reap the benefits of certification.
- Whilst the burgeoning SMME market in SA is a major contributor to the GDP, there is little effort to assist small businesses to obtain certification. The costs of obtaining and maintaining certification are prohibitive. The DTI could, together with the SABS draft a proposal to incentivise SMMES.
- Management commitment is crucial in supporting certification initiatives. This not only relates to the requirements of management commitment within each standard, but also refers to the provision of adequate resources, training and support for certification activities.
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### 5.1.1 Recommendations for further research

- This study was constrained to the KZN region, as opposed to other research that is undertaken within countries. It is advisable that this study be repeated for South Africa as a whole, given the diverse nature of the geographic regions.
- Since Sa is a developing country, it would be beneficial for a longitudinal survey to be carried out. This would enable the discovery of patterns and trends. Additionally, time constraints will not be as critical as in this study.
- Where motivations and benefits are analysed together, misinterpretation could occur as the respondents may consider these variables as interchangeable, thereby causing the results to be skewed.
- Quality managers are positively biased regarding the benefits of certification. Future studies could look at a mix of top management, employees, quality managers, customers and suppliers. This varied group would offer a clearer picture.
- A more valuable insight into the benefits achieved would be to use a mixed philosophical approach. The survey could include interviews (which will detect bias). Additionally, the research could also use objective data such as management review records or financial statements.
- Future surveys should not directly mention questions regarding the motivations. Respondents may be biased and volunteer socially acceptable responses.

### 5.2 Conclusions

A large body of literature exists, and the benefits of certification in relation to the reason for embarking on the certification journey have been debated numerous times over the years. Most of the studies were conducted in the international arena, with minimal, undertaken within South Africa. With this in mind, this study was undertaken to determine the relationship between certification motivations and the relationship to internal benefits, specifically productivity. SABS certified organisations within KwaZulu-Natal were selected. The sample consisted of firms across six different technological clusters so as to represent an impartial mix. The results reflect that similar to literature reviews, there is a positive relationship between the variables within the internal and external motivation domains and productivity. However, while there is a positive relationship, the results of the internal motivations are higher than those of the external motivations. The difference is attributable to an internalisation of the requirements of the standards, coupled together with commitment. Literature reviews illustrate the importance of applying the principles of certification diligently on a daily basis. Adherence to the principles creates consistency and a controlled environment, which allows the firm to continually improve their processes and products, thereby improving overall performance.

Externally motivated companies experience performance increases through benefits such as image improvement, market share, gaining a competitive edge and others. Nonetheless, these benefits could be maximised if the firms increase the degree of internalisation and use the system to improve productivity. Certification should be viewed as an investment rather than an unnecessary expense. Literature suggests that most organisations are externally motivated, which implies that there is no or limited buy-in. This creates an adverse impact on the popularity of ISO certification, which will soon erode the value that it offers. Finally, with over twenty years of certification experience, this researcher has been privy to application trends in the KZN. Over the years a marked increase of certification applications due to stakeholder or tender requirements has been observed, however, during the survey, many respondents indicated an upward bias towards the benefits achieved after certification. The fact that this researcher is an employee of the certification body may have influenced or caused the prejudice.

While certification has been growing globally and still remains a popular improvement tool, S.A. lags behind in adopting certification standards. A major objective of any organisation is to increase performance. Whereas both internally and externally motivated firms report benefits, studies report greater improvements in firms that are internally motivated. To exploit the benefits of certification, it is prudent that the degree to which firms implement and internalise the system is capitalised. Therefore, firms that adopt with external considerations are encouraged to make a concerted effort to use the system on a daily basis. As with other studies, some limitations and recommendations are noted for KZN and South Africa.

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