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The Challenges regarding outsourcing of key maintenance functions in the Liquid Petroleum Gas Sector, South Africa

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To God who makes all things possible

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Abstract

The Liquid Petroleum Gas (LPG) industry within South Africa is highly competitive and the competitive advantage lies in its ability to penetrate the market through its local infrastructure of retail outlets, the personal and the rational prices of product. It is therefore imperative to contain cost within the entire supply chain in order to be more agile and profitable. Through strategic planning analysis the researcher has found that the current outsourced maintenance costs are colossal and there seems to be a correlation to lost business. This study was undertaken to evaluate the merits of outsourcing verse in-sourcing of the maintenance function within Oryx Energies South Africa. The main objectives were to identify whether scarcity of skills, reputation, costs, quality of work, response times, variation orders and prejudice amongst contractors has a negative effect on business as a whole. This study has adopted the quantitative methodology using a semi structured questionnaire based interview design. The results show that 86.7% of the sample population were concerned that due to the scarcity of skills contractors can pass over critical key information to oppositions. In addition majority of sample population agreed that if hurting the company's reputation, delays in response, variation orders, and biasness amongst contractors will negatively impact the success of the business. Most respondents believe that insourcing will be more effective in terms of profit margins, timely response to clients, avoid biasness and the leakage of confidential information. It is recommended that a hybrid system could be piloted where a combination of insourcing and outsourcing can be used strategically without compromising the business negatively. These findings contribute to the growing body of outsourcing versus in-sourcing literature and are unique to the LPG industry. Most importantly, the study yielded practical understanding and information that could be used by Oryx Energies to guide its decision making and shape its future strategy.

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Abbreviations

Abbreviations	Meaning
LPG	Liquefied Petroleum Gas
SANS	South African National Standards
BP	*Beyond Petroleum* (formerly *British Petroleum)*
PMM	Performance Measure and Metrics
SPSS	Statistical Package for the Social Sciences
SLA	Service Level Agreement

CHAPTER ONE

Overview of the Study

1.1 Introduction

Liquid Petroleum Gas (LPG) has an assortment of uses (Broni-Bediako and Dankwa, 2013; Nansaior *et al.,* 2011). The utilization of LPG that most individuals commonly are aware of are at home, in their motor vehicles' or for business use. The most frequent household uses are heating, cooking and boiling of water. It is also used for vacations in caravans, boats, camping and re-creational vehicles. LPG is used for a whole host of processes in business and industry i.e. vapour boilers, kilns, ovens, forklifts, propellant, refrigerant, motor vehicle fuel and petrochemical feedstock. The agricultural applications for LPG are harvest and produce drying, insulating greenhouses, hot water for dairies, irrigation pumps and insulation of animal enclosures. There are in addition numerous other LPG uses as well as power production and in the hospitality trade.

LPG is multipurpose, quick, hygienic, potent, moveable and most essentially, very safe (Lloyd, 2014). LPG is a modern, affordable alternative to electricity it is a power that reacts instantaneously. It is non-hazardous, clean- burning and non-pollutant to the atmosphere (Oryx Energies, 2018). The South African government through the Department of Energy has committed to the encouragement of LPG use, which is hygienic and not dangerous (Oryx Energies, 2018). It is the major proficient flaming energy resource that is accessible to the community currently (Lloyd, 2014).

Oryx Energies South Africa are one of the core manufacturers and distributors of LPG (Oryx Energies, 2018). Their economical gain lie in its capability to infiltrate the market through its local infrastructure of trade outlets, the special rapport it has established over its existence with its individual client foundation and the value of its product. Thus management's most imperative purpose is tactical planning. This practice attentively delineates the prospective position and order of the corporation and suggests a proposition on achieving targets, satisfying clients/customers (maintenance) and ensuring adequate supply of LPG.

1.2 Motivation of the study

Oryx Energies South Africa strategically aims to be a solid top 3 competitor within the South African LPG market leaders by shifting to the customer requirements. Refineries impromptu repairs shut downs place a lot of tension on supply. Therefore Oryx Energies are enforced to import gas to adhere to their contractual commitments to clients. Oryx Energies is intentionally developing a contingency plan whereby they arrange LPG storage conveniences throughout the country to accommodate for unanticipated conditions. These storage amenities will impact on maintenance expenses which are required by law as per SANS (South African National Standards) principles when operating these types of services and therefore requires to be managed consequently. Oryx Energies South Africa has equipment on customer sites that also requires maintenance. This creates a need for developing skilled employers internally rather than outsourcing to contractors. This would result in more timeous response to clients, increase profit margins as well as decrease cost to company (not forced to pay colossal amounts to contractors). The contribution to the existing body of literature is unique in that the study will provide factual data regarding the positive and negative aspects of the current model of outsourcing. In the LPG sector these findings would be able to steer Oryx Energies to reach and maintain enhanced standards amongst their competitor's thus ensuring the consumer always has LPG available.

1.3 Focus of the study

The focus of the study was designed at appraising the virtues of outsourcing verse in-sourcing of the maintenance task within Oryx Energies South Africa. Outsourcing has been in existence for several years, it is not recent to establishments (Doval, 2016). The deciding criteria on which would be the best option will be based on questionnaires and accessible literature which is pertinent to current markets. Even though there is no definitive resolution to these options, through the analysis of the literature and the assessment thereof a knowledgeable premeditated conclusion can be established.

Oryx Energies is responsible to preserve and check the equipment recurrently as a requirement of the legislative and to design service or a breakdown call-out

instigated by the client. Currently, only Oryx Energies Customers are privileged to these maintenance installations. There is no anticipatory or deliberate maintenance for such sites and every repair and service is imprudent, suggesting that maintenance is merely completed if there is a breakdown.

1.4. Problem statement of the study

Due to Oryx Energies out sourcing their entire maintenance functions therefore are solely dependent on external contractors to implement the maintenance and breakdowns. Therefore, Oryx Energies is at the clemency of the contractor as they robotically represent the corporation since they are in direct contact with the customer. The interaction and the experience of the visit has a huge effect on the reputation of Oryx Energies.

Scarcity of supply warrants the implementation of strategic storage sites that will allow Oryx Energies to be at a competitive advantage since every customer wants security of supply (Quinn, 2000). This will ensure that businesses are not negatively impacted when the plant has impetuous closures or any other reasons i.e. strikes, breakdowns, delayed export shipments etc that could possibly affect supply. The creation of an internal maintenance panel that handles all preservation and breakdowns will develop skilled employees (Laradi *et al.,* 2015) whom represent and serve as the visage to the customers. Hence progresses the customer acuity to the corporation.

Sensitive information has to be shared with contractors who can surpass vital key information to opponents because the majority of service providers work for several oil companies owing to the expertise of the trade (Maley *et al.,* 2015). The contractors might not have the company's paramount welfare at heart; this can annihilate the affiliation among the client and Oryx Energies.

1.5. The study Objectives

The objectives of the study are:

- The impact of scarcity of skills on the loss of current business.
- The impact of outsourcing on:
    1. Reputation

2. Costs
3. Quality of work
4. Timelines
5. Variation orders

- The current outsourcing maintenance contractors can show prejudice amongst different LPG suppliers.

1.6. Research questions

- Is outsourcing or in-sourcing a more favorable option?
- Is the company reputation being impaired with outsourcing?
- Are outsourcing partners sharing important information with opposition companies?
- Is the current execution of maintenance timeously done?
- Is the quality of current work a concern?
- Is the lack of technical skills hindering the growth of Oryx Energies?

1.7. Limitations of the study

The study was based on Oryx Oil South Africa only, thus resulting in a limited sample size hence the results of the study may not be conclusive for a larger sample size. Due to this research being a perception based study, the results are dependent on the integrity of the participants.

1.8. Research methodology

The study methodology was based on a quantitative design that used a self administered questionnaire as the research tool. Data was then analysed by SPSS version 25.

1.9 Outline of the dissertation

With the research title, aims and objectives being introduced in Chapter one, Chapter two will discuss related literature. Chapter three will examine the materials and methods used in obtaining the information required to meet the aims and objectives of the study. The results attained are presented and discussed in Chapter four. Chapter five presents the conclusion of study, recommendations and limitation.

1.10. Summary

The demand for LPG for both domestic and business use are growing exponentially due to the current Economy of South Africa. Oryx Energies holds a principal position in LPG in sub-Saharan Africa and has been promoting it as an ideal alternative to traditional fuels in the region for over 15 years. A key feature of Oryx Energies is maintenance function. The challenges facing outsourcing versus in-sourcing maintenance function will be highlighted in this study. This study thus investigates the outsourcing versus in-sourcing of maintenance function in the Oryx Energies.

CHAPTER TWO

Literature Review

2.1 Introduction

The United Nations energy for all programme states that escalating household use of LPG is one of several pathways to convene the objective of universal excess to hygienic cooking and heating solutions by 2030. This chapter therefore discusses the detailed literature regarding insourcing and outsourcing in the LPG sector.

2.2 LPG industry overview

LPG describes combustible hydrocarbon gases i.e. propane, butane and combinations there off (Oryx Energies, 2018). LPG is the by-product of natural gas dispensation and oil refining. LPG is secluded then liquefied through a pressurisation process and accumulated in pressure vessels.

The process (*Figure 2.1*) (Oryx energies, 2018, pg,3) is as follows:

- “LPG is created during natural gas dispensation and petroleum refining.
- LPG processing involves division and gathering of the gas from its petroleum base.
- LPG is isolated from the hydrocarbon blend by division from natural gas or by the refining of crude oil.
- These two processes commence by drilling oil wells.
- The gas/oil combination is channelled out of the well and into a gas trap, which separates the stream into crude oil and "wet" gas, which contains LPG and natural gas (*Figure 2.1*).

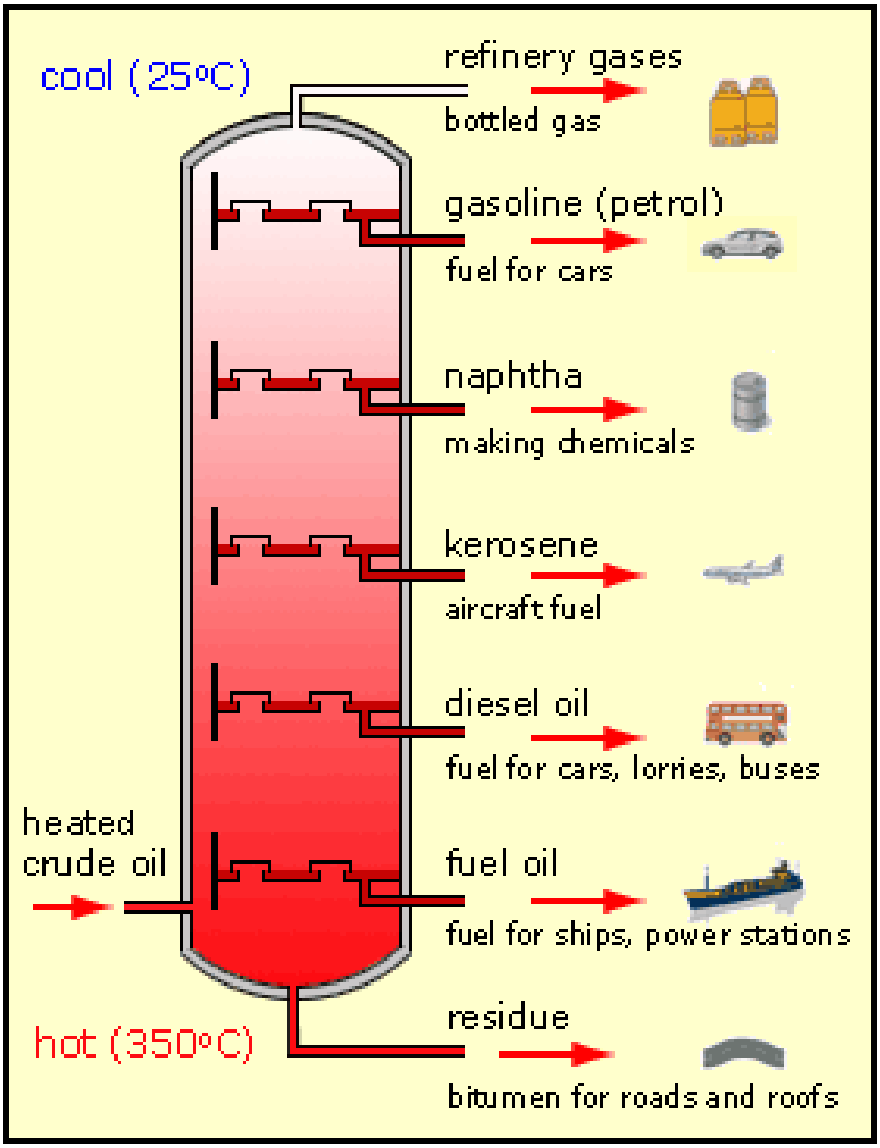

Figure 2.1 Refinery process for LPG

The dense crude oil descends to the floor of the trap and is drained into an oil storage tank for refining. Crude oil endures an assortment of refining procedures i.e. catalytic cracking, crude distillation, etc.

One of the developed products is LPG. The "wet" gas, off the peak of the gas trap, is processed to segregate the petrol from the natural gas and LPG. Once refined, LPG is stockpiled as a liquid under pressure in gas vessels. These vessels can range from small camping canisters to big gas cylinders (*Figure 2.2*) below and greatly larger LPG tanks or bullets (*Figure 2.3*).

Figure 2.2 Oryx filling shed, filling cylinders' from a bulk tank

LPG storage depots can consist of exceedingly huge storage tanks (*Figure 2.3 and Figure 2.4*), known as 22cubic metre vertical tanks as seen in *Figure 2.4* below.

Figure 2.3 Horizontal m³ Tank

Figure 2.4 22m^3 Vertical Tank

The LPG penetrates the distribution system, where it ultimately finds its way to end users, including domestic LPG and Commercial LPG users all around the globe (Nansaior *et al.,* 2011). It returns to a gas once again at the point of use.

LPG has abundant utilization i.e. hot air balloons, propellant, refrigerant, vehicle fuel and petrochemical feedstock. The utilization of LPG that people are most aware off are in their homes, in cars or for their trade. The most common domestic uses are boiling water, cooking and heating. It is used in vacation activities including caravans, boats, re-creational vehicles and camping. Steam boilers, kilns, ovens and LPG forklifts are some of the numerous LPG processes that are used by businesses and industry. In the agricultural market it is often used for harvest and produce drying, insulating greenhouses, hot water for dairies, irrigation pumps and insulation of animal enclosures (Lloyd, 2014).

LPG is an environmental friendly choice (Lloyd, 2014), due to it being a low carbon, low sulphur fuel. LPG is notorious for lower CO_2 emissions than any other energy resource i.e. coal fired power.

LPG is a multipurpose, movable, low carbon fuel. It therefore requests exceptionally minimal infrastructure when using LPG, which formulates it as an brilliant option for budding countries such as South Africa, as well as urbanized countries. Thus LPG is uncomplicated to convey, in cylinders or tankers, thus making it accessible practically universally. The delivery technique can scale from exceptionally sophisticated to extremely fundamental. One of the leading LPG suppliers in South Africa is Oryx Energies.

2.3 Oryx Energies

2.3.1 Globally

Oryx Energies were established globally in 1987 by swizz entrepreneur Jean Claude Gandur (Oryx energies, 2018). He started with oil trading in West Africa and was quick to understand that without energy there can be no development. The business then extended to Sub Saharan Africa in1989 and began their downstream activities (storage and distribution). Through the years the company developed storage terminals in order to ensure an increasing reliable supply for storage, filling, plants and millions of bottles to make LPG available with the objective of providing a safer, healthier and more natural substitute to firewood, charcoal and kerosene for households, and an efficient energy for industry. There exists a network of over 180 service stations and thousands of distributors in over 20 countries to facilitate consumer access to fuels, lubricants and LPG.

The logistics and technical expertise to professionally transport stock, produce, fill and deliver the different products, including on-site management services for companies and industries has always been the objective of Oryx Energies.

Presently, with around 1,400 employees in over 20 countries, Oryx Energies have become one of the largest and longest-established independent providers of oil and gas products and services in sub-Saharan Africa. From consumers to mining companies, hotels and restaurants, Oryx Energies have been contributing to economic development in the region for 30 over years (Oryx Energies, 2018).

2.3.2 Locally

Oryx Energies have been in South Africa ever since 2002. Oryx Energies has established a principal position in the LPG industry in South Africa, due to the acquirement of BP's LPG allotment business in August 2013. This is in perspective with their time-honoured policy of promoting LPG as a hygienic, inexpensive and additionally eco-friendly energy option to wood, charcoal and paraffin across sub-Saharan Africa.

Currently, Oryx Energies guarantees LPG Bulk, Cylinder, Aerosol and Wholesale deliver to an extensive array of industrialized, business-related and familial customers across the nation. Oryx Energies are presented nationwide with key amenities in Johannesburg, Cape Town and Port Elizabeth. The aim is to grow the LPG trade in South Africa through continued promotion of LPG as a reliable, clean, efficient and versatile energy source – in homes, industry, agriculture and mining (Oryx Energies, 2018).

From the head office in Johannesburg, Oryx Energies persist to empower robustly in South Africa, in directive to convene the emergent energy claim that underpins social and fiscal improvement across the country. As a corporation focused in the stipulation of eminence and steadfast provisions of fuels, LPG, lubricants and bitumen across sub-Saharan Africa, they aspire to develop into a chief competitor in South Africa's energy terrain. Thus Oryx Energies team of engineers, technical staff and sales managers are responsible to ensure these goals of provision of excellence and consistent supplies of LPG are reached.

This team consist of the following key management members:

1. Supply chain General manager (executive Director)
2. Technical Manager
3. Operations Manager
4. National Bulk Key accounts
5. Depot manager Cape Town
6. Depot manager Port Elizabeth
7. Depot manager Chamdor (Gauteng)
8. Depot Supervisor Pietermaritzburg
9. Sale Manager Pietermaritzburg

10. Depot Supervisor Empangeni
11. Sales Manager Empangeni
12. HSEQ Manager

This team thus ensures that through rigorous management and assistance to all departments in Oryx Energies that these departments can optimise the sales of LPG in the different regions by providing quality customer service and satisfaction in a profitable and safe manner.

This is achieved through regular inspection thereby ensuring that all new and existing Oryx Energies LPG installations, both bulk and packed and the ongoing maintenance thereof comply in all respects with International and National and local authority safety standards and Codes of Practice as applicable. Maintenance is thus a key component in Oryx Energies success. The asset Maintenance is divided into two diverse maintenance types being (Gupta *et al.,* 2009, pg 221):

- "Depot maintenance- In house Depot Assets Maintenance
- Customer Asset Maintenance- A service provided by the Technical Department to sustain assets at customer sites".

There are assorted types of maintenance. These are divided into three categories (Maley *et al.,* 2015, pg 823):

- "Statutory maintenance- these are leading rules approved by the significant powers that be on when the assets must be serviced and what examination needs to be completed.
- Preventive Maintenance- this is deliberate maintenance based on the recommendations of the Technical sector and knowledge of when this form of service must be completed in order to evade breakdown.
- Breakdown Maintenance- This is reactive service to an asset i.e. as and when faults or breakdowns occur".

Asset Maintenance can be additionally divided by product form being Bulk Asset Maintenance and Packed Asset Maintenance. Equipment installed by Oryx Energies at client sites is usually the belongings of Oryx Energies as assured in the agreement signed connecting Oryx Energies and the clients. Hence Oryx Energies is

responsible to sustain and service the paraphernalia habitually as a legislative obligation, premeditated service or a breakdown call-out instigated by the customer. Packed maintenance describes maintenance of amenities that utilize pre-packed vessels. At present, only Oryx Energies clients are privileged to maintenance of installations. There is no precautionary or premeditated maintenance, all maintenance and service is reactive. This is due to Oryx Energies current model off outsourcing maintenance functions.

2.4 Definition of In-sourcing

Insourcing "is a business practice in which work that would otherwise have been contracted out is performed in house. *Insourcing* often involves bringing in specialists to fill temporary needs or training existing personnel to perform tasks that would otherwise have been outsourced" (Drauz, 2014, pg 346).

2.5 Definition of Outsourcing

Outsourcing is defined as being "a practice used by different companies to reduce costs by transferring portions of work to outside suppliers rather than completing it internally" (Embleton and Wright, 1998, pg 95).

Outsourcing can also be re-defined as "the strategic use of outside resources to perform activities traditionally handled by internal staff and resources". Occasionally also recognized as "facilities management", outsourcing is a approach by which an establishment contracts out focal functions to particular and proficient service providers (Handsfield, 2006, pg 2).

2.6 Literature on outsourcing and insourcing

Out sourcing in the LPG sector has been in operation for several years and is well known to organisations. Hatonen and Eriksson (2009) propose the connotation of outsourcing has transformed over the years, outsourcing commenced in the 1950's although only became feasible in the 1980's. When organizations utilized outsourcing as a revenue of dropping expenses associated to service-orientated procedures (Lacity and hirschheim, 1993) which were usually non-core business development. In the 1990's, businesses, prejudiced by the advantage of outsourcing

on expenditure decrease, then began to outsource tasks in which they were not proficient.

Hamel and Prahalad (1990) and Porter (1996) evidently reveal the move towards the intentional exercise of outsourcing to permit spotlight on core competencies and developing closer associations with companies to obtain external skilfulness, competencies and information. During the 2000's outsourcing evolved from a economical variation to a norm. Sanders *et al.,* (2007) classified outsourcing pronouncements based on diverse grouping of outsourcing appointment. The classification is founded on the extent of the task allocated to the outside revelry as well as the criticality of the assignment to the performance of the customer.

Sanders *et al.,* 2007, pg 5, classification:

- "Out -tasking: where the responsibility for a task is assigned to an outside supplier
- Co-managed services: where a larger task or function is assigned, but remains under the control of the client
- Managed services: where the scope is larger (the client abdicates the responsibility of designing , implementing and managing to the supplier)
- Full- outsourcing: where the supplier takes full responsibility for the design, implementation, management and strategic direction of the function, operation, or process".

Gunasekaran *et al.,* (2015) used the structure of Sanders *et al.,* (2007) to demonstrate the diversity of "performance measures and metrics"(PMM) related to premeditated and calculated decisions to be made at pre-,during- and outsourcing phases, based on both financial and non-financial aspects. The study found that it is essential to persistently update the performance business strategy as it constantly wishes to emulate customer requests and consequently changes and evolves. It was also recommended all suitable stakeholders and leading executives contribute in shaping the PMM so that the significance of achieving fastidious in general organizational outsourcing purpose is emphasized and necessitates to support targets at all levels is communicated (Gunasekaran *et al.,* 2015). The result of

Gunasekaran et al., (2015) thus confirms that outsourcing has become essential in supporting companies to successfully manage their tasks in a physically dispersed scheme and practical atmosphere. But at the same time a cautious appraisal of the outsourcing conclusions by executives is compulsory in order for companies to accomplish their intentions.

Feng and Lu (2012) study revealed that expenditure savings is the main, if not the most vital driver for outsourcing. The cost saving is also supported by Gareiss (2002), and Engardio *et al.,* (2006). Companies quest for low cost outsourcing is profoundly predisposed by economical tactic. It is recognized that manufacturers are prepared to outsource in the nonexistence of trader cost benefit because outsourcing mitigates market opposition (Cachon and Harker, 2002, Gilbert *et al.,* 2006; Liu and Tyagi, 2011). Feng and Lu (2012), discover a remarkable bargaining externality among rival manufacturers whilst they outsource to a familiar contractor. This bargaining externality benefits the manufacturers and impairs the supplier. The supplier's revenue from trades with both manufactures has to be incorporated in the arbitration with every manufacturer. The results of their study therefore demonstrate that modelling definite discussions is of meticulous magnitude when competition is current when outsourcing.

According to Laradi *et al.,* 2015, the two main internal elements, to determine whether outsourcing or in-sourcing are most beneficial to a company are, Finance and Technical expertise. They found that outsourcing has developed into an imperative advance and it is progressively utilized as an economical missile in today's financial system. Peripheral parties can frequently grant produce or services with a enhanced efficiency and competence as well simply because it's their core proficiency. This has grounded an increasing consciousness in the trade off between to in-source or to outsource decisions (Laradi *et al.,* 2015). Laradi *et al.,* (2015), based their model on the research of Weele (2005) whom highlighted the advantages and disadvantages of outsourcing.

"Advantages and Disadvantages of outsourcing (Weele, 2005, pg 76)"

Advantages

- “Freeing up of cash: investments can be concentrated on core activities
- Optimal usage of knowledge, equipment and experience of the third party.
- Increased flexibility: fluctuations in the workload can more easily be absorbed.
- Easier and more focused primary processes in the organization.
- Input through an independent party’s point of view, reducing the risks of introverted short-sightedness in the organization.”

Disadvantages

- “Increased dependence on suppliers
- Continuous follow-up and monitoring of the supplier relationship is necessary.
- Risks of communication and organizational problems during the transfer of activities to a third party.
- Risk of leakage of confidential information.
- Depending on balance of power between the parties: inability to execute contractual performance incentives and penalties.
- Risk of losing essential strategic knowledge.
- Risk of exposing the internal strategy to third party”.

Outsourcing is extremely supportive if employed when accessible outsourced parties are proficient of performing the action enhanced than if it was formed in-house adding significance to the company’s trade recital. Outsourcing, maybe a drawback if the company does not have in place clear tactics and activities to serve as a parachute for i.e. sensitive information or are incapable of reprimanding the supplier for not providing the agreed-upon services. A company investigates the supplier/service provider it is liaising with (i.e.: financial status, trustworthiness, project outcomes and customer satisfaction) and also to establish if the two companies can collaborate and commune effectively (Weele, 2005; Stevenson, 2005 and Laradi *et al.,* 2015).

Imbuga and Guyo (2018) also focused on outsourcing by researching the influence of fleet management outsourcing on service delivery performance, the results of their

study favoured outsourcing of maintenance fleet as service delivery performance is enhanced through timely delivery of products. Although the study does recommend a hybrid approach i.e.: an internal fleet management role working with an outsourced fleet managements firm possibly questions if the study favours outsourcing entirely.

Severe rivalry in the universal economy induces firms to intentionally categorize and decide on which actions should be performed internally and which would be more suitable to outsource (Sanchis-Pedregosa *et al.,* 2014). The speedy growth of information and communication technologies has also prepared outsourcing to accelerate and include almost every organizational activity (Aron and Singh, 2005) including areas such as service maintenance (Barthelemyand and Quelin, 2006; McIvor, 2005 and Quinn, 2000). According to Soderberg *et al.,* (2017) classifying maintenance activities as either core or non-core can be complicated, since maintenance is a support task sturdily related to the invention hub within a manufacturing firm. Furthermore Gupta *et al.,* (2009) also states that industry representatives frequently do not observe maintenance as a contributor to the core potential of the firm. Maley *et al.,* (2015) states that maintenance is contrariwise regarded as harmless to outsource in the conviction that outsourcing will not have an undesirable impact on the firm's outlook capabilities and performance. However, Levery (1998) suggests that maintenance is close to the mainstay procedure of a firm. The findings of Soderberg *et al.,* (2017) concur with Levery (1998) to some extent; Soderberg *et al.,* (2017) results also emphasize the magnitude of identifying the outsourced maintenance procedure involvement to production effectiveness and thereby categorizing the maintenance as core-close or core-distant.

McIvor (2000) states that essential core actions of the business is the primary step in the outsourcing verdict. Determining the involvement of a process to a firm's economical advantage is essential for the classification of core-close or core distant maintenance, and based on that classification is vital for the outsourcing result (McIvor, 2000; 2008).

According to Doval (2016) outsourcing is a tactical tool to augment the competitive benefit. But at the same time have advantages and disadvantages:

Advantages (Doval, 2016, pg 80)

- “Cost reduction
- Increased productivity
- Jobs balance and the management flexibility
- Risk avoidance”

Disadvantages (Doval, 2016, pg 81)

- “Downsizing and the unemployment rate increase
- Business uncertainty and risk threat”.

Doval (2016), pg 83 thus proposed “a model based on 6 factors that influence the outsourcing for the decision making”:

- “The *geographical distance* between the headquarters, the subsidiaries and the outsourcing partners may be a factor for the decision for outsourcing, depending on the level of the costs.
- The *competition* in the country of origin market may constitute the factor for outsourcing on a market with less competition that is decreasing the costs.
- The *continuing development* is a factor for the out sourcing that influences the time effectiveness and costs decrease, as well.
- A flexible with few levels *organizational structure* may influence the decisions for outsourcing aiming to decrease the overhead costs.
- The *fiscal regulation* is a decisional factor for outsourcing in countries with tax breaks.
- The *cost of the human resources* may be the most important factor for outsourcing taking into account that, depending on the industry, the cost of the labour may vary from middle to high level out of the total expenditures”.

Doval’s Model may be a practical tool for the managers that are eager to maintain or to augment the company’s economical benefit by lowering the expenses of the products or services provided on the market. This model may be urbanized by taking into consideration specific criterion to choose the paramount type of the outsourcing according to company’s visualization and its premeditated objectives (Doval 2016).

Lacity *et al.,* (2017) reviewed 23 years of literature on outsourcing decisions and outcomes in the IT industry , their results showed that although sourcing decisions was complex certain common variables where definitely identified i.e.: cost savings, client organizations, the aspiration to progress the business/process performance and litheness of active services, the desire to access a provider's proficiency, technical assets and global markets, a tactic to focus in-house staff on mainstay capabilities. The tendency to select in-sourcing as an option was when clients became apprehensive of losing control of the IT service, feared loss of security and logical possessions, elevated transaction expenses, soaring business risks, high service involvedness and elevated service interdependence (Lacity *et al.,* 2017).

Kavcic *et al.,* (2015) describes outsourcing as a fatal strategic decision for both organisations. Their study focused on logistic outsourcing influence on organisation performance. Results of this study show that in outsourcing associations, the short term welfare of outsourcers often triumph (cost decline, conveying of unpleasant or environmentally perilous activities, acquiring short term capabilities). Outsourcers regularly find such suppliers who are facing concealed or impending crisis and have no other alternative than to enter an outsourcing relationship if they desire to continue to exist. The results also point out that when decisions are based on needs these are short-term relations but when decisions are founded on value, are as a rule long-term. It is thus necessary for managers to analyse the features, risks and opportunities of each activity, and to invest resources, knowledge and trust to improve outsourced logistic service performance.

Kavcic *et al.,* (2015); Doval (2016) and Lacity *et al.,* (2017) studies showed similar results even though they represent outsourcing in different fields of study, this thus establishes an evident trend amongst the advantages and disadvantages of outsourcing (Kavcic *et al.,* 2015; Doval 2016, Lacity *et al.,* 2017, Tertychka, 2015)

Maintenance is considered a supportive activity, in health care, IT, globally, oil, and LPG sector. Masmoudi *et al.,* (2014) focused on a multicriteria (outsourcing, insourcing, service contract) decision making for maintenance of medical equipment. Recently, exposed to increasing healthcare expenditure, governments have implemented innovative reforms to organize costs and improve competence and superiority. In budding countries/states, medical apparatus maintenance is

expensive and moderately mastered for the most part since it is typically controlled by outside service contracts. Masmoudi *et al.,* (2014), pg 269 thus proposes an efficient "*Decision support procedure"* to obtain the suitable choice for medical apparatus maintenance such as the advance, to in-source or outsource. Masmoudi *et al*., (2014), pg 269 based their "*Decision support procedure"* on practical, monetary, human and managerial criterion:

- "Availability of maintenance tools
- Availability of competent staff
- Equipment criticality defining the maintenance strategy to apply
- Maintenance load time and cost
- Complexity and frequency of failures
- Costs of spare parts"

The procedure is composed of three steps:

Step 1: Defining the maintenance strategy per equipment by calculating its criticality.

Step 2: In-sourcing by applying a Heuristic to set up the maintenance service workload with the most beneficial maintenance tasks.

Step 3: Out sourcing the rest with or without an agreement and opt for the suitable type of contract.

Masmoudi *et al.,* (2014) thus provides a method to classify maintenance approach per medical appliance dissimilar to other methods planned in a variety of types of maintenance agreements and service contract provider (Cruz *et al.,* 2002), to select outsourcing or in-sourcing repairs levels for the entire apparatus to decide on the apt agreement for every device based on multi-criteria.

Cali *et al.,* (2016), pg 116 also focused on outsourcing in the medical sector they researched the expenditure benefit of outsourcing cleaning services in a hospital in Botswana. It was found that hospital supervisors are approving contracts without eloquent knowledge whether outsourcing presents enhanced value for money than "in-sourcing". Cali *et al.,* (2016), pg 116 noted the following imperative "lessons for hospital managers":

- “Assessing the value of outsourcing requires information on the unit price of the outsourced services.
- Outsourcing can be more costly than insourcing.
- Outsourcing may be justified if it increases the quality of the service.
- Collaboration between hospitals and vendors could reduce costs and increase benefits for both vendor and purchaser.
- Outsourcing should get more cost –beneficial as vendors and hospitals gain experience working together”.

The study hence concluded outsourcing necessitates professional skills, supported by definitive point of reference data and accurate superiority monitoring to simplify processes, attain value for money and advance service delivery so hospitals can spotlight on mainstay clinical services.

A study by Faremi *et al.,* (2017) studied maintenance management sourcing strategies and the condition of tertiary institution buildings in Nigeria. The results of the study revealed that general physical and functional condition of the building and services was average irrespective of the adopted maintenance management sourcing strategy. It was found that maintenance in either in-sourcing, outsourcing or hybrid maintenance had no significant difference. Thus Faremi *et al.,* (2007) and Masmoudi *et al.,* (2014) both demonstrate that a combination off insourcing and outsourcing appears to be most beneficial in many different ways.

Drauz (2014) study focuses on re-insourcing he states that re-insourcing is a strategic option during a crisis in the automobile industry. This is in response to the economic downturn which had a significant impact to the automobile industry. Underutilized capacities appear to be a dominant motive for re-insourcing this will hence save the company any added costs. This appears to be a trend in most industries during economic downturns (Imbuga and Gaylo, 2018).

Omar *et al.,* (2016) explored the challenges and obstacles that have hampered the functioning of in-sourcing after post termination activities following the termination of an outsourcing contract from the Malaysian Government in 2011. The results of the study found that in-sourcing condensed costs, provided a revenue to access innovative technologies and enhance skills in the internal development group

regardless of challenges such as data centralization, technical guidance and capability, resources for teaching, consciousness, government policies and rules and lack of proficiency, yet another study showing the positive benefits of in-sourcing.

Mwaniki (2016) insourcing study results is also in agreement with Omar *et al.,* (2016) study. Mwaniki (2016) determined factors that persuade the embracing of insourcing in public technical and professional education and training institutes in Kenya. Mwaniki (2016) established that in-sourcing is an excellent decision particularly in firms which have redundant capacities that require to be utilized but without suitable management policies outsourcing possibly will persist to be adopted. The study also shows that expenditure would be diminished by an immense margin if appropriate policies were put into position. Managing these committees in public technical institutions do not deem in-sourcing as a way of reducing cost as they compose their sourcing verdict.

In a global and at the level of economic development, diverse environment, outsourcing is becoming one of the core strategies of organisations in developing and developed areas (Kavcic *et al*., 2015). The scientific literature in outsourcing is thus growing exponentially in relation to different industries. The extensive literature above thus focuses on trends between various authors and the different possible outcomes to outsourcing and its effects on cost factors (Feng and Lu, 2012; Lacity and hirschheim, 1993; Gareiss, 2002 ; Engardio *et al.,* 2006; Gunasekaran *et al*., 2015; Laradi *et al.,* 2015), reputations (Gunasekaran *et al.,* 2015), scarcity of skills (Hamel and Prahalad, 1990; Porter, 1996; Laradi *et al.,* 2015), insourcing (Omar *et al.,* 2019; Mwaniki, 2016; Drauz, 2014), a hybrid effect (Imbuga and Guyo, 2018; Sanchis-Pedregosa *et al.,* 2014; Faremi *et al.,* 2007; Masmoudi *et al.,* 2014) , multicriteria models (Masmoudi *et al.,* 2014), frameworks (Sanders *et al.,* 2007) and advantages and disadvantages paradigms (Doval, 2016; Weele, 2005).

In the LPG sector there appears to be paucity in literature regarding outsourcing and in-sourcing. This study thus aims to establish if the current model of maintenance outsourcing at Orxy Energies is the most favourable to the company. The detailed literature presented above has shown that the choice between outsourcing, insourcing, hybrid or multicriteria is influenced by many different factors ie: cost factors, reputation, scarcity of skills, market competition, communication techniques,

technical expertise etc. Research thus shows that insourcing and outsourcing both have advantages and disadvantages (Weele, 2005, Cali *et al.,* 2015, Doval, 2016) hence highlighting that a hybrid or mixed approach is probably the most favourable in this competitive economy. This is further recognized by Faremi *et al.,* (2017); Cruz *et al.,* (2002); Masmoudi *et al.,* (2014); Imbuga and Guyo, (2018); Sanchis-Pedregosa *et al.,* (2014) whose studies all focus on the significance of a hybrid approach. On extreme ends of the spectrum several authors (Drauz, 2014; Omar *et al.,* 2016; Mwaniki, 2016) advocate that insourcing is the best option whereas numerous other authors promote outsourcing (Cali *et al.,* 2015; Kavcic *et al.,* 2015; Lacity *et al.,* 2017; Mclvor, 2000; Sanders *et al.,* 2007; Gilbert *et al.,* 2006; Aron and Singh, 2005). Studies by Lacity and Hirschleum (1993), Gunasekaran *et al.,* (2015), Feng and Lu (2012); Gareiss (2002); Engardio *et al.,* 2006); Laradi *et al.,* (2015) commonly state that cost is the most important deciding factor for outsourcing.

According to Drauz (2014); Kavcic *et al.,* (2015); Mwanki (2016) and Omar *et al.,* (2016) one of the main reasons a company chooses to outsource rather than insource is the cost factor. The most objective way to determine cost factor for operation maintenance was to obtain the financials spent on operations maintenance to contractors from the Oryx finance department. Table 2.1 below shows the breakdown spent for 2016/2017 on maintenance outsourcing contractors.

Table 2.1 Maintenance contractors costs (2016/2017)

	Allied Technical - JHB	All Weather Friend - PE	Fuel Tech - JHB	Kuhn & Reinhardt CC – KZN	MOD Gas Pty Ltd – CT
Resource Category	Std Rate / Hr	Std Rate / Hr	Std Rate / Hr	Std Rate / Hr	Std Rate / Hr
Supervisory Rate	R 582	R 495		R 600	
Saturday	R 582	R 743		R 900	
Sunday	R 582	R 990		R 1,200	
Labour Rate (Commercial)	437	100	R 500	R 400	450

Labour Rate (Industrial)	437	100	R 500	R 400	450
Saturday	655.5	150	700	R 600	650
Sunday	874	200	700	R 800	650
Assistant / Labourer (Commercial)	276	100		150	450
Assistant / Labourer (Industrial)	276	100		150	450
Saturday	414	150		225	450
Sunday	552	200		300	450
Labour in Travelling	437	R6.30KM	R 400	R 400	R 180
Assistant / Labourer in Travelling	276			R 150	R 90
Rate per KM Charge	6	6.3	R 6.50	R 6.50	R6.30KM
Rate per KM Charge with Trailer	N/A	N/A	R 9.50	N/A	N/A
Lodging and Accommodation Costs per night	Cost + 15%	R 800	As Required	R 750	R 750
Resource Category	% Mark up on Materials	% Mark up on Materials	% Mark up on Materials	% Mark up on Materials	% Mark up on Materials
<R15000	15	60	25	25	Oryx to Supply
>R30 000 & < R 50 000	14	60	15	20	Oryx to Supply
>R50 000	12	60	10	15	Oryx to Supply

Table 2.1 evidently shows the extensive cost spent on maintenance outsourcing to various contractors. The table also highlights the various contractors' difference in prices for the same type of maintenance thus indicating there are no standard rates for contractors. This thus further supports the research by Lacity *et al.,* (2017) and Masmoudi *et al.,* (2014) that a proper screening of contractors at the outset will save the company money. Table 1 also demonstrates that only a few contractors are able to service Oryx Energies due to the scarcity of skills or technical expertise required (Soderberg *et al.,* 2017 and Gupta *et al.,* 2009). Most often service maintenance is considered non -core operations (Levery, 1998 and Maley *et al.,* 2015) in this case Table 1 clearly outlines that operational maintenance should be considered as core operations at Oryx Energies.

2.7 Summary

The review of literature in all the key areas associated with the research questions was evaluated. It provides the definitions of the key terminology as well as explored the various paradigms in the respective areas that support and explain the factors associated with the research problem.

CHAPTER THREE

Research Methodology

3.1. Introduction

This chapter is concerned with the methods and instruments used to conduct the research as well as the statistical methodology employed. The topics to be addressed include the study design, sampling method, the research tool, ethical considerations and statistical methodology employed in this study.

3.2. Participants and Location of the Study

The study is limited to the LPG Industry within Oryx Energies South Africa. The focus of the study is on LPG operations thus limiting the sample population to all Oryx staff that interacts and deals with maintenance contactors only. These particular staff members are based in Kwa-Zulu Natal, Port Elizabeth, Western Cape and Gauteng as they each respectively service these designated areas. It is imperative that the study includes all of these individuals although there are geographical challenges.

3.3. Research Design

This study has adopted the quantitative methodology using self administered questionnaire. The questionnaire was formulated from the aims and objectives of the study to determine whether outsourcing versus in-sourcing in operational functioning is more beneficial for the LPG sector. The questionnaires was given to the entire sample population.

3.4. Research Approaches

This study was conducted in a quantitative paradigm using self administered questionnaire. Quantitative research uses data in the form of numbers or measurement (Willemse, 2009, p28). The questionnaire was developed by the researcher based on the research aims and objectives. The questionnaire was utilised to collect data with regards to knowledge and skills and utilisation of and perceived barriers of outsourcing versus in-sourcing amongst all Oryx staff that

interacts and deals with maintenance contactors only within Oryx Energies South Africa. A questionnaire allows for the collection of quantitative data and ensures that responses are consistent and hence was utilised to collect the data necessary to answer the research question of this study.

3.5. Data Collection Strategy

The research questionnaire was self administered during June of 2018. In quantitative research questionnaire based research is a method of collecting information from a group of people allowing descriptive and analytical statistical information to be captured (Bernand, 2000, pg 312-314; Creswell, 2014, p165). This method ensures the quality of the obtained data and increases the response rate. All the recruited people were hand delivered a questionnaire and given a day to complete them before handing them back to the researcher.

3.6. Population

Population is defined as: “A well defined collection of individuals or objects known to have similar characteristics. All individuals or objects within a certain population usually have a common, binding characteristic or traits (Hassan, 2015). The population for this study was all staff that interacts and deals with maintenance contactors only amongst the LPG sector in South African i.e.: Afrox, Easigas, Oryx Energies etc. Company collusion policies and competition commission bylaws prevents the use of data from other LPG companies in South Africa, thus the sample has been restricted to Oryx Energies South Africa.

3.7. Sample

A sample is defined as “A smaller manageable version of a larger group. It is a subset containing the characteristics of a larger population.” (Bernard, 2000, pg 312-314). The sample size is limited to **all** Oryx energy operational managers thus resulting in a sample size of n =15.

3.8. Sampling method

Due to the small population size no sampling was done hence the entire population was part of the study.

3.9. Research Instrument

The research instrument allows us to collect information that we want to collect about our study objects via: documents review, observation, questioning, measuring or a combination of different methods (Creswell, 2014). Therefore the instrument tool used in this study was a self administered Questionnaire. A questionnaire is defined as “A data collection instrument that consists of a series of questions and other prompts for the purpose of gathering information from respondents (Willemse, 2009, pg 90).” Questionnaires must target information as prescribed by the research objectives. It must be valid, reliable and measurable. The design of the questionnaires contributes to the effectiveness of the data analysis (Saunders *et al.,* 2009, p 56).

The questionnaire (Appendix A) was designed to meet the objectives and research goals in the study. The questionnaire was designed by the researcher to ensure clarity of each question, phrasing of questions are precise and non ambiguous and the avoidance of sensitive questions (make the respondents uncomfortable).

3.10. Reliability and Validity

The Cronbach’s alpha test was conducted to test the reliability of the study.

3.11. Elimination of Bias

3.11.1 Researcher Bias

All questions in the questionnaire were developed by the student which was designed around the research objectives. The questionnaire were also self-administered and the participants were given a day to complete them and hand back to the researcher. This eliminates coaching and probing responses. Due to this, research biasness would not been a factor in this Quantitative study.

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3.11.2. Selection Sampling Bias

To address the selection bias aspect, careful consideration was taken when the study participants were identified. All the operational managers within Oryx Energies were selected as participants in this study which illuminated a skewed selection. This thus implies that the selection process was not threatened.

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3.11.3. Response Bias

The response bias comes into play due to non-responses on a survey and how it could negatively impact the study. In this study, 15 participants were selected and we had a 100% response rate. This thus eliminated any potential response bias that could have impacted the study.

3.12. Data Analysis

The data was described, organised and analysed using descriptive and inferential statistics, using the latest version of the Statistical Package for the Social Sciences (SPSS) version 25.0.

Descriptive statistics allow simple organisation and summarization of the quantitative data using univariate (measuring frequency, the central tendency by determining the mean and variation by determining the range and standard deviation) and bivariate (measuring two variables at a time) analysis (Fink, 2013, p. 116-119). This was conducted by investigating the distribution of scores on each variable, and by determining whether the scores on different variables are related to each other. Descriptive statistics are demonstrated using various types of tables, graphs and pie charts.

3.13. Ethical Considerations

The study was ethically approved by the University of Kwa- Zulu Natal ethics research office. The ethics number: **HSS/1890/017M** was allocated to this research.

Participation in this study was voluntary. Anonymity and confidentiality was maintained at all times.

3.14. Summary

This Chapter provides a detailed description of the steps used in the research process. The research design ensured that the study yields the most accurate data within the time and resource limits of the MBA programme. A self administered questionnaire met all the requirements for reaching all participants and collecting data. The questionnaire itself was based on the aims and objectives of the study to ensure reliability and validity of the results. Bias in the study was overcome by choosing the entire population based in Oryx Energies. Once the data was collected, the next step in the process is to analyse it using the statistical software programme, SPSS. Chapter 4 describes the data analysis techniques used, the interpretation and discussion of results to answer the research objectives.

CHAPTER 4

Results and discussion

4.1 INTRODUCTION

This chapter presents the results and discuss the findings obtained from the questionnaires in this study. The questionnaire was the primary tool that was used to collect data and was distributed to various role-players in Oryx Energies. The data collected from the responses was analysed with SPSS version 25.0. The results presents the descriptive statistics in the form of graphs, cross tabulations and other figures for the quantitative data that was collected. Inferential techniques include the use of correlations and chi square test values; which are interpreted using the p-values.

4.2 OBJECTIVES OF THE STUDY

The objectives of the study are:

1. The impact of scarcity of skills on the loss of current business.

2. The impact of outsourcing on:
    - Reputation
    - Costs
    - Quality of work
    - Timelines
    - Variation orders

3. The current outsourcing maintenance contractors can show prejudice amongst different LPG suppliers.

4.3 THE SAMPLE

In total, 15 questionnaires were despatched and 15 were returned which gave a 100% response rate.

4.4 THE RESEARCH INSTRUMENT

The research instrument (questionnaire) consisted of 11 items, with a level of measurement at a nominal or an ordinal level.

4.5 RELIABILITY STATISTICS

The two most important aspects of precision are **reliability** and **validity**. Reliability is computed by taking several measurements on the same subjects. A reliability coefficient of 0.70 or higher is considered as “acceptable”(Bernard, 2000, pg 98).

The table below reflects the Cronbach’s alpha score for all the items that constituted the questionnaire.

Table 4.1 Question 9 reliability statistics

Reliability Statistics	
Cronbach's Alpha	N of Items
0.800	7

Table 4.2 Question 10 reliability statistics

Reliability Statistics	
Cronbach's Alpha	N of Items
0.825	10

The reliability scores for all sections exceed the recommended Cronbach’s alpha value. This indicates a degree of acceptable, consistent scoring for these sections of the research.

Reliability is appropriate for large samples. However, for specialised groups of respondents, as is this case, it is simply used as a measure to gauge consistency.

4.6 BIOGRAPHICAL DATA

This section summarises the biographical characteristics of the respondents.

There were similar levels of Staff, with the largest being depot managers and sales managers (20.0% each). Technical and operational officers had the same number of respondents (6.7% each).

The need for a larger amount of depot and sale managers is due to the fact that Oryx Energies has several depots throughout South Africa, each depot requires their own sales and depot managers as they represent the first line of contact with the contractors and client. It is therefore their responsibility to ensure efficient and timely service.

4.7. The level of management responsible for making decisions.

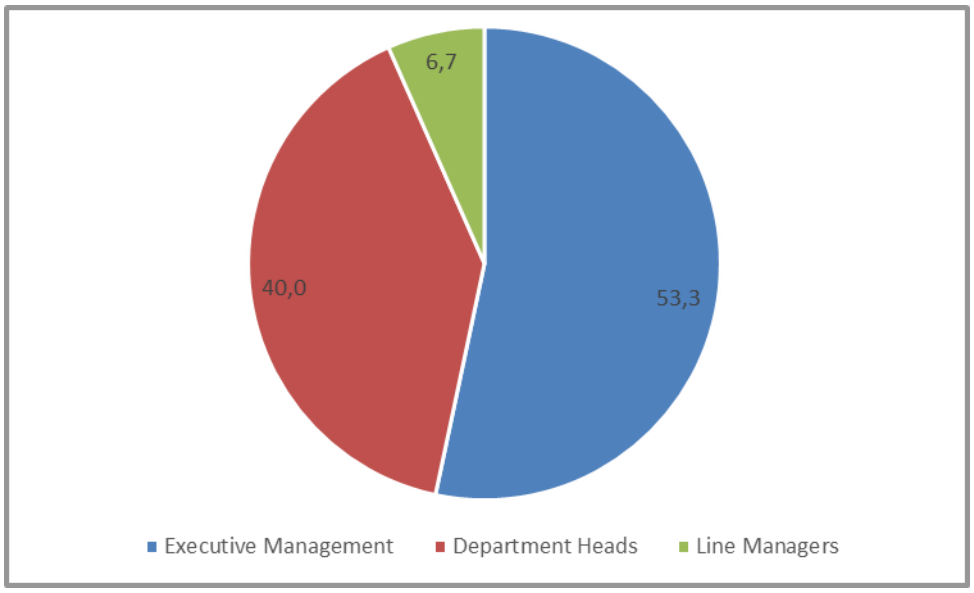

Figure 4.1 Employment level of employers

More than half of the respondents (53.3%) believed that Executive Management made the key decisions, with only 6.7% identifying this function as belonging to Line managers.

In corporate, industry or business it is common knowledge that any policy, document approval or imperative decision is determined by the highest management team since they are either, more knowledgeable, experienced, skilled shareholders. The study by Cali *et al.,* (2015) further supports this belief that outsourcing requires managerial skill, bench marks and proper quality. The percentages in *Figure 4.1* are evidence that this is also the mindset at Oryx Energies.

4.8 SECTION ANALYSIS

The section that follows analyses the scoring patterns of the respondents per variable per section. The results are first presented using summarised percentages for the variables that constitute each section. Results are then further analysed according to the importance of the statements.

4.8.1 Factors influencing decision making.

Table 4.3 Scoring Patterns Summary

	Very weak		Weak		Strong		Very strong		Chi Square p-value
	Count	Row N %	Count	Row N %	Count	Row N %	Count	Row N %	
Achieving lower costs	0	0.0%	2	13.3%	5	33.3%	8	53.3%	0.019
Less capital expenditure	1	6.7%	2	13.3%	8	53.3%	4	26.7%	0.026
Focus on core competencies	1	6.7%	0	0.0%	5	33.3%	9	60.0%	0.015
Employment of Specialised skill	2	13.3%	2	13.3%	4	26.7%	7	46.7%	0.215

The following patterns are observed:

All statements show (significantly) higher levels of strength (strong) whilst other levels of strength are lower (but still greater than levels of weak).

There are no statements with higher levels of disagreement.

The significance of the differences is tested and shown in the Table 4.3.

Focus on core competencies have much higher levels of strong (93.3%) compared to the others. Thus possibly suggesting that core competencies is the main reason for outsourcing. This is in keeping with studies by Hamel and Prahalad (1990) and Porter (1996) who suggest that focusing on core competencies is the main factor to outsource.

Achieving lower costs reported the second highest levels of strong at 86.6%. Thus suggesting that core competencies is more important to Oryx energy Managers than lower costs. This further indicates that Oryx Energies managers are committed to provide quality service rather than concentrate only one monetary gain which is in keeping with Mclvor (2000).

Employing people with specialised skills 73.4 % (although strong), is the lowest of the four statements. Therefore possibly suggesting that the maintenance is not considered core operations to the company this is in keeping with the studies by Gupta *et al.,* (2009) and Maley *et al.,* (2015). This thus results in specialised skills having the highest (weak/weakness) of 26.6% further supporting Gupta *et al.,* (2009) and Maley *et al.,* (2015) studies.

4.8.2 Differences in scoring patterns

To determine whether the scoring patterns per statement were significantly different per option, a chi square test was done. The null hypothesis claims that similar numbers of respondents scored across each option for each statement (one statement at a time). The alternate states that there is a significant difference between the levels of strength and weakness.

The results are shown in the table 4.3 above.

The highlighted significant values (p-values) are less than 0.05 (the level of significance), it implies that the distributions were not similar. That is, the differences between the ways respondents scored were significant.

The general trend in Table 4.3 above shows that the P-values are insignificant for achieving lower costs (0.019), less capital expenditure (0.026) and focus on core

competencies (0.015). This then suggests that the respondents of the study answered the questionnaire diversely i.e.: the percentage for achieving lower costs for very weak (0%), weak (13.3%), strong (33.3%), very strong (53.3%) resulting in a significant difference between the percentages within each variable. But example employment of specialised skill showed a non significant difference when the scoring is compared to other variables in Question 2 of the questionnaire.

4.9 Will confidential information be leaked due to skills scarcity?

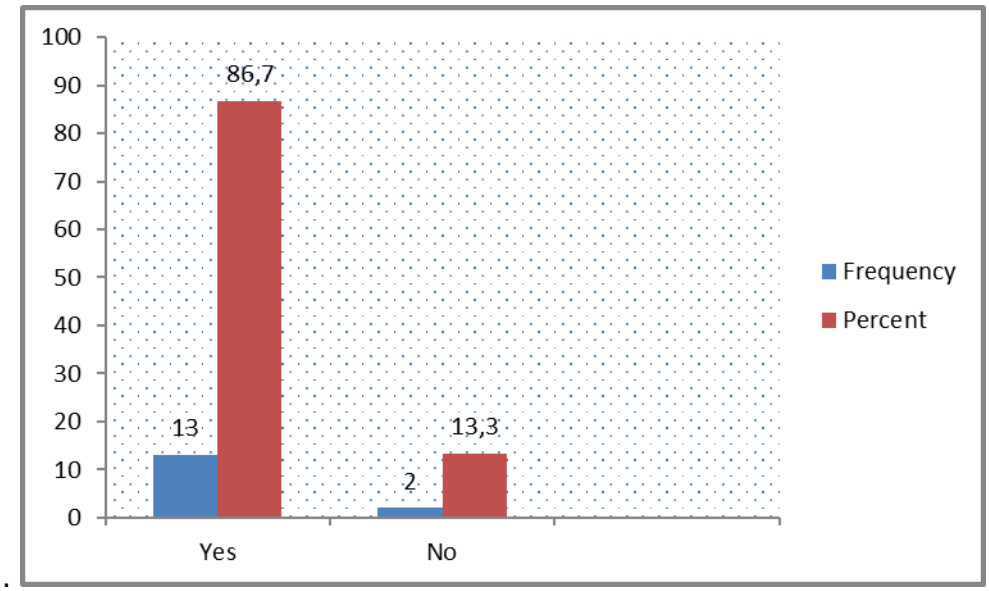

Figure 4.2 Percentage of respondents concerned and not concerned

There were significantly more respondents who indicated that they were concerned. Most of the respondents (86.7%) were concerned that confidential information could be leaked (Figure 4.2). The trend therefore is that majority of the respondents are in fact concerned that confidential information could be leaked.

This is in keeping with the studies by Gunasekaran *et al.,* (2015), Cachon and Harker (2002), Gilbert *et al.,* (2006) and Leu and Tyagi (2011) who state that reputation and financials of a company can be affected by the leaking of confidential information to market competitors. Leaked information is described by Weele (2005) and Doval (2016) as a great disadvantage to outsourcing thus having a negative impact on company growth.

4.10. What percentage loss relates to high inaccurate costing?

Table 4.4: Summarised statistics for the data

N	Minimum	Maximum	Mean	Std. Deviation
15	0.00	45.00	18.53	13.44

An average/mean of 18.53 indicates that the company's profit margin thus decreases by 18.53 % due to high inaccurate costs. The implication of this is a ripple effect on company budgets, salaries, finances and time spent correcting the issue thus actually increasing cost to company. It is therefore empirical that procedures and protocols are instilled in employers, as well as sufficient training to markedly decrease inaccuracies. Sanders *et al.,* (2007); Doval (2016) and Masmoudi *et al.,* (2014) have proposed models and description of support procedures to alleviate these inaccuracies.

4.11 Summary of the statements.

Table 4.5 Summary of Statements

	Yes	Do not know	No	In-sourcing	Out-sourcing	Chi Square p-values
Is current variation order influencing loss in profit margin?	73.3		26.7			0.000
Can insourcing or outsourcing result in having more focus and dedication to each task				53.3	46.7	0.549
Outsourcing process is often accompanied significant delays in response to communications & action. Are you concerned that outsources contractors choose which work to prioritise due to their preferred interest, thus causing biasness.	78.6		21.4			0.000
Does the company use and strictly enforces penalty clauses to ensure SLA's are met?	20.0	26.7	53.3			0.000

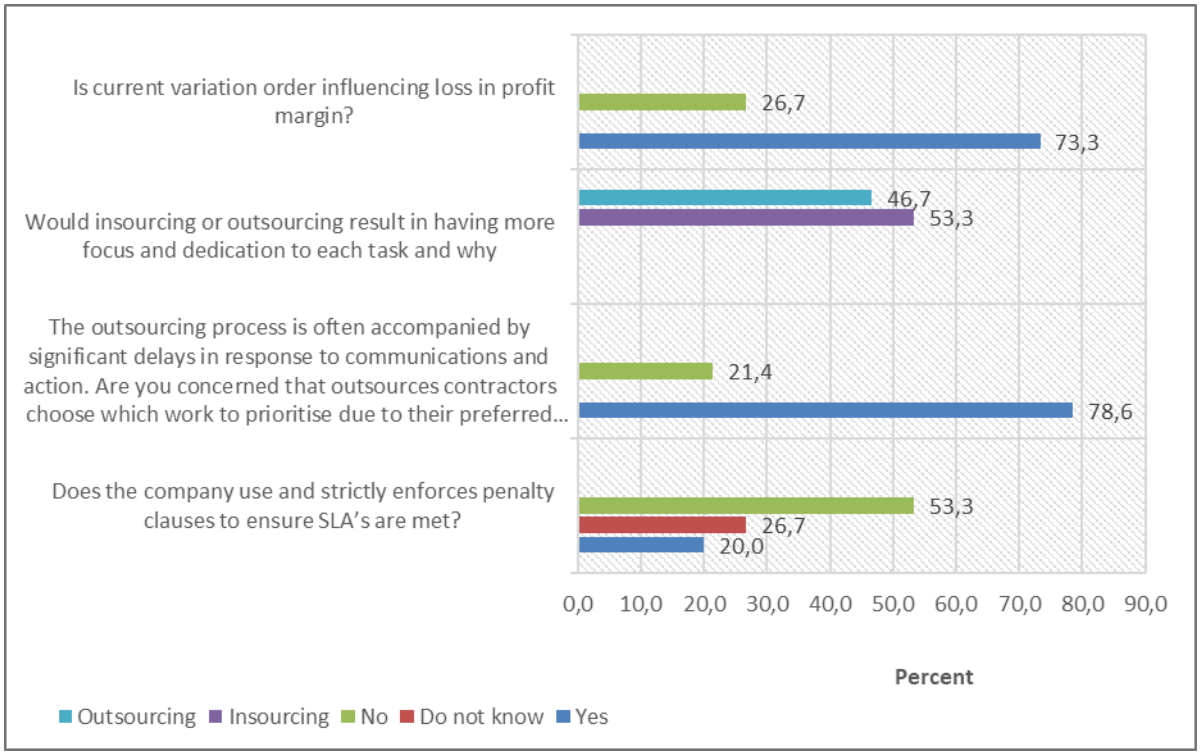

Figure 4.3 Histogram showing profit margin, focus, delays & SLA

Majority (73.3%) of respondents agree that the current variation order influences loss in profit margin whereas 26.7% does not agree. The significant difference in percentages suggests that this is a concern amongst the majority respondents.

46.7% of respondents believe that outsourcing will have more focus and dedication to each task, where as 53.3% of respondents believe that in- sourcing would in fact have more focus and dedication to each task this in fact is in keeping with the studies by Mwaniki (2016) and Lacity *et al.,* (2017). The percentage difference between insourcing and outsourcing is minimal (6.6%). But it is interesting to note that 78.6% of respondents agree that the outsourcing process is often accompanied by significant delays in response to communications, actions and contractors choose which work to prioritise due to their preferred interest, thus causing bias whereas only 21.4% of respondents disagree. This significant difference indicates that this is in fact a great concern among respondents and is in keeping with the studies by Aron and Singh (2005); Omar *et al.,* (2016), Lacity *et al.,* (2017) and Imbuga and Gaylo (2018). 53.3% of respondents disagree that the company uses and strictly enforces penalty clauses to ensure SLA's are met, whereas 20% agree and 26.7% are unsure. This therefore implies that the company requires more stringent

policies/procedures regarding SLA's. Cali *et al.,* (2015), Sanders *et al.,* (2017) and Soderberg *et al.,* (2017) states that outsourcing requires proper classification on procedures, policies and contracts between the company and contractors. If these penalty clauses do exist then the company needs to implement training in order for employers to be aware of them.

4.11.1 Implications of the patterns.

Even though 46.7% of respondents (*Figure 4.3)* believe that outsourcing will provide more focus and dedication to each task, 25.3 % of these respondents agree that the outsourcing process is often accompanied by significant delays in response to communications, actions and contractors choose which work to prioritise due to their preferred interest, thus causing bias. This then implies that in fact only 21.4% of respondents do actually favour outsourcing to in-sourcing. This is further demonstrated in the significant difference in percentage (46.6%) between respondents that agree (73.3%) and disagree (26.7%) that the current variation order influences loss in profit margin. Outsourcing thus has many concerning factors or variables and requires an appropriate model or paradigm to be implemented. This is in keeping with Mwaniki (2016) who's study suggest that factors that influence insourcing are regulated by polices and Masmoudi *et al.,* (2014) who proposes a decision support procedure to ensure that both outsourcing and insourcing works effectively.

4.12 Weighted ranking if in-house maintenance.

Table 4.6 Weighted ranks of the scoring (in-house)

		Mean	Weighted Mean	Weighted Rank
Q9c	More cost effective	8.80	9.18	1
Q9g	Utilise existing assets more effective	8.87	9.08	2
Q9e	Fosters loyalty and identity within the company and with customers	8.53	8.89	3
Q9f	Greater flexibility	8.27	8.74	4

Q9b	Yields high levels of customer service	7.80	8.59	5
Q9d	Utilise in-house expertise	8.20	8.46	6
Q9a	Allows greater control over whole operation	7.87	8.36	7

The in-sourcing of maintenance results in many advantages the most highly ranked is cost effectiveness this is in keeping with Lacity and Hirschleum (1993); Gunasekaran *et al.,* (2015), Feng and Lu (2012); Gareiss (2002) and Engardio *et al.,* (2006) whom all state the cost effectiveness is considered one of the main reasons to choose between insourcing and outsourcing.

The second weighted rank, to utilise existing assets more effectively, this thus allows underutilised or idle capacities to be used thus saving further cost to company. Since both weighted rank 1 and 2 are both focused on cost factors either directly or indirectly it can possibly be concluded that cost factor is the main concern or drive of the respondents representing Orxy Energies.

Weighted ranks 3, 4 and 5 highlights loyalty, flexibility and service to customers and within the company. This can be determined as rapport and relationships as being inferior to cost factor as is stated by Gunasekaran *et al.,* (2015). Whereas utilise in-house expertise was ranked even lower at 6th place thus showing that the respondents are either unacquainted with qualifications and experience of in house staff or deem the in house staff inadequate this is in keeping with Drauz (2014) and Laradi *et al.,* (2015) .

By ranking “Allows greater control over whole operation” as last or 7th place has a twofold significance, firstly that the respondents don’t consider the company to have the skill to insource this is in keeping with Cali *et al.,* (2015) or secondly this could result in decrease time spent on core business as is suggested by Hamel and Prahalad (1990) and Porter (1996).

4.13 Weighted ranking of outsourced maintenance:

Table 4.7 Weighted ranks of the scoring (outsourced)

		Mean	Weighted Mean	Weighted Rank
Q10a	Allows Financial resources to be focused on core business	7.80	8.33	1
Q10d	Less Industrial Relations Problems	7.60	8.30	2
Q10g	Higher Service Levels	7.13	8.07	3
Q10h	More "Specialist" services	7.47	7.98	4
Q10c	Permits tighter budgeting planning	7.00	7.97	5
Q10f	More flexible to make strategic management decisions	6.60	7.65	6
Q10e	Exploit greater management expertise of third party service providers	6.87	7.60	7
Q10j	Easier to enter new markets	6.67	7.56	8
Q10i	Accommodates seasonal peaks more effectively	6.47	7.54	9
Q10b	More Cost effective	6.53	7.51	10

One of the main reasons for companies to outsource or potentially outsource is to focus on core business (Hamel and Prahalad, 1990), the respondents in this study thus support this reason as is depicted by " allows financial resources to be focused on core business" to be weighted rank at number 1. "Less Industrial Relations problems" followed at weighted rank 2 possibly implies that respondents believe by outsourcing they will not have to deal directly with Industrial relation problems.

Respondents consider that outsourcing will increase the level of service Weele (2005) and Doval (2016) hence "higher service levels" was weighted rank at 3 this surpasses specialist services(4^{th}), Permits tighter budgeting planning (5^{th}), More flexible to make strategic management decisions (6^{th}), Exploit greater management expertise of third party service providers (7^{th}), Easier to enter new markets (8^{th}), Accommodates seasonal peaks more effectively (9^{th}) and more cost effective (10^{th}). Weighted rank 4 and 5 show a negligible difference of .01 thus considering them as similar with an average importance since they are ranked in the middle of the

weighting. Weighted rank 6 to 9 is aimed at management and marketing thus possibly implying that these are less significant that core business etc.

It is interesting to note that "more cost effective was ranked 10th or last thus implying that respondents are aware that outsourcing is in fact not the most cost effective as stated by Mwaniki (2016) and Cali *et al.,* (2015).

Thus concluding that the most important reason for outsourcing is to focus on core business and the least important reason is cost effectiveness.

4.14 Does outsourcing impact reputation and quality of work?

Table 4.8 Impact of outsourcing on reputation and quality of work

	Frequency	Percent
Yes	15	100.0

All of the respondents agreed with the statement. This is in keeping with Doval (2016); Weele (2005) and Omar *et al.,* (2016) whom mention that one of the greatest disadvantages about outsourcing is the impact on company's reputation and quality of work.

4.15 Cross tabulations

The traditional approach to reporting a result requires a statement of statistical significance. A **p-value** is generated from a **test statistic.** A significant result is indicated with "p < 0.05". A second Chi square test was performed to determine whether there was a statistically significant relationship between the variables (rows versus columns).

The null hypothesis states that there is no association between the two. The alternate hypothesis indicates that there is an association. All values with p-values more than 0.05 do not have a significant relationship.

Tables below summaries the results of the cross tabulations and chi square tests. It is noted that NONE of the crosstabs show significant differences.

4.15.1 Level of management responsible for decisions making?

Table 4.9 Achieving lower costs

			Which level of management is responsible for making decisions regarding Outsourcing or insourcing in your company?			
			Executive Management	Department Heads	Line Managers	Total
Achieving lower costs	Weak	Count	1	1	0	2
		% within Achieving lower costs	50.0%	50.0%	0.0%	100.0%
		% within Which level of management is responsible for making decisions regarding Outsourcing or insourcing in your company?	12.5%	16.7%	0.0%	13.3%
		% of Total	6.7%	6.7%	0.0%	13.3%
	Strong	Count	2	3	0	5
		% within Achieving lower costs	40.0%	60.0%	0.0%	100.0%
		% within Which level of management is responsible for making decisions regarding Outsourcing or insourcing in your company?	25.0%	50.0%	0.0%	33.3%
		% of Total	13.3%	20.0%	0.0%	33.3%
	Very strong	Count	5	2	1	8
		% within Achieving lower costs	62.5%	25.0%	12.5%	100.0%
		% within Which level of management is Responsible for making decisions regarding Outsourcing or insourcing in your company?	62.5%	33.3%	100.0%	53.3%
		% of Total	33.3%	13.3%	6.7%	53.3%
Total	Count		8	6	1	15
	% within Achieving lower costs		53.3%	40.0%	6.7%	100.0%

	% within Which level of management is responsible for making decisions regarding Outsourcing or insourcing in your company?	100.0%	100.0%	100.0%	100.0%
	% of Total	53.3%	40.0%	6.7%	100.0%

Fischer's Exact Test (*p*=0.876)

The 'p' value between 'Achieving lower costs' and "which level of management is responsible for making decisions regarding outsourcing or in-sourcing in your company?" is 0.876. There is no significant relationship between these two variables. That is, the level of management that is responsible for making decisions regarding outsourcing and in-sourcing have no significant role in terms of how respondents viewed achieving lower costs. These findings are in keeping with Masmoudi *et al.,* (2014) whose study shows that the different level of management had no effect on reducing costs.

Table 4.10 Less capital expenditure

			Which level of management is responsible for making decisions regarding Outsourcing or insourcing in your company?			Total
			Executive Management	Department Heads	Line Managers	
Less capital expenditure	Very weak	Count	1	0	0	1
		% within Less capital expenditure	100.0%	0.0%	0.0%	100.0%
		% within Which level of management is responsible for making decisions regarding Outsourcing or insourcing in your company?	12.5%	0.0%	0.0%	6.7%
		% of Total	6.7%	0.0%	0.0%	6.7%
	Weak	Count	1	1	0	2
		% within Less capital expenditure	50.0%	50.0%	0.0%	100.0%
		% within Which level of management is responsible for making decisions regarding Outsourcing or insourcing in your company?	12.5%	16.7%	0.0%	13.3%

		% of Total	6.7%	6.7%	0.0%	13.3%
	Strong	Count	3	4	1	8
		% within Less capital expenditure	37.5%	50.0%	12.5%	100.0%
		% within Which level of management is responsible for making decisions regarding Outsourcing or insourcing in your company?	37.5%	66.7%	100.0%	53.3%
		% of Total	20.0%	26.7%	6.7%	53.3%
	Very strong	Count	3	1	0	4
		% within Less capital expenditure	75.0%	25.0%	0.0%	100.0%
		% within Which level of management is responsible for making decisions regarding Outsourcing or insourcing in your company?	37.5%	16.7%	0.0%	26.7%
		% of Total	20.0%	6.7%	0.0%	26.7%
Total	Count		8	6	1	15
	% within Less capital expenditure		53.3%	40.0%	6.7%	100.0%
	% within Which level of management is responsible for making decisions regarding Outsourcing or insourcing in your company?		100.0%	100.0%	100.0%	100.0%
	% of Total		53.3%	40.0%	6.7%	100.0%

Fischer's Exact Test (*p*=0.925)

The 'p' value between 'Less capital expenditure' and "which level of management is responsible for making decisions regarding Outsourcing or in sourcing in your company?" are 0.925. There is no significant relationship between these two variables. That is the level of management that is responsible for making decisions regarding outsourcing and in sourcing have no significant role in terms of how respondents viewed capital expenditure. This is in keeping with the study by Gunasekaran *et al.,* (2015) and Laradi *et al.,* (2015) who both studied the effects of financial expenditure with different levels of management.

Table 4.11 Focus on core competencies

			Which level of management is responsible for making decisions regarding Outsourcing or insourcing in your company?			Total
			Executive Management	Department Heads	Line Managers	
Focus on core competencies	Very weak	Count	1	0	0	1
		% within Focus on core competencies	100.0%	0.0%	0.0%	100.0%
		% within Which level of management is responsible for making decisions regarding Outsourcing or insourcing in your company?	12.5%	0.0%	0.0%	6.7%
		% of Total	6.7%	0.0%	0.0%	6.7%
	Strong	Count	3	2	0	5
		% within Focus on core competencies	60.0%	40.0%	0.0%	100.0%
		% within Which level of management is responsible for making decisions regarding Outsourcing or insourcing in your company?	37.5%	33.3%	0.0%	33.3%
		% of Total	20.0%	13.3%	0.0%	33.3%
	Very strong	Count	4	4	1	9
		% within Focus on core competencies	44.4%	44.4%	11.1%	100.0%
		% within Which level of management is responsible for making decisions regarding Outsourcing or insourcing in your company?	50.0%	66.7%	100.0%	60.0%
		% of Total	26.7%	26.7%	6.7%	60.0%
Total	Count		8	6	1	15
	% within Focus on core competencies		53.3%	40.0%	6.7%	100.0%
	% within Which level of management is responsible for making decisions regarding Outsourcing or insourcing in your company?		100.0%	100.0%	100.0%	100.0%
	% of Total		53.3%	40.0%	6.7%	100.0%

Fischer's Exact Test (p=1.000)

The 'p' value between 'Focus on core competencies' and "which level of management is responsible for making decisions regarding Outsourcing or in

sourcing in your company?" is 1.000. There is no significant relationship between these two variables. That is, the level of management that is responsible for making decisions regarding outsourcing and in sourcing have no significant role in terms of how respondents viewed core competencies' this is in keeping with the studies by Hamel and Prahalad (1990) and Porter (1996).

Table 4.12 Employment of Specialised skill

			Which level of management is responsible for making decisions regarding Outsourcing or insourcing in your company?			Total
			Executive Management	Department Heads	Line Managers	
Employment of Specialised skill	Very weak	Count	1	0	1	2
		% within Employment of Specialised skill	50.0%	0.0%	50.0%	100.0%
		% within Which level of management is responsible for making decisions regarding Outsourcing or insourcing in your company?	12.5%	0.0%	100.0%	13.3%
		% of Total	6.7%	0.0%	6.7%	13.3%
	Weak	Count	1	1	0	2
		% within Employment of Specialised skill	50.0%	50.0%	0.0%	100.0%
		% within Which level of management is responsible for making decisions regarding Outsourcing or insourcing in your company?	12.5%	16.7%	0.0%	13.3%
		% of Total	6.7%	6.7%	0.0%	13.3%
	Strong	Count	2	2	0	4
		% within Employment of Specialised skill	50.0%	50.0%	0.0%	100.0%
		% within Which level of management is responsible for making decisions regarding Outsourcing or insourcing in your company?	25.0%	33.3%	0.0%	26.7%
		% of Total	13.3%	13.3%	0.0%	26.7%
	Very	Count	4	3	0	7

	strong	% within Employment of Specialised skill	57.1%	42.9%	0.0%	100.0%
		% within Which level of management is responsible for making decisions regarding Outsourcing or insourcing in your company?	50.0%	50.0%	0.0%	46.7%
		% of Total	26.7%	20.0%	0.0%	46.7%
Total	Count		8	6	1	15
	% within Employment of Specialised skill		53.3%	40.0%	6.7%	100.0%
	% within Which level of management is responsible for making decisions regarding Outsourcing or insourcing in your company?		100.0%	100.0%	100.0%	100.0%
	% of Total		53.3%	40.0%	6.7%	100.0%

Fischer's Exact Test (*p*=0.760)

The 'p' value between 'Employment of specialised skill' and "which level of management is responsible for making decisions regarding Outsourcing or in sourcing in your company?" is 0.760. There is no significant relationship between these two variables. That is the level of management that is responsible for making decisions regarding outsourcing and in sourcing have no significant role in terms of how respondents viewed employment of specialised skill this is in keeping with the studies by Gupta *et al.,* (2009) and Laradi *et al.,* (2015).

Table 4.13 Can confidential information be leaked due to scarcity of skills?

			Which level of management is responsible for making decisions regarding Outsourcing or insourcing in your company?			Total
			Executive Management	Department Heads	Line Managers	
Due to scarcity of technical skills within the LPG industry there are a limited	Yes	Count	7	5	1	13
		% within Due to scarcity of technical skills within the LPG industry there are a limited number of contractors. Are you concerned that confidential information could be leaked ?	53.8%	38.5%	7.7%	100.0 %

number of contractors. Are you concerned that confidential information could be leaked ?		% within Which level of management is responsible for making decisions regarding Outsourcing or insourcing in your company?	87.5%	83.3%	100.0%	86.7%
		% of Total	46.7%	33.3%	6.7%	86.7%
	No	Count	1	1	0	2
		% within Due to scarcity of technical skills within the LPG industry there are a limited number of contractors. Are you concerned that confidential information could be leaked ?	50.0%	50.0%	0.0%	100.0%
		% within Which level of management is responsible for making decisions regarding Outsourcing or insourcing in your company?	12.5%	16.7%	0.0%	13.3%
		% of Total	6.7%	6.7%	0.0%	13.3%
Total	Count		8	6	1	15
	% within Due to scarcity of technical skills within the LPG industry there are a limited number of contractors. Are you concerned that confidential information could be leaked?		53.3%	40.0%	6.7%	100.0%
	% within Which level of management is responsible for making decisions regarding Outsourcing or insourcing in your company?		100.0%	100.0%	100.0%	100.0%
	% of Total		53.3%	40.0%	6.7%	100.0%

Fischer's Exact Test (p=1.000)

The 'p' value between "Due to scarcity of technical skills within the LPG industry there are a limited number of contractors. Are you concerned that confidential

information could be leaked" and "which level of management is responsible for making decisions regarding Outsourcing or in sourcing in your company?" is 1.000. There is no significant relationship between these two variables. That is, the level of management that is responsible for making decisions regarding outsourcing and in sourcing have no significant role in terms of how respondents viewed scarcity of technical skills in the LPG industry resulting in a limited number of contractors and a concern that confidential information could be leaked. These findings are in keeping with the studies by Kavcic *et al.,* (2015) and Doval (2016).

Table 4.14 Is variation order influencing loss in profit margin?

			Which level of management is responsible for making decisions regarding Outsourcing or insourcing in your company?			Total
			Executive Management	Department Heads	Line Manager	
Is current variation order influencing loss in profit margin?	Yes	Count	6	4	1	11
		% within Is current variation order influencing loss in profit margin?	54.5%	36.4%	9.1%	100.0%
		% within Which level of management is responsible for making decisions regarding Outsourcing or insourcing in your company?	75.0%	66.7%	100.0%	73.3%
		% of Total	40.0%	26.7%	6.7%	73.3%
	No	Count	2	2	0	4
		% within Is current variation order influencing loss in profit margin?	50.0%	50.0%	0.0%	100.0%
		% within Which level of management is responsible for making decisions regarding Outsourcing or insourcing in your company?	25.0%	33.3%	0.0%	26.7%
		% of Total	13.3%	13.3%	0.0%	26.7%
Total	Count		8	6	1	15
	% within Is current variation order influencing loss in profit margin?		53.3%	40.0%	6.7%	100.0%
			100.0%	100.0%	100.0%	100.0%

	% within Which level of management is responsible for making decisions regarding Outsourcing or insourcing in your company?				
	% of Total	53.3%	40.0%	6.7%	100.0%

Fischer's Exact Test (*p*=1.000)

The 'p' value between 'Is current variation order influencing loss in profit margin' and "which level of management is responsible for making decisions regarding Outsourcing or in sourcing in your company?" is 1.000. There is no significant relationship between these two variables. That is the level of management that is responsible for making decisions regarding outsourcing and in sourcing have no significant role in terms of how respondents viewed current variation order and its influence in loss of profit margin which is in keeping with the study by Mwaniki (2016).

Table 4.15 Would insourcing or outsourcing result in more focus?

			Which level of management is responsible for making decisions regarding Outsourcing or insourcing in your company?			Total
			Executive Management	Department Heads	Line Managers	
Would insourcing or outsourcing result in having more focus and dedication to each task.	Insourcing	Count	5	2	1	8
		% within Would insourcing or outsourcing result in having more focus and dedication to each task.	62.5%	25.0%	12.5%	100.0%
		% within Which level of management is responsible for making decisions regarding Outsourcing or insourcing in your company?	62.5%	33.3%	100.0%	53.3%
		% of Total	33.3%	13.3%	6.7%	53.3%
	Outsourcing	Count	3	4	0	7
		% within Would insourcing or outsourcing result in having more focus and dedication to each task	42.9%	57.1%	0.0%	100.0%

		% within Which level of management is responsible for making decisions regarding Outsourcing or insourcing in your company?	37.5%	66.7%	0.0%	46.7%
		% of Total	20.0%	26.7%	0.0%	46.7%
Total	Count		8	6	1	15
	% within Would insourcing or outsourcing result in having more focus and dedication to each task		53.3%	40.0%	6.7%	100.0%
	% within Which level of management is responsible for making decisions regarding Outsourcing or insourcing in your company?		100.0%	100.0%	100.0%	100.0%
	% of Total		53.3%	40.0%	6.7%	100.0%

Fischer's Exact Test (*p*=0.445)

The 'p' value between 'Would insourcing or outsourcing result in having more focus and dedication to each task? ' and "which level of management is responsible for making decisions regarding Outsourcing or in sourcing in your company?" is 0.445. There is no significant relationship between these two variables. That is, the level of management that is responsible for making decisions regarding outsourcing and in sourcing have no significant role in terms of how respondents viewed whether in sourcing or outsourcing would result in having more focus and dedication to each task. The results are in keeping with Omar *et al.,* (2016) and Faremi *et al.,* (2017).

Table 4.16 Can outsourcing process cause delays and biasness?

			Which level of management is responsible for making decisions regarding Outsourcing or insourcing in your company?			Total
			Executive Management	Department Heads	Line Managers	
The outsourcing process is often accompanie	Yes	Count	7	3	1	11

d by significant delays in response to communications and action. Are you concerned that outsources contractors choose which work to prioritise due to their preferred interest, thus causing biasness.		% within The outsourcing process is often accompanied by significant delays in response to communications and action. Are you concerned that outsources contractors choose which work to prioritise due to their preferred interest, thus causing biasness.	63.6%	27.3%	9.1%	100.0%
		% within Which level of management is responsible for making decisions regarding Outsourcing or insourcing in your company?	100.0%	50.0%	100.0%	78.6%
		% of Total	50.0%	21.4%	7.1%	78.6%
	No	Count	0	3	0	3
		% within The outsourcing process is often accompanied by significant delays in response to communications and action. Are you concerned that outsources contractors choose which work to prioritise due to their preferred interest, thus causing biasness.	0.0%	100.0%	0.0%	100.0%
		% within Which level of management is responsible for making decisions regarding Outsourcing or insourcing in your company?	0.0%	50.0%	0.0%	21.4%
		% of Total	0.0%	21.4%	0.0%	21.4%
Total	Count		7	6	1	14
	% within The outsourcing process is often accompanied by significant delays in response to communications and action. Are you concerned that outsources contractors choose which work to prioritise due to their preferred interest, thus causing biasness.		50.0%	42.9%	7.1%	100.0%
	% within Which level of management is responsible for making decisions regarding Outsourcing or insourcing in your company?		100.0%	100.0%	100.0%	100.0%
	% of Total		50.0%	42.9%	7.1%	100.0%

Fischer's Exact Test (*p*=0.096)

The 'p' value between 'The outsourcing process is often accompanied by significant delays in response to communications and action. Are you concerned that outsources contractors choose which work to prioritise due to their preferred interest, thus causing biasness.' and "which level of management is responsible for making decisions regarding outsourcing or in-sourcing in your company?" is 0.096. There is no significant relationship between these two variables. That is, the level of management that is responsible for making decisions regarding outsourcing and in-sourcing has no significant role in terms of how respondents viewed delays in response to communications and action in outsourcing resulting in contractor biasness. This is in keeping with the study by Maley *et al.,* (2015).

Table 4.17 Are SLA's strictly enforced?

			Which level of management is responsible for making decisions regarding Outsourcing or insourcing in your company?			Total
			Executive Management	Department Heads	Line Managers	
Does the company use and strictly enforces penalty clauses to ensure SLA's are met?	Yes	Count	2	1	0	3
		% within Does the company use and strictly enforces penalty clauses to ensure SLA's are met?	66.7%	33.3%	0.0%	100.0%
		% within Which level of management is responsible for making decisions regarding Outsourcing or insourcing in your company?	25.0%	16.7%	0.0%	20.0%
		% of Total	13.3%	6.7%	0.0%	20.0%
	Do not know	Count	2	1	1	4
		% within Does the company use and strictly enforces penalty clauses to ensure SLA's are met?	50.0%	25.0%	25.0%	100.0%
		% within Which level of management is responsible for making decisions	25.0%	16.7%	100.0%	26.7%

		regarding Outsourcing or insourcing in your company?				
		% of Total	13.3%	6.7%	6.7%	26.7%
	No	Count	4	4	0	8
		% within Does the company use and strictly enforces penalty clauses to ensure SLA's are met?	50.0%	50.0%	0.0%	100.0%
		% within Which level of management is responsible for making decisions regarding Outsourcing or insourcing in your company?	50.0%	66.7%	0.0%	53.3%
		% of Total	26.7%	26.7%	0.0%	53.3%
Total	Count		8	6	1	15
	% within Does the company use and strictly enforces penalty clauses to ensure SLA's are met?		53.3%	40.0%	6.7%	100.0%
	% within Which level of management is responsible for making decisions regarding Outsourcing or insourcing in your company?		100.0%	100.0%	100.0%	100.0%
	% of Total		53.3%	40.0%	6.7%	100.0%

Fischer's Exact Test (*p*=0.672)

The 'p' value between 'Does the company use and strictly enforces penalty clauses to ensure SLA's are met?' and "which level of management is responsible for making decisions regarding outsourcing or in-sourcing in your company?" is 0.672. There is no significant relationship between these two variables. That is, the level of management that is responsible for making decisions regarding outsourcing and in-sourcing have no significant role in terms of how respondents viewed how the company enforced penalty clauses to ensure SLA's are met is in keeping with the studies by Aron and Singh (2005) and Doval (2016).

Table 4.18 Does outsourcing impact reputation and quality of work?

			Which level of management is responsible for making decisions regarding Outsourcing or insourcing in your company?			Total
			Executive Management	Department Heads	Line Managers	
Does current outsourcing have any impact on the Company's reputation and quality of work?	Yes	Count	8	6	1	15
		% within Does current outsourcing have any impact on the Company's reputation and quality of work?	53.3%	40.0%	6.7%	100.0%
		% within Which level of management is responsible for making decisions regarding Outsourcing or insourcing in your company?	100.0%	100.0%	100.0%	100.0%
		% of Total	53.3%	40.0%	6.7%	100.0%
Total	Count		8	6	1	15
	% within Does current outsourcing have any impact on the Company's reputation and quality of work?		53.3%	40.0%	6.7%	100.0%
	% within Which level of management is responsible for making decisions regarding Outsourcing or insourcing in your company?		100.0%	100.0%	100.0%	100.0%
	% of Total		53.3%	40.0%	6.7%	100.0%

No statistics are computed due to all respondents' unanimous response. Thus in conclusion to which level of management is responsible for making decisions at Oryx Energies it is evident by the above Tables 4.9 to 4.18 that the level of management has no significant effect on the factors above. This is in keeping with the study by Mwaniki (2016).

4.15.2. Leakage of confidential information?

Table 4.19 Achieving lower costs

			Due to scarcity of technical skills within the LPG industry there are a limited number of contractors. Are you concerned that confidential information could be leaked?		Total
			Yes	No	
Achieving lower costs	Weak	Count	2	0	2
		% within Achieving lower costs	100.0%	0.0%	100.0%
		% within Due to scarcity of technical skills within the LPG industry there are a limited number of contractors. Are you concerned that confidential information could be leaked?	15.4%	0.0%	13.3%
		% of Total	13.3%	0.0%	13.3%
	Strong	Count	4	1	5
		% within Achieving lower costs	80.0%	20.0%	100.0%
		% within Due to scarcity of technical skills within the LPG industry there are a limited number of contractors. Are you concerned that confidential information could be leaked ?	30.8%	50.0%	33.3%
		% of Total	26.7%	6.7%	33.3%
	Very strong	Count	7	1	8
		% within Achieving lower costs	87.5%	12.5%	100.0%
		% within Due to scarcity of technical skills within the LPG industry there are a limited number of contractors. Are you concerned that confidential information could be leaked?	53.8%	50.0%	53.3%
		% of Total	46.7%	6.7%	53.3%
Total		Count	13	2	15
		% within Achieving lower costs	86.7%	13.3%	100.0%

		% within Due to scarcity of technical skills within the LPG industry there are a limited number of contractors. Are you concerned that confidential information could be leaked?	100.0%	100.0%	100.0%
		% of Total	86.7%	13.3%	100.0%

Fischer's Exact Test (*p*=1.000)

The 'p' value between 'Achieving lower costs' and "Due to scarcity of technical skills within the LPG industry there are a limited number of contractors. Are you concerned that confidential information could be leaked?" is 1.000. There is no significant relationship between these two variables. That is, due to the scarcity of technical skills within the LPG industry there are a limited number of contractors and thus the concern that confidential information could be leaked has no significant role in terms of how respondents viewed achieving lower costs this is in keeping with the studies by Gilbert *et al.,* (2006) and Soderberg *et al.,* (2017).

Table 4.20 Less capital expenditure

			Due to scarcity of technical skills within the LPG industry there are a limited number of contractors. Are you concerned that confidential information could be leaked ?		Total
			Yes	No	
Less capital expenditure	Very weak	Count	1	0	1
		% within Less capital expenditure	100.0%	0.0%	100.0%
		% within Due to scarcity of technical skills within the LPG industry there are a limited number of contractors. Are you concerned that confidential information could be leaked ?	7.7%	0.0%	6.7%
		% of Total	6.7%	0.0%	6.7%
	Weak	Count	1	1	2
		% within Less capital expenditure	50.0%	50.0%	100.0%
		% within Due to scarcity of technical skills within the LPG industry there are a limited number of contractors. Are you concerned	7.7%	50.0%	13.3%

		that confidential information could be leaked ?			
		% of Total	6.7%	6.7%	13.3%
	Strong	Count	7	1	8
		% within Less capital expenditure	87.5%	12.5%	100.0%
		% within Due to scarcity of technical skills within the LPG industry there are a limited number of contractors. Are you concerned that confidential information could be leaked ?	53.8%	50.0%	53.3%
		% of Total	46.7%	6.7%	53.3%
	Very strong	Count	4	0	4
		% within Less capital expenditure	100.0%	0.0%	100.0%
		% within Due to scarcity of technical skills within the LPG industry there are a limited number of contractors. Are you concerned that confidential information could be leaked ?	30.8%	0.0%	26.7%
		% of Total	26.7%	0.0%	26.7%
Total	Count		13	2	15
	% within Less capital expenditure		86.7%	13.3%	100.0%
	% within Due to scarcity of technical skills within the LPG industry there are a limited number of contractors. Are you concerned that confidential information could be leaked ?		100.0%	100.0%	100.0%
	% of Total		86.7%	13.3%	100.0%

Fischer's Exact Test (*p*=0.429)

The 'p' value between 'Less capital expenditure' and "Due to scarcity of technical skills within the LPG industry there are a limited number of contractors. Are you concerned that confidential information could be leaked?" is 0.429. There is no significant relationship between these two variables. That is, due to the scarcity of technical skills within the LPG industry there are a limited number of contractors and thus the concern that confidential information could be leaked has no significant role in terms of how respondents viewed less capital expenditure. This is in keeping with the study by Laradi *et al.,* (2015).

Table 4.21 Focus on core competencies

			Due to scarcity of technical skills within the LPG industry there are a limited number of contractors. Are you concerned that confidential information could be leaked ?		Total
			Yes	No	
Focus on core competencies	Very weak	Count	1	0	1
		% within Focus on core competencies	100.0%	0.0%	100.0%
		% within Due to scarcity of technical skills within the LPG industry there are a limited number of contractors. Are you concerned that confidential information could be leaked ?	7.7%	0.0%	6.7%
		% of Total	6.7%	0.0%	6.7%
	Strong	Count	3	2	5
		% within Focus on core competencies	60.0%	40.0%	100.0%
		% within Due to scarcity of technical skills within the LPG industry there are a limited number of contractors. Are you concerned that confidential information could be leaked ?	23.1%	100.0%	33.3%
		% of Total	20.0%	13.3%	33.3%
	Very strong	Count	9	0	9
		% within Focus on core competencies	100.0%	0.0%	100.0%
		% within Due to scarcity of technical skills within the LPG industry there are a limited number of contractors. Are you concerned that confidential information could be leaked?	69.2%	0.0%	60.0%
		% of Total	60.0%	0.0%	60.0%
Total		Count	13	2	15
		% within Focus on core competencies	86.7%	13.3%	100.0%

		% within Due to scarcity of technical skills within the LPG industry there are a limited number of contractors. Are you concerned that confidential information could be leaked ?	100.0%	100.0%	100.0%
		% of Total	86.7%	13.3%	100.0%

Fischer's Exact Test (*p*=0.229)

The 'p' value between 'Focus on core competencies' and "Due to scarcity of technical skills within the LPG industry there are a limited number of contractors. Are you concerned that confidential information could be leaked?" is 0.229. There is no significant relationship between these two variables. That is, due to the scarcity of technical skills within the LPG industry there are a limited number of contractors and thus the concern that confidential information could be leaked has no significant role in terms of how respondents viewed focus on core competencies. This is in keeping with the studies by Porter (1996) and Laradi *et al.,* (2015).

Table 4.22 Employment of Specialised skill

			Due to scarcity of technical skills within the LPG industry there are a limited number of contractors. Are you concerned that confidential information could be leaked ?		Total
			Yes	No	
Employment of Specialised skill	Very weak	Count	2	0	2
		% within Employment of Specialised skill	100.0%	0.0%	100.0%
		% within Due to scarcity of technical skills within the LPG industry there are a limited number of contractors. Are you concerned that confidential information could be leaked ?	15.4%	0.0%	13.3%
		% of Total	13.3%	0.0%	13.3%
	Weak	Count	2	0	2
		% within Employment of Specialised skill	100.0%	0.0%	100.0%
		% within Due to scarcity of technical skills within the LPG industry there are a limited number of contractors. Are you concerned that confidential information could be leaked	15.4%	0.0%	13.3%

		?			
		% of Total	13.3%	0.0%	13.3%
	Strong	Count	4	0	4
		% within Employment of Specialised skill	100.0%	0.0%	100.0%
		% within Due to scarcity of technical skills within the LPG industry there are a limited number of contractors. Are you concerned that confidential information could be leaked ?	30.8%	0.0%	26.7%
		% of Total	26.7%	0.0%	26.7%
	Very strong	Count	5	2	7
		% within Employment of Specialised skill	71.4%	28.6%	100.0%
		% within Due to scarcity of technical skills within the LPG industry there are a limited number of contractors. Are you concerned that confidential information could be leaked ?	38.5%	100.0%	46.7%
		% of Total	33.3%	13.3%	46.7%
Total	Count		13	2	15
	% within Employment of Specialised skill		86.7%	13.3%	100.0%
	% within Due to scarcity of technical skills within the LPG industry there are a limited number of contractors. Are you concerned that confidential information could be leaked?		100.0%	100.0%	100.0%
	% of Total		86.7%	13.3%	100.0%

Fischer's Exact Test (p=0.733)

The 'p' value between 'Employment of specialised skill' and "Due to scarcity of technical skills within the LPG industry there are a limited number of contractors. Are you concerned that confidential information could be leaked?" is 0.733. There is no significant relationship between these two variables. That is, due to the scarcity of technical skills within the LPG industry there are a limited number of contractors and thus the concern that confidential information could be leaked has no significant role in terms of how respondents viewed employment of specialised skill is in keeping with the studies by Hamel and Prahalad, (1990) and Laradi *et al.,* (2015).

Table 4.23 Is current variation order influencing loss in profit margin?

			Due to scarcity of technical skills within the LPG industry there are a limited number of contractors. Are you concerned that confidential information could be leaked?		Total
			Yes	No	
Is current variation order influencing loss in profit margin?	Yes	Count	11	0	11
		% within Is current variation order influencing loss in profit margin?	100.0%	0.0%	100.0%
		% within Due to scarcity of technical skills within the LPG industry there are a limited number of contractors. Are you concerned that confidential information could be leaked ?	84.6%	0.0%	73.3%
		% of Total	73.3%	0.0%	73.3%
	No	Count	2	2	4
		% within Is current variation order influencing loss in profit margin?	50.0%	50.0%	100.0%
		% within Due to scarcity of technical skills within the LPG industry there are a limited number of contractors. Are you concerned that confidential information could be leaked ?	15.4%	100.0%	26.7%
		% of Total	13.3%	13.3%	26.7%
Total	Count		13	2	15
	% within Is current variation order influencing loss in profit margin?		86.7%	13.3%	100.0%
	% within Due to scarcity of technical skills within the LPG industry there are a limited number of contractors. Are you concerned that confidential information could be leaked ?		100.0%	100.0%	100.0%
	% of Total		86.7%	13.3%	100.0%

Fischer's Exact Test (p=0.057;0.057)

The 'p' value between 'Is current variation order influencing loss in profit margin' and "Due to scarcity of technical skills within the LPG industry there are a limited number

of contractors. Are you concerned that confidential information could be leaked?" is 0.057. There is no significant relationship between these two variables. That is, due to the scarcity of technical skills within the LPG industry there are a limited number of contractors and thus the concern that confidential information could be leaked has no significant role in terms of how respondents viewed variation order influence on loss of profit margin. This is in keeping with the study by Laradi *et al.,* (2015).

Table 4.24 Would insourcing / outsourcing result in more focus?

			Due to scarcity of technical skills within the LPG industry there are a limited number of contractors. Are you concerned that confidential information could be leaked?		Total
			Yes	No	
Would insourcing or outsourcing result in having more focus and dedication to each task	Insourcing	Count	6	2	8
		% within Would insourcing or outsourcing result in having more focus and dedication to each task	75.0%	25.0%	100.0%
		% within Due to scarcity of technical skills within the LPG industry there are a limited number of contractors. Are you concerned that confidential information could be leaked?	46.2%	100.0%	53.3%
		% of Total	40.0%	13.3%	53.3%
	Outsourcing	Count	7	0	7
		% within Would insourcing or outsourcing result in having more focus and dedication to each task	100.0%	0.0%	100.0%
		% within Due to scarcity of technical skills within the LPG industry there are a limited number of contractors. Are you concerned that confidential information could be leaked ?	53.8%	0.0%	46.7%
		% of Total	46.7%	0.0%	46.7%
Total	Count		13	2	15

	% within Would insourcing or outsourcing result in having more focus and dedication to each task	86.7%	13.3%	100.0%
	% within Due to scarcity of technical skills within the LPG industry there are a limited number of contractors. Are you concerned that confidential information could be leaked ?	100.0%	100.0%	100.0%
	% of Total	86.7%	13.3%	100.0%

Fischer's Exact Test (*p*=0.467;0.267)

The 'p' value between 'Would in sourcing or out sourcing result in having more focus and dedication' and "Due to scarcity of technical skills within the LPG industry there are a limited number of contractors. Are you concerned that confidential information could be leaked ?" is 0.467 and 0.267. There is no significant relationship between these two variables. That is, due to the scarcity of technical skills within the LPG industry there are a limited number of contractors and thus the concern that confidential information could be leaked has no significant role in terms of how respondents viewed the result in sourcing or outsourcing would have on focus and dedication. This is in keeping with the studies by Sanders *et al.,* (2007) and Laradi *et al.,* (2015).

Table 4.25 Can outsourcing process cause delays & biasness?

			Due to scarcity of technical skills within the LPG industry there are a limited number of contractors. Are you concerned that confidential information could be leaked?		Total
			Yes	No	
The outsourcing process is often accompanied by significant delays in response to communications and action. Are you concerned that outsources contractors	Yes	Count	10	1	11
		% within The outsourcing process is often accompanied by significant delays in response to communications and action. Are you concerned that outsources contractors choose which work to prioritise due to their preferred interest, thus causing biasness.	90.9%	9.1%	100.0%
		% within Due to scarcity of technical skills within the LPG industry there are a limited number of contractors. Are you concerned that confidential	83.3%	50.0%	78.6%

choose which work to prioritise due to their preferred interest, thus causing biasness.		information could be leaked ?			
		% of Total	71.4%	7.1%	78.6%
	No	Count	2	1	3
		% within The outsourcing process is often accompanied by significant delays in response to communications and action. Are you concerned that outsources contractors choose which work to prioritise due to their preferred interest, thus causing biasness.	66.7%	33.3%	100.0%
		% within Due to scarcity of technical skills within the LPG industry there are a limited number of contractors. Are you concerned that confidential information could be leaked ?	16.7%	50.0%	21.4%
		% of Total	14.3%	7.1%	21.4%
Total	Count		12	2	14
	% within The outsourcing process is often accompanied by significant delays in response to communications and action. Are you concerned that outsources contractors choose which work to prioritise due to their preferred interest, thus causing biasness.		85.7%	14.3%	100.0%
	% within Due to scarcity of technical skills within the LPG industry there are a limited number of contractors. Are you concerned that confidential information could be leaked ?		100.0%	100.0%	100.0%
	% of Total		85.7%	14.3%	100.0%

Fischer's Exact Test (*p*=0.396;0.396)

The 'p' value between 'The outsourcing process is often accompanied by significant delays in response to communications and action. Are you concerned that outsources contractors choose which work to prioritise due to their preferred interest, thus causing biasness' and "Due to scarcity of technical skills within the LPG industry there are a limited number of contractors. Are you concerned that confidential information could be leaked ?" is 0.396. There is no significant relationship between these two variables. That is, due to the scarcity of technical skills within the LPG industry there are a limited number of contractors and thus the concern that confidential information could be leaked has no significant role in terms of how respondents viewed delays in response to communications and action in outsourcing

resulting in contractor biasness. This is in keeping with the studies by Maley *et al.,* (2015) and Laradi *et al.,* (2015).

Table 4.26 Are SLA's strictly enforced?

			Due to scarcity of technical skills within the LPG industry there are a limited number of contractors. Are you concerned that confidential information could be leaked?		Total
			Yes	No	
Does the company use and strictly enforces penalty clauses to ensure SLA's are met?	Yes	Count	3	0	3
		% within Does the company use and strictly enforces penalty clauses to ensure SLA's are met?	100.0%	0.0%	100.0%
		% within Due to scarcity of technical skills within the LPG industry there are a limited number of contractors. Are you concerned that confidential information could be leaked ?	23.1%	0.0%	20.0%
		% of Total	20.0%	0.0%	20.0%
	Do not know	Count	3	1	4
		% within Does the company use and strictly enforces penalty clauses to ensure SLA's are met?	75.0%	25.0%	100.0%
		% within Due to scarcity of technical skills within the LPG industry there are a limited number of contractors. Are you concerned that confidential information could be leaked ?	23.1%	50.0%	26.7%
		% of Total	20.0%	6.7%	26.7%
	No	Count	7	1	8
		% within Does the company use and strictly enforces penalty clauses to ensure SLA's are met?	87.5%	12.5%	100.0%
		% within Due to scarcity of technical skills within the LPG industry there are a limited number of contractors. Are you concerned that confidential information could be leaked ?	53.8%	50.0%	53.3%

		% of Total	46.7%	6.7%	53.3%
Total	Count		13	2	15
	% within Does the company use and strictly enforces penalty clauses to ensure SLA's are met?		86.7%	13.3%	100.0%
	% within Due to scarcity of technical skills within the LPG industry there are a limited number of contractors. Are you concerned that confidential information could be leaked ?		100.0%	100.0%	100.0%
	% of Total		86.7%	13.3%	100.0%

Fischer's Exact Test (*p*=1.000)

The 'p' value between 'Does the company use and strictly enforces penalty clauses to ensure SLA's are met?' and "Due to scarcity of technical skills within the LPG industry there are a limited number of contractors. Are you concerned that confidential information could be leaked?" is 1.000. There is no significant relationship between these two variables. That is, due to the scarcity of technical skills within the LPG industry there are a limited number of contractors and thus the concern that confidential information could be leaked has no significant role in terms of how respondents viewed how the company enforces penalty clauses to ensure SLA'S are met. This is in keeping with the study by Laradi *et al.,* (2015).

Table 4.27 Does outsourcing impact reputation and quality of work?

			Due to scarcity of technical skills within the LPG industry there are a limited number of contractors. Are you concerned that confidential information could be leaked?		Total
			Yes	No	
Does current outsourcing have any impact	Yes	Count	13	2	15
		% within Does current outsourcing have any impact on the Company's reputation and quality of work?	86.7%	13.3%	100.0%
		% within Due to scarcity of technical skills within the LPG industry there are a limited number of contractors. Are you concerned that confidential	100.0%	100.0%	100.0%

on the Company's reputation and quality of work?		information could be leaked ?			
		% of Total	86.7%	13.3%	100.0%
Total	Count		13	2	15
	% within Does current outsourcing have any impact on the Company's reputation and quality of work?		86.7%	13.3%	100.0%
	% within Due to scarcity of technical skills within the LPG industry there are a limited number of contractors. Are you concerned that confidential information could be leaked ?		100.0%	100.0%	100.0%
	% of Total		86.7%	13.3%	100.0%

No stats, thus in conclusion to "Due to scarcity of technical skills within the LPG industry there are a limited number of contractors. Are you concerned that confidential information could be leaked?" at Oryx Energies it is evident by the above Tables 4.19 to 4.27 that scarcity of technical skills has no significant effect on the factors above. This is in keeping with the study by Weele (2005) and Laradi *et al.,* (2015).

4.15.3. Is current variation order influencing loss in profit margin?

Table 4.28 Achieving lower costs

			Is current variation order influencing loss in profit margin?		Total
			Yes	No	
Achieving lower costs	Weak	Count	2	0	2
		% within Achieving lower costs	100.0%	0.0%	100.0%

		% within Is current variation order influencing loss in profit margin?	18.2%	0.0%	13.3%
		% of Total	13.3%	0.0%	13.3%
	Strong	Count	2	3	5
		% within Achieving lower costs	40.0%	60.0%	100.0%
		% within Is current variation order influencing loss in profit margin?	18.2%	75.0%	33.3%
		% of Total	13.3%	20.0%	33.3%
	Very strong	Count	7	1	8
		% within Achieving lower costs	87.5%	12.5%	100.0%
		% within Is current variation order influencing loss in profit margin?	63.6%	25.0%	53.3%
		% of Total	46.7%	6.7%	53.3%
Total		Count	11	4	15
		% within Achieving lower costs	73.3%	26.7%	100.0%
		% within Is current variation order influencing loss in profit margin?	100.0%	100.0%	100.0%
		% of Total	73.3%	26.7%	100.0%

Fischer's Exact Test (p=0.185)

The 'p' value between 'Achieving lower costs' and "Is current variation order influencing loss in profit margin" is 0.185. There is no significant relationship between these two variables. That is, current variation order influencing loss in profit margin has no significant role in terms of how respondents viewed achieving lower costs. This is in keeping with the studies by Lacity and Hirschheum (1993) and Feng and Lu (2012).

Table 4.29 Less capital expenditure

			Is current variation order influencing loss in profit margin?		Total
			Yes	No	
Less capital	Very	Count	1	0	1

expenditure	weak	% within Less capital expenditure	100.0%	0.0%	100.0%
		% within Is current variation order influencing loss in profit margin?	9.1%	0.0%	6.7%
		% of Total	6.7%	0.0%	6.7%
	Weak	Count	1	1	2
		% within Less capital expenditure	50.0%	50.0%	100.0%
		% within Is current variation order influencing loss in profit margin?	9.1%	25.0%	13.3%
		% of Total	6.7%	6.7%	13.3%
	Strong	Count	6	2	8
		% within Less capital expenditure	75.0%	25.0%	100.0%
		% within Is current variation order influencing loss in profit margin?	54.5%	50.0%	53.3%
		% of Total	40.0%	13.3%	53.3%
	Very strong	Count	3	1	4
		% within Less capital expenditure	75.0%	25.0%	100.0%
		% within Is current variation order influencing loss in profit margin?	27.3%	25.0%	26.7%
		% of Total	20.0%	6.7%	26.7%
Total	Count		11	4	15
	% within Less capital expenditure		73.3%	26.7%	100.0%
	% within Is current variation order influencing loss in profit margin?		100.0%	100.0%	100.0%
	% of Total		73.3%	26.7%	100.0%

Fischer's Exact Test (p=1.000)

The 'p' value between 'Less capital expenditure' and "Is current variation order influencing loss in profit margin" is 1.000. There is no significant relationship between these two variables. That is, current variation order influencing loss in profit margin has no significant role in terms of how respondents viewed less capital expenditure. This is in keeping with the study by Gareiss (2002).

Table 4.30 Focus on core competencies

			Is current variation order influencing loss in profit margin?		Total
			Yes	No	
Focus on core competencies	Very weak	Count	0	1	1
		% within Focus on core competencies	0.0%	100.0%	100.0%
		% within Is current variation order influencing loss in profit margin?	0.0%	25.0%	6.7%
		% of Total	0.0%	6.7%	6.7%
	Strong	Count	3	2	5
		% within Focus on core competencies	60.0%	40.0%	100.0%
		% within Is current variation order influencing loss in profit margin?	27.3%	50.0%	33.3%
		% of Total	20.0%	13.3%	33.3%
	Very strong	Count	8	1	9
		% within Focus on core competencies	88.9%	11.1%	100.0%
		% within Is current variation order influencing loss in profit margin?	72.7%	25.0%	60.0%
		% of Total	53.3%	6.7%	60.0%
Total	Count		11	4	15
	% within Focus on core competencies		73.3%	26.7%	100.0%
	% within Is current variation order influencing loss in profit margin?		100.0%	100.0%	100.0%
	% of Total		73.3%	26.7%	100.0%

Fischer's Exact Test (*p*=0.204)

The 'p' value between 'Focus on core competencies' and "Is current variation order influencing loss in profit margin" is 0.204. There is no significant relationship between these two variables. That is, current variation order influencing loss in profit margin has no significant role in terms of how respondents viewed focus on core

competencies. This is in keeping with the studies by Porter (1996) and Gareiss (2002).

Table 4.31 Employment of Specialised skill

			Is current variation order influencing loss in profit margin?		Total
			Yes	No	
Employment of Specialised skill	Very weak	Count	1	1	2
		% within Employment of Specialised skill	50.0%	50.0%	100.0%
		% within Is current variation order influencing loss in profit margin?	9.1%	25.0%	13.3%
		% of Total	6.7%	6.7%	13.3%
	Weak	Count	1	1	2
		% within Employment of Specialised skill	50.0%	50.0%	100.0%
		% within Is current variation order influencing loss in profit margin?	9.1%	25.0%	13.3%
		% of Total	6.7%	6.7%	13.3%
	Strong	Count	4	0	4
		% within Employment of Specialised skill	100.0%	0.0%	100.0%
		% within Is current variation order influencing loss in profit margin?	36.4%	0.0%	26.7%
		% of Total	26.7%	0.0%	26.7%
	Very strong	Count	5	2	7
		% within Employment of Specialised skill	71.4%	28.6%	100.0%
		% within Is current variation order influencing loss in profit margin?	45.5%	50.0%	46.7%
		% of Total	33.3%	13.3%	46.7%
Total	Count		11	4	15
	% within Employment of Specialised skill		73.3%	26.7%	100.0%
	% within Is current variation order influencing loss in profit margin?		100.0%	100.0%	100.0%

	% of Total	73.3%	26.7%	100.0%

Fischer's Exact Test (*p*=0.477)

The 'p' value between 'employment of specialised skill' and "Is current variation order influencing loss in profit margin" is 0.477. There is no significant relationship between these two variables. That is, current variation order influencing loss in profit margin has no significant role in terms of how respondents viewed employment of specialised skill. This is in keeping with the study by Soderberg *et al.,* (2017).

Table 4.32 Would insourcing or outsourcing result in more?

			Is current variation order influencing loss in profit margin?		Total
			Yes	No	
Would insourcing or outsourcing result in having more focus and dedication to each task	Insourcing	Count	5	3	8
		% within Would insourcing or outsourcing result in having more focus and dedication to each task	62.5%	37.5%	100.0%
		% within Is current variation order influencing loss in profit margin?	45.5%	75.0%	53.3%
		% of Total	33.3%	20.0%	53.3%
	Outsourcing	Count	6	1	7
		% within Would insourcing or outsourcing result in having more focus and dedication to each task	85.7%	14.3%	100.0%
		% within Is current variation order influencing loss in profit margin?	54.5%	25.0%	46.7%
		% of Total	40.0%	6.7%	46.7%
Total	Count		11	4	15

	% within Would insourcing or outsourcing result in having more focus and dedication to each task	73.3%	26.7%	100.0%
	% within Is current variation order influencing loss in profit margin?	100.0%	100.0%	100.0%
	% of Total	73.3%	26.7%	100.0%

Fischer's Exact Test (*p*=0.569;0.338)

The 'p' value between 'Would insourcing or outsourcing result in having more focus and dedication to each task ?' and "Is current variation order influencing loss in profit margin" is 0.569 and 0.338. There is no significant relationship between these two variables. That is, current variation order influencing loss in profit margin has no significant role in terms of how respondents viewed the result of insourcing or out sourcing on focus and dedication to each task. This in keeping with the studies by Feng and Lu (2012) and Soderberg *et al.,* (2017).

Table 4.33 Can outsourcing result in delays & biasness?

			Is current variation order influencing loss in profit margin?		Total
			Yes	No	
The outsourcing process is often accompanied by significant delays in response to communications and action. Are you concerned that outsources contractors choose which work to prioritise due to their	Yes	Count	8	3	11
		% within The outsourcing process is often accompanied by significant delays in response to communications and action. Are you concerned that outsources contractors choose which work to prioritise due to their preferred interest, thus causing biasness.	72.7%	27.3%	100.0%
		% within Is current variation order influencing loss in profit margin?	80.0%	75.0%	78.6%
		% of Total	57.1%	21.4%	78.6%
	No	Count	2	1	3
		% within The outsourcing process is often accompanied by significant delays in response to communications and action. Are you concerned that outsources contractors choose which work to prioritise due to their preferred interest, thus causing biasness.	66.7%	33.3%	100.0%

preferred interest, thus causing biasness.		% within Is current variation order influencing loss in profit margin?	20.0%	25.0%	21.4%
		% of Total	14.3%	7.1%	21.4%
Total	Count		10	4	14
	% within The outsourcing process is often accompanied by significant delays in response to communications and action. Are you concerned that outsources contractors choose which work to prioritise due to their preferred interest, thus causing biasness.		71.4%	28.6%	100.0%
	% within Is current variation order influencing loss in profit margin?		100.0%	100.0%	100.0%
	% of Total		71.4%	28.6%	100.0%

Fischer's Exact Test (*p*=1.000; 0.670)

The 'p' value between 'The outsourcing process is often accompanied by significant delays in response to communications and action. Are you concerned that outsources contractors choose which work to prioritise due to their preferred interest, thus causing biasness' and "Is current variation order influencing loss in profit margin" is 1.000 and 0.670. There is no significant relationship between these two variables. That is, current variation order influencing loss in profit margin has no significant role in terms of how respondents viewed delays in response to communications and action in outsourcing resulting in contractor biasness. This is in keeping with the studies by Engardio *et al.,* (2006) and Laradi *et al.,* (2015). .

Table 4.34 Is SLA's strictly enforced?

Is current variation order influencing loss in profit margin?	Total

			Yes	No	
Does the company use and strictly enforces penalty clauses to ensure SLA's are met?	Yes	Count	3	0	3
		% within Does the company use and strictly enforces penalty clauses to ensure SLA's are met?	100.0%	0.0%	100.0%
		% within Is current variation order influencing loss in profit margin?	27.3%	0.0%	20.0%
		% of Total	20.0%	0.0%	20.0%
	Do not know	Count	3	1	4
		% within Does the company use and strictly enforces penalty clauses to ensure SLA's are met?	75.0%	25.0%	100.0%
		% within Is current variation order influencing loss in profit margin?	27.3%	25.0%	26.7%
		% of Total	20.0%	6.7%	26.7%
	No	Count	5	3	8
		% within Does the company use and strictly enforces penalty clauses to ensure SLA's are met?	62.5%	37.5%	100.0%
		% within Is current variation order influencing loss in profit margin?	45.5%	75.0%	53.3%
		% of Total	33.3%	20.0%	53.3%
Total	Count		11	4	15
	% within Does the company use and strictly enforces penalty clauses to ensure SLA's are met?		73.3%	26.7%	100.0%
	% within Is current variation order influencing loss in profit margin?		100.0%	100.0%	100.0%
	% of Total		73.3%	26.7%	100.0%

Fischer's Exact Test (p=0.754)

The 'p' value between 'Does the company use and strictly enforces penalty clauses to ensure SLA's are met?' and "Is current variation order influencing loss in profit margin" is 0.754. There is no significant relationship between these two variables. That is, current variation order influencing loss in profit margin has no significant role in terms of how respondents viewed how the company enforces penalty clauses to ensure SLA's are met. This is in keeping with the study by Weele (2005) and Doval (2016).

Table 4.35 Can outsourcing impact reputation and quality of work?

			Is current variation order influencing loss in profit margin?		Total
			Yes	No	
Does current outsourcing have any impact on the Company's reputation and quality of work?	Yes	Count	11	4	15
		% within Does current outsourcing have any impact on the Company's reputation and quality of work?	73.3%	26.7%	100.0%
		% within Is current variation order influencing loss in profit margin?	100.0%	100.0%	100.0%
		% of Total	73.3%	26.7%	100.0%
Total	Count		11	4	15
	% within Does current outsourcing have any impact on the Company's reputation and quality of work?		73.3%	26.7%	100.0%
	% within Is current variation order influencing loss in profit margin?		100.0%	100.0%	100.0%
	% of Total		73.3%	26.7%	100.0%

No stats, thus in conclusion to "Is current variation order influencing loss in profit margin" at Oryx Energies it is evident by the above tables 4.28 to 4.35 that current variation orders has no significant effect on the factors above.

4.15.4. Would insourcing or outsourcing result in more focus?

Table 4.36 Achieving lower costs

			Would insourcing or outsourcing result in having more focus and dedication to each task		Total
			Insourcing	Outsourcing	
Achieving lower costs	Weak	Count	1	1	2
		% within Achieving lower costs	50.0%	50.0%	100.0%

		% within Would insourcing or outsourcing result in having more focus and dedication to each task	12.5%	14.3%	13.3%
		% of Total	6.7%	6.7%	13.3%
	Strong	Count	2	3	5
		% within Achieving lower costs	40.0%	60.0%	100.0%
		% within Would insourcing or outsourcing result in having more focus and dedication to each task	25.0%	42.9%	33.3%
		% of Total	13.3%	20.0%	33.3%
	Very strong	Count	5	3	8
		% within Achieving lower costs	62.5%	37.5%	100.0%
		% within Would insourcing or outsourcing result in having more focus and dedication to each task	62.5%	42.9%	53.3%
		% of Total	33.3%	20.0%	53.3%
Total	Count		8	7	15
	% within Achieving lower costs		53.3%	46.7%	100.0%
	% within Would insourcing or outsourcing result in having more focus and dedication to each task		100.0%	100.0%	100.0%
	% of Total		53.3%	46.7%	100.0%

Fischer's Exact Test (p=0.782)

The 'p' value between 'Achieving lower costs' and "Would insourcing or outsourcing result in having more focus and dedication to each task " is 0.782. There is no significant relationship between these two variables. That is, would insourcing or outsourcing result in having more focus and dedication to each task has no significant role in terms of how respondents viewed achieving lower costs. This is in keeping with the studies by Porter (1996) and Feng and Lu (2012) .

Table 4.37 Less capital expenditure

Would insourcing or outsourcing result in having more focus and dedication to each task	Total

			Insourcing	Outsourcing	
Less capital expenditure	Very weak	Count	1	0	1
		% within Less capital expenditure	100.0%	0.0%	100.0%
		% within Would insourcing or outsourcing result in having more focus and dedication to each task	12.5%	0.0%	6.7%
		% of Total	6.7%	0.0%	6.7%
	Weak	Count	1	1	2
		% within Less capital expenditure	50.0%	50.0%	100.0%
		% within Would insourcing or outsourcing result in having more focus and dedication to each task	12.5%	14.3%	13.3%
		% of Total	6.7%	6.7%	13.3%
	Strong	Count	5	3	8
		% within Less capital expenditure	62.5%	37.5%	100.0%
		% within Would insourcing or outsourcing result in having more focus and dedication to each task	62.5%	42.9%	53.3%
		% of Total	33.3%	20.0%	53.3%
	Very strong	Count	1	3	4
		% within Less capital expenditure	25.0%	75.0%	100.0%
		% within Would insourcing or outsourcing result in having more focus and dedication to each task	12.5%	42.9%	26.7%
		% of Total	6.7%	20.0%	26.7%
Total	Count		8	7	15
	% within Less capital expenditure		53.3%	46.7%	100.0%
	% within Would insourcing or outsourcing result in having more focus and dedication to each task		100.0%	100.0%	100.0%
	% of Total		53.3%	46.7%	100.0%

Fischer's Exact Test (*p*=0.678)

The 'p' value between 'Less capital expenditure' and "Would insourcing or outsourcing result in having more focus and dedication to each task " is 0.678. There

is no significant relationship between these two variables. That is, would insourcing or outsourcing result in having more focus and dedication to each task has no significant role in terms of how respondents viewed less capital expenditure. This is in keeping with the study by Gunasekaran *et al.,* (2015).

Table 4.38 Focus on core competencies

			Would insourcing or outsourcing result in having more focus and dedication to each task		Total
			Insourcing	Outsourcing	
Focus on core competencies	Very weak	Count	1	0	1
		% within Focus on core competencies	100.0%	0.0%	100.0%
		% within Would insourcing or outsourcing result in having more focus and dedication to each task	12.5%	0.0%	6.7%
		% of Total	6.7%	0.0%	6.7%
	Strong	Count	3	2	5
		% within Focus on core competencies	60.0%	40.0%	100.0%
		% within Would insourcing or outsourcing result in having more focus and dedication to each task	37.5%	28.6%	33.3%
		% of Total	20.0%	13.3%	33.3%
	Very strong	Count	4	5	9
		% within Focus on core competencies	44.4%	55.6%	100.0%
		% within Would insourcing or outsourcing result in having more focus and dedication to each task	50.0%	71.4%	60.0%
		% of Total	26.7%	33.3%	60.0%
Total	Count		8	7	15
	% within Focus on core competencies		53.3%	46.7%	100.0%
	% within Would insourcing or outsourcing result in having more focus and dedication to each task		100.0%	100.0%	100.0%
	% of Total		53.3%	46.7%	100.0%

Fischer's Exact Test (*p*=1.000)

The ‘p’ value between ‘Focus on core competencies’ and “Would insourcing or outsourcing result in having more focus and dedication to each task ” is 1.000. There is no significant relationship between these two variables. That is, would insourcing or outsourcing result in having more focus and dedication to each task has no significant role in terms of how respondents viewed focus on core competencies. This is in keeping with the studies by Porter (1996) and Aron and Singh (2005).

Table 4.39 Employment of Specialised skill

			Would insourcing or outsourcing result in having more focus and dedication to each task		Total
			Insourcing	Outsourcing	
Employment of Specialised skill	Very weak	Count	2	0	2
		% within Employment of Specialised skill	100.0%	0.0%	100.0%
		% within Would insourcing or outsourcing result in having more focus and dedication to each task	25.0%	0.0%	13.3%
		% of Total	13.3%	0.0%	13.3%
	Weak	Count	0	2	2
		% within Employment of Specialised skill	0.0%	100.0%	100.0%
		% within Would insourcing or outsourcing result in having more focus and dedication to each task	0.0%	28.6%	13.3%
		% of Total	0.0%	13.3%	13.3%
	Strong	Count	3	1	4
		% within Employment of Specialised skill	75.0%	25.0%	100.0%
		% within Would insourcing or outsourcing result in having more focus and dedication to each task	37.5%	14.3%	26.7%
		% of Total	20.0%	6.7%	26.7%
	Very strong	Count	3	4	7
		% within Employment of Specialised skill	42.9%	57.1%	100.0%
		% within Would insourcing or outsourcing result in having more focus and dedication to each task	37.5%	57.1%	46.7%
		% of Total	20.0%	26.7%	46.7%

Total	Count	8	7	15
	% within Employment of Specialised skill	53.3%	46.7%	100.0%
	% within Would insourcing or outsourcing result in having more focus and dedication to each task	100.0%	100.0%	100.0%
	% of Total	53.3%	46.7%	100.0%

Fischer's Exact Test (*p*=0.230)

The 'p' value between 'Employment of specialised skill' and "Would insourcing or outsourcing result in having more focus and dedication to each task " is 0.230. There is no significant relationship between these two variables. That is, would insourcing or outsourcing result in having more focus and dedication to each task has no significant role in terms of how respondents viewed employment of specialised skill. This is in keeping with the studies by Sanders *et al.,* (2007) and Laradi *et al.,* (2015**).**

Table 4.40 Can contractors choose work & cause biasness

			Would insourcing or outsourcing result in having more focus and dedication to each task		Total
			Insourcing	Outsourcing	
The outsourcing process is often accompanied by significant delays in response to communications and action. Are you concerned that outsources contractors choose which work to prioritise due to their preferred interest, thus causing biasness.	Yes	Count	6	5	11
		% within The outsourcing process is often accompanied by significant delays in response to communications and action. Are you concerned that outsources contractors choose which work to prioritise due to their preferred interest, thus causing biasness.	54.5%	45.5%	100.0%
		% within Would insourcing or outsourcing result in having more focus and dedication to each task	75.0%	83.3%	78.6%
		% of Total	42.9%	35.7%	78.6%
	No	Count	2	1	3
		% within The outsourcing process is often accompanied by significant delays in response to communications and action. Are you concerned that outsources contractors choose which work to prioritise due to their preferred interest, thus causing biasness.	66.7%	33.3%	100.0%

		% within Would insourcing or outsourcing result in having more focus and dedication to each task	25.0%	16.7%	21.4%
		% of Total	14.3%	7.1%	21.4%
Total	Count		8	6	14
	% within The outsourcing process is often accompanied by significant delays in response to communications and action. Are you concerned that outsources contractors choose which work to prioritise due to their preferred interest, thus causing biasness.		57.1%	42.9%	100.0%
	% within Would insourcing or outsourcing result in having more focus and dedication to each task		100.0%	100.0%	100.0%
	% of Total		57.1%	42.9%	100.0%

Fischer's Exact Test (*p*=1.000; 0.615)

The 'p' value between 'The outsourcing process is often accompanied by significant delays in response to communications and action. Are you concerned that outsources contractors choose which work to prioritise due to their preferred interest, thus causing biasness.' and "Would insourcing or outsourcing result in having more focus and dedication to each task " is 1.000 and 0.615. There is no significant relationship between these two variables. That is, would insourcing or outsourcing result in having more focus and dedication to each task has no significant role in terms of how respondents viewed delays in response to communications and action in outsourcing resulting in contractor biasness. This is in keeping with the study by Faremi *et al.,* (2017).

Table 4.41 Does the company use and strictly enforces SLA's?

			Would insourcing or outsourcing result in having more focus and dedication to each task		Total
			Insourcing	Outsourcing	
Does the company use and strictly enforces penalty clauses to	Yes	Count	1	2	3
		% within Does the company use and strictly enforces penalty clauses to ensure SLA's are met?	33.3%	66.7%	100.0%
		% within Would insourcing or outsourcing result in having more focus and dedication to each task	12.5%	28.6%	20.0%

ensure SLA's are met?		% of Total	6.7%	13.3%	20.0%
	Do not know	Count	3	1	4
		% within Does the company use and strictly enforces penalty clauses to ensure SLA's are met?	75.0%	25.0%	100.0%
		% within Would insourcing or outsourcing result in having more focus and dedication to each task	37.5%	14.3%	26.7%
		% of Total	20.0%	6.7%	26.7%
	No	Count	4	4	8
		% within Does the company use and strictly enforces penalty clauses to ensure SLA's are met?	50.0%	50.0%	100.0%
		% within Would insourcing or outsourcing result in having more focus and dedication to each task	50.0%	57.1%	53.3%
		% of Total	26.7%	26.7%	53.3%
Total	Count		8	7	15
	% within Does the company use and strictly enforces penalty clauses to ensure SLA's are met?		53.3%	46.7%	100.0%
	% within Would insourcing or outsourcing result in having more focus and dedication to each task		100.0%	100.0%	100.0%
	% of Total		53.3%	46.7%	100.0%

Fischer's Exact Test (p=0.648)

The 'p' value between 'Does the company use and strictly enforces penalty clauses to ensure SLA's are met?' and "Would in-sourcing or outsourcing result in having more focus and dedication to each task?" is 0.648. There is no significant relationship between these two variables. That is, would insourcing or outsourcing result in having more focus and dedication to each task has no significant role in terms of how respondents viewed how the company enforces penalty clauses to ensure SLA's are met. This is in keeping with the studies by Cali *et al.,* (2011) and Mwaniki (2016).

Table 4.42 Does outsourcing impact on reputation and quality of work?

			Would insourcing or outsourcing result in having more focus and dedication to each task		Total
			Insourcing	Outsourcing	
Does current outsourcing have any impact on the Company's reputation and quality of work?	Yes	Count	8	7	15
		% within Does current outsourcing have any impact on the Company's reputation and quality of work?	53.3%	46.7%	100.0%
		% within Would insourcing or outsourcing result in having more focus and dedication to each task	100.0%	100.0%	100.0%
		% of Total	53.3%	46.7%	100.0%
Total	Count		8	7	15
	% within Does current outsourcing have any impact on the Company's reputation and quality of work?		53.3%	46.7%	100.0%
	% within Would insourcing or outsourcing result in having more focus and dedication to each task		100.0%	100.0%	100.0%
	% of Total		53.3%	46.7%	100.0%

No Stats, thus in conclusion to "Would insourcing or outsourcing result in having more focus and dedication to each task and why" at Oryx Energies it is evident by the above tables 4.36 to 4.42 that either in-sourcing or outsourcing having more focus and dedication has no significant effect on the factors above.

4.15.5. Does outsourcing cause delays & biasness?

Table 4.43 Achieving lower costs

The outsourcing process is often accompanied by significant delays in response to communications and action.	Total

			Are you concerned that outsources contractors choose which work to prioritise due to their preferred interest, thus causing biasness.		
			Yes	No	
Achieving lower costs	Weak	Count	2	0	2
		% within Achieving lower costs	100.0%	0.0%	100.0%
		% within The outsourcing process is often accompanied by significant delays in response to communications and action. Are you concerned that outsources contractors choose which work to prioritise due to their preferred interest, thus causing biasness.	18.2%	0.0%	14.3%
		% of Total	14.3%	0.0%	14.3%
	Strong	Count	3	2	5
		% within Achieving lower costs	60.0%	40.0%	100.0%
		% within The outsourcing process is often accompanied by significant delays in response to communications and action. Are you concerned that outsources contractors choose which work to prioritise due to their preferred interest, thus causing biasness.	27.3%	66.7%	35.7%
		% of Total	21.4%	14.3%	35.7%
	Very strong	Count	6	1	7
		% within Achieving lower costs	85.7%	14.3%	100.0%
		% within The outsourcing process is often accompanied by significant delays in response to communications and action. Are you concerned that outsources contractors choose which work to prioritise due to their preferred interest, thus causing biasness.	54.5%	33.3%	50.0%
		% of Total	42.9%	7.1%	50.0%
Total	Count		11	3	14
	% within Achieving lower costs		78.6%	21.4%	100.0%
	% within The outsourcing process is often accompanied by significant delays in response to communications and action. Are you concerned that outsources contractors choose which work to prioritise due to their preferred interest, thus causing biasness.		100.0%	100.0%	100.0%

	% of Total	78.6%	21.4%	100.0%

Fischer's Exact Test (*p*=0.712)

The 'p' value between 'Achieving lower costs' and "The outsourcing process is often accompanied by significant delays in response to communications and action. Are you concerned that outsources contractors choose which work to prioritise due to their preferred interest, thus causing biasness." is 0.712. There is no significant relationship between these two variables. That is, the outsourcing process is often accompanied by significant delays in response to communications and action due to contractors choosing which work to prioritise due to their preferred interest, thus causing biasness has no significant role in terms of how respondents viewed achieving lower costs. This is in keeping with the studies by Feng and Lu (2012) and Soderberg *et al.,* (2017).

Table 4.44 Less capital expenditure

			The outsourcing process is often accompanied by significant delays in response to communications and action. Are you concerned that outsources contractors choose which work to prioritise due to their preferred interest, thus causing biasness.		Total
			Yes	No	
Less capital expenditure	Very weak	Count	1	0	1
		% within Less capital expenditure	100.0%	0.0%	100.0%
		% within The outsourcing process is often accompanied by significant delays in response to communications and action. Are you concerned that outsources contractors choose which work to prioritise due to their preferred interest, thus causing biasness.	9.1%	0.0%	7.1%
		% of Total	7.1%	0.0%	7.1%
	Weak	Count	2	0	2
		% within Less capital expenditure	100.0%	0.0%	100.0%

		% within The outsourcing process is often accompanied by significant delays in response to communications and action. Are you concerned that outsources contractors choose which work to prioritise due to their preferred interest, thus causing biasness.	18.2%	0.0%	14.3%
		% of Total	14.3%	0.0%	14.3%
	Strong	Count	6	2	8
		% within Less capital expenditure	75.0%	25.0%	100.0%
		% within The outsourcing process is often accompanied by significant delays in response to communications and action. Are you concerned that outsources contractors choose which work to prioritise due to their preferred interest, thus causing biasness.	54.5%	66.7%	57.1%
		% of Total	42.9%	14.3%	57.1%
	Very strong	Count	2	1	3
		% within Less capital expenditure	66.7%	33.3%	100.0%
		% within The outsourcing process is often accompanied by significant delays in response to communications and action. Are you concerned that outsources contractors choose which work to prioritise due to their preferred interest, thus causing biasness.	18.2%	33.3%	21.4%
		% of Total	14.3%	7.1%	21.4%
Total	Count		11	3	14
	% within Less capital expenditure		78.6%	21.4%	100.0%
	% within The outsourcing process is often accompanied by significant delays in response to communications and action. Are you concerned that outsources contractors choose which work to prioritise due to their preferred interest, thus causing biasness.		100.0%	100.0 %	100.0%
	% of Total		78.6%	21.4%	100.0%

Fischer's Exact Test (*p*=1.000)

The 'p' value between 'Less capital expenditure' and "The outsourcing process is often accompanied by significant delays in response to communications and action. Are you concerned that outsources contractors choose which work to prioritise due to their preferred interest, thus causing biasness." is 1.000. There is no significant relationship between these two variables. That is, the outsourcing process is often accompanied by significant delays in response to communications and action due to contractors choosing which work to prioritise due to their preferred interest, thus

causing biasness has no significant role in terms of how respondents viewed less capital expenditure. This is in keeping with the study by Laradi *et al.,* (2015).

Table 4.45 Focus on core competencies

			The outsourcing process is often accompanied by significant delays in response to communications and action. Are you concerned that outsources contractors choose which work to prioritise due to their preferred interest, thus causing biasness.		Total
			Yes	No	
Focus on core competencies	Very weak	Count	1	0	1
		% within Focus on core competencies	100.0%	0.0%	100.0%
		% within The outsourcing process is often accompanied by significant delays in response to communications and action. Are you concerned that outsources contractors choose which work to prioritise due to their preferred interest, thus causing biasness.	9.1%	0.0%	7.1%
		% of Total	7.1%	0.0%	7.1%
	Strong	Count	2	2	4
		% within Focus on core competencies	50.0%	50.0%	100.0%
		% within The outsourcing process is often accompanied by significant delays in response to communications and action. Are you concerned that outsources contractors choose which work to prioritise due to their preferred interest, thus causing biasness.	18.2%	66.7%	28.6%
		% of Total	14.3%	14.3%	28.6%
	Very strong	Count	8	1	9
		% within Focus on core competencies	88.9%	11.1%	100.0%
		% within The outsourcing process is often accompanied by significant delays in response to communications and action. Are you concerned that outsources contractors choose which work to prioritise due to their preferred interest, thus causing biasness.	72.7%	33.3%	64.3%
		% of Total	57.1%	7.1%	64.3%
Total	Count		11	3	14

	% within Focus on core competencies	78.6%	21.4%	100.0%
	% within The outsourcing process is often accompanied by significant delays in response to communications and action. Are you concerned that outsources contractors choose which work to prioritise due to their preferred interest, thus causing biasness.	100.0%	100.0%	100.0%
	% of Total	78.6%	21.4%	100.0%

Fischer's Exact Test (*p*=0.374)

The 'p' value between 'Focus on core competencies' and "The outsourcing process is often accompanied by significant delays in response to communications and action. Are you concerned that outsources contractors choose which work to prioritise due to their preferred interest, thus causing biasness." is 0.374. There is no significant relationship between these two variables. That is, the outsourcing process is often accompanied by significant delays in response to communications and action due to contractors choosing which work to prioritise due to their preferred interest, thus causing biasness has no significant role in terms of how respondents viewed focus on core competencies. This is in keeping with studies by Hamel and Prahalad (1990) and Soderberg *et al.,* (2017).

Table 4.46 Employment of Specialised skill

			The outsourcing process is often accompanied by significant delays in response to communications and action. Are you concerned that outsources contractors choose which work to prioritise due to their preferred interest, thus causing biasness.		Total
			Yes	No	
Employment of Specialised skill	Very weak	Count	2	0	2
		% within Employment of Specialised skill	100.0%	0.0%	100.0%
		% within The outsourcing process is often accompanied by significant delays in response to communications and action. Are you concerned that outsources contractors choose which work to prioritise due to their preferred interest, thus causing biasness.	18.2%	0.0%	14.3%
		% of Total	14.3%	0.0%	14.3%

	Weak	Count	1	0	1
		% within Employment of Specialised skill	100.0%	0.0%	100.0%
		% within The outsourcing process is often accompanied by significant delays in response to communications and action. Are you concerned that outsources contractors choose which work to prioritise due to their preferred interest, thus causing biasness.	9.1%	0.0%	7.1%
		% of Total	7.1%	0.0%	7.1%
	Strong	Count	2	2	4
		% within Employment of Specialised skill	50.0%	50.0%	100.0%
		% within The outsourcing process is often accompanied by significant delays in response to communications and action. Are you concerned that outsources contractors choose which work to prioritise due to their preferred interest, thus causing biasness.	18.2%	66.7%	28.6%
		% of Total	14.3%	14.3%	28.6%
	Very strong	Count	6	1	7
		% within Employment of Specialised skill	85.7%	14.3%	100.0%
		% within The outsourcing process is often accompanied by significant delays in response to communications and action. Are you concerned that outsources contractors choose which work to prioritise due to their preferred interest, thus causing biasness.	54.5%	33.3%	50.0%
		% of Total	42.9%	7.1%	50.0%
Total	Count		11	3	14
	% within Employment of Specialised skill		78.6%	21.4%	100.0%
	% within The outsourcing process is often accompanied by significant delays in response to communications and action. Are you concerned that outsources contractors choose which work to prioritise due to their preferred interest, thus causing biasness.		100.0%	100.0%	100.0%
	% of Total		78.6%	21.4%	100.0%

Fischer's Exact Test (p=0.615)

The 'p' value between 'Employment of specialised skill' and "The outsourcing process is often accompanied by significant delays in response to communications and action. Are you concerned that outsources contractors choose which work to prioritise due to their preferred interest, thus causing biasness." is 0.615. There is no significant relationship between these two variables. That is, the outsourcing process

is often accompanied by significant delays in response to communications and action due to contractors choosing which work to prioritise due to their preferred interest, thus causing biasness has no significant role in terms of how respondents viewed employment of specialised skill. This is in keeping with the study by Laradi *et al., (*2015).

Table 4.47 Does the company strictly SLA's?

			The outsourcing process is often accompanied by significant delays in response to communications and action. Are you concerned that outsources contractors choose which work to prioritise due to their preferred interest, thus causing biasness.		Total
			Yes	No	
Does the company use and strictly enforces penalty clauses to ensure SLA's are met?	Yes	Count	2	0	2
		% within Does the company use and strictly enforces penalty clauses to ensure SLA's are met?	100.0%	0.0%	100.0%
		% within The outsourcing process is often accompanied by significant delays in response to communications and action. Are you concerned that outsources contractors choose which work to prioritise due to their preferred interest, thus causing biasness.	18.2%	0.0%	14.3%
		% of Total	14.3%	0.0%	14.3%
	Do not know	Count	3	1	4
		% within Does the company use and strictly enforces penalty clauses to ensure SLA's are met?	75.0%	25.0%	100.0%
		% within The outsourcing process is often accompanied by significant delays in response to communications and action. Are you concerned that outsources contractors choose which work to prioritise due to their preferred interest, thus causing biasness.	27.3%	33.3%	28.6%
		% of Total	21.4%	7.1%	28.6%
	No	Count	6	2	8
		% within Does the company use and strictly enforces penalty	75.0%	25.0%	100.0%

		clauses to ensure SLA's are met?			
		% within The outsourcing process is often accompanied by significant delays in response to communications and action. Are you concerned that outsources contractors choose which work to prioritise due to their preferred interest, thus causing biasness.	54.5%	66.7%	57.1%
		% of Total	42.9%	14.3%	57.1%
Total	Count		11	3	14
	% within Does the company use and strictly enforces penalty clauses to ensure SLA's are met?		78.6%	21.4%	100.0%
	% within The outsourcing process is often accompanied by significant delays in response to communications and action. Are you concerned that outsources contractors choose which work to prioritise due to their preferred interest, thus causing biasness.		100.0%	100.0%	100.0%
	% of Total		78.6%	21.4%	100.0%

Fischer's Exact Test (*p*=1.000)

The 'p' value between 'Does the company use and strictly enforces penalty clauses to ensure SLA's are met?' and "The outsourcing process is often accompanied by significant delays in response to communications and action. Are you concerned that outsources contractors choose which work to prioritise due to their preferred interest, thus causing biasness." is 1.000. There is no significant relationship between these two variables. That is, the outsourcing process is often accompanied by significant delays in response to communications and action due to contractors choosing which work to prioritise due to their preferred interest, thus causing biasness has no significant role in terms of how respondents viewed how the company enforces penalty clauses to ensure SLA's are met. This is in keeping with the studies by Sanders *et al.,* (2007) and Doval (2016).

Table 4.48 Does outsourcing impact on reputation and quality of work?

The outsourcing process is often accompanied by significant delays in response to communications and action. Are you concerned that outsources contractors choose which work to prioritise due to their preferred interest, thus causing biasness	Total

			Yes	No	
Does current outsourcing have any impact on the Company's reputation and quality of work?	Yes	Count	11	3	14
		% within Does current outsourcing have any impact on the reputation and quality of work?	78.6%	21.4%	100.0%
		% within The outsourcing process is often accompanied by significant delays in response to communications and action. Are you concerned that outsources contractors choose which work to prioritise due to their preferred interest, thus causing biasness.	100.0%	100.0%	100.0%
		% of Total	78.6%	21.4%	100.0%
Total		Count	11	3	14
		% within Does current outsourcing have any impact on reputation and quality of work?	78.6%	21.4%	100.0%
		% within The outsourcing process is often accompanied by significant delays in response to communications and action. Are you concerned that outsources contractors choose which work to prioritise due to their preferred interest, thus causing biasness.	100.0%	100.0%	100.0%
		% of Total	78.6%	21.4%	100.0%

No Stats, thus in conclusion to "The outsourcing process is often accompanied by significant delays in response to communications and action. Are you concerned that outsources contractors choose which work to prioritise due to their preferred interest, thus causing biasness." at Oryx Energies it is evident by the above tables 4.43 to 4.48 that outsourcing process delay in response to communications and actions has no significant effect on the factors above. This is in keeping with the study by Cali *et al.,* (2015).

4.15.6. Is SLA's strictly enforced?

Table 4.49 Achieving lower costs

			Does the company use and strictly enforces penalty clauses to ensure SLA's are met?			Total
			Yes	Do not know	No	
Achieving lower costs	Weak	Count	0	1	1	2
		% within Achieving lower costs	0.0%	50.0%	50.0%	100.0%
		% within Does the company use and strictly enforces penalty clauses to ensure SLA's are met?	0.0%	25.0%	12.5%	13.3%
		% of Total	0.0%	6.7%	6.7%	13.3%
	Strong	Count	0	2	3	5
		% within Achieving lower costs	0.0%	40.0%	60.0%	100.0%
		% within Does the company use and strictly enforces penalty clauses to ensure SLA's are met?	0.0%	50.0%	37.5%	33.3%
		% of Total	0.0%	13.3%	20.0%	33.3%
	Very strong	Count	3	1	4	8
		% within Achieving lower costs	37.5%	12.5%	50.0%	100.0%
		% within Does the company use and strictly enforces penalty clauses to ensure SLA's are met?	100.0%	25.0%	50.0%	53.3%
		% of Total	20.0%	6.7%	26.7%	53.3%
Total	Count		3	4	8	15
	% within Achieving lower costs		20.0%	26.7%	53.3%	100.0%
	% within Does the company use and strictly enforces penalty clauses to ensure SLA's are met?		100.0%	100.0%	100.0%	100.0%
	% of Total		20.0%	26.7%	53.3%	100.0%

Fischer's Exact Test (p=0.531)

The 'p' value between 'Achieving lower costs' and "Does the company use and strictly enforces penalty clauses to ensure SLA's are met" is 0.531. There is no significant relationship between these two variables. That is, does the company use and strictly enforces penalty clauses to ensure SLA'S are met has no significant role

in terms of how respondents viewed achieving lower costs. This is in keeping with the studies by Gareiss (2002) and Gunasekaran *et al.,* (2015).

Table 4.50 Less capital expenditure

			Does the company use and strictly enforces penalty clauses to ensure SLA's are met?			Total
			Yes	Do not know	No	
Less capital expenditure	Very weak	Count	0	1	0	1
		% within Less capital expenditure	0.0%	100.0%	0.0%	100.0%
		% within Does the company use and strictly enforces penalty clauses to ensure SLA's are met?	0.0%	25.0%	0.0%	6.7%
		% of Total	0.0%	6.7%	0.0%	6.7%
	Weak	Count	0	0	2	2
		% within Less capital expenditure	0.0%	0.0%	100.0%	100.0%
		% within Does the company use and strictly enforces penalty clauses to ensure SLA's are met?	0.0%	0.0%	25.0%	13.3%
		% of Total	0.0%	0.0%	13.3%	13.3%
	Strong	Count	2	3	3	8
		% within Less capital expenditure	25.0%	37.5%	37.5%	100.0%
		% within Does the company use and strictly enforces penalty clauses to ensure SLA's are met?	66.7%	75.0%	37.5%	53.3%
		% of Total	13.3%	20.0%	20.0%	53.3%
	Very strong	Count	1	0	3	4
		% within Less capital expenditure	25.0%	0.0%	75.0%	100.0%
		% within Does the company use and strictly enforces penalty clauses to ensure SLA's are met?	33.3%	0.0%	37.5%	26.7%
		% of Total	6.7%	0.0%	20.0%	26.7%
Total	Count		3	4	8	15

	% within Less capital expenditure	20.0%	26.7%	53.3%	100.0%
	% within Does the company use and strictly enforces penalty clauses to ensure SLA's are met?	100.0%	100.0%	100.0%	100.0%
	% of Total	20.0%	26.7%	53.3%	100.0%

Fischer's Exact Test (*p*=0.498)

The 'p' value between 'Less capital expenditure' and "Does the company use and strictly enforces penalty clauses to ensure SLA's are met" is 0.498. There is no significant relationship between these two variables. That is, does the company use and strictly enforces penalty clauses to ensure SLA'S are met has no significant role in terms of how respondents viewed less capital expenditure. This is in keeping with the studies by Feng and Lu (2012) and Gunasekaran *et al.,* (2015).

Table 4.51 Focus on core competencies

			Does the company use and strictly enforces penalty clauses to ensure SLA's are met?			Total
			Yes	Do not know	No	
Focus on core competencies	Very weak	Count	0	0	1	1
		% within Focus on core competencies	0.0%	0.0%	100.0%	100.0%
		% within Does the company use and strictly enforces penalty clauses to ensure SLA's are met?	0.0%	0.0%	12.5%	6.7%
		% of Total	0.0%	0.0%	6.7%	6.7%
	Strong	Count	1	2	2	5
		% within Focus on core competencies	20.0%	40.0%	40.0%	100.0%
		% within Does the company use and strictly enforces penalty clauses to ensure SLA's are met?	33.3%	50.0%	25.0%	33.3%
		% of Total	6.7%	13.3%	13.3%	33.3%
	Very strong	Count	2	2	5	9
		% within Focus on core competencies	22.2%	22.2%	55.6%	100.0%

		% within Does the company use and strictly enforces penalty clauses to ensure SLA's are met?	66.7%	50.0%	62.5%	60.0%
		% of Total	13.3%	13.3%	33.3%	60.0%
Total	Count		3	4	8	15
	% within Focus on core competencies		20.0%	26.7%	53.3%	100.0%
	% within Does the company use and strictly enforces penalty clauses to ensure SLA's are met?		100.0%	100.0%	100.0%	100.0%
	% of Total		20.0%	26.7%	53.3%	100.0%

Fischer's Exact Test (*p*=0.888)

The 'p' value between 'Focus on core competencies' and "Does the company use and strictly enforces penalty clauses to ensure SLA's are met" is 0.888. There is no significant relationship between these two variables. That is, does the company use and strictly enforces penalty clauses to ensure SLA'S are met has no significant role in terms of how respondents viewed focus on core competencies. This is in keeping with the studies by Porter (1996) and Gunasekaran *et al.,* (2015).

Table 4.52 Employment of Specialised skill

			Does the company use and strictly enforces penalty clauses to ensure SLA's are met?			Total
			Yes	Do not know	No	
Employment of Specialised skill	Very weak	Count	0	1	1	2
		% within Employment of Specialised skill	0.0%	50.0%	50.0%	100.0%
		% within Does the company use and strictly enforces penalty clauses to ensure SLA's are met?	0.0%	25.0%	12.5%	13.3%
		% of Total	0.0%	6.7%	6.7%	13.3%
	Weak	Count	1	0	1	2
		% within Employment of Specialised skill	50.0%	0.0%	50.0%	100.0%
		% within Does the company use and strictly enforces penalty clauses to ensure SLA's are met?	33.3%	0.0%	12.5%	13.3%
		% of Total	6.7%	0.0%	6.7%	13.3%

	Strong	Count	0	1	3	4
		% within Employment of Specialised skill	0.0%	25.0%	75.0%	100.0%
		% within Does the company use and strictly enforces penalty clauses to ensure SLA's are met?	0.0%	25.0%	37.5%	26.7%
		% of Total	0.0%	6.7%	20.0%	26.7%
	Very strong	Count	2	2	3	7
		% within Employment of Specialised skill	28.6%	28.6%	42.9%	100.0%
		% within Does the company use and strictly enforces penalty clauses to ensure SLA's are met?	66.7%	50.0%	37.5%	46.7%
		% of Total	13.3%	13.3%	20.0%	46.7%
Total	Count		3	4	8	15
	% within Employment of Specialised skill		20.0%	26.7%	53.3%	100.0%
	% within Does the company use and strictly enforces penalty clauses to ensure SLA's are met?		100.0%	100.0%	100.0%	100.0%
	% of Total		20.0%	26.7%	53.3%	100.0%

Fischer's Exact Test (*p*=0.888)

The 'p' value between 'Employment of specialised skill' and "Does the company use and strictly enforces penalty clauses to ensure SLA's are met" is 0.888. There is no significant relationship between these two variables. That is, does the company use and strictly enforces penalty clauses to ensure SLA'S are met has no significant role in terms of how respondents viewed employment of specialised skill. This is in keeping with the studies by Laradi *et al.,* (2015) and Gunasekaran *et al.,* (2015).

Table 4.53 Does outsourcing impact reputation and quality of work?

	Does the company use and strictly enforces penalty clauses to ensure SLA's are met?			Total
	Yes	Do not know	No	

Does current outsourcing have any impact on the Company's	Yes	Count	3	4	8	15
		% within Does current outsourcing have any impact on the Company's reputation and quality of work?	20.0%	26.7%	53.3%	100.0%
		% within Does the company use and strictly enforces penalty clauses to ensure SLA's are met?	100.0%	100.0%	100.0%	100.0%
		% of Total	20.0%	26.7%	53.3%	100.0%
Total		Count	3	4	8	15
		% within Does current outsourcing have any impact on the Company's reputation and quality of work?	20.0%	26.7%	53.3%	100.0%
		% within Does the company use and strictly enforces penalty clauses to ensure SLA's are met?	100.0%	100.0%	100.0%	100.0%
		% of Total	20.0%	26.7%	53.3%	100.0%

No statistics, thus in conclusion to "Does the company use and strictly enforces penalty clauses to ensure SLA's are met?" at Oryx Energies it is evident by the above tables 4.49 to 4.53 that the companies penalty clauses has no significant effect on the factors above. This is in keeping with the study by Sanders *et al.,* (2007).

4.15.7. Does outsourcing impact reputation and quality of work?

- Achieving lower costs
- Less capital expenditure
- Focus on core competencies
- Employment of Specialised skill

All 4 cross tabulations above produced no stats due to the entire sample population of n=15 responding yes to the above question.

4.16 Correlations

Bivariate correlation was also performed on the (ordinal) data. The results are found in the appendix 4. The results indicate the following patterns.

Positive values indicate a directly proportional relationship between the variables and a negative value indicates an inverse relationship. All significant relationships are indicated by a * or **.

The greatest number of significant correlations (6) was found with “Accommodates seasonal peaks more effectively”. Which correlates values between “Allows greater control over whole operation” ; “Yields high levels of customer service”; “Allows Financial resources to be focused on core business”; “Permits tighter budgeting planning”; “More flexible to make strategic management decisions” and “Higher Service Levels” is 0.527; 0.543; 0.594; 0.731; 0.701 and 0.550 respectively. This is a directly related proportionality. Respondents indicate that the greater the control over the whole operation, the greater the effectiveness to accommodate seasonal peaks and vice versa. The same applies to:

The greater the levels of customer service, the greater the effectiveness to accommodate seasonal peaks and vice versa. The greater the effectiveness to accommodate seasonal peaks, the greater the amount allocated for financial resources to be focused on core business and vice versa. The greater the effectiveness to accommodate seasonal peaks, the greater the stringency of the budget planning and vice versa.

The greater the effectiveness to accommodate seasonal peaks, the greater the flexibility to make strategic management decisions and vice versa.

The greater the effectiveness to accommodate seasonal peaks, the greater the service levels and vice versa.

“Easier to enter new markets” was the second highest (5) significant correlations. “Easier to enter new markets” correlated values between “Allows Financial resources to be focused on core business”; “More flexible to make strategic management decisions”; “Higher Service Levels”; “More "Specialist" services” and “Accommodates seasonal peaks more effectively” is 0.692; 0.627; 0.696; 0.529 and 0.556 respectively. This is a directly related proportionality. Respondents indicate that the greater the effectiveness to accommodate seasonal peaks, the greater the ease to enter new markets and vice versa. The same applies to:

- The greater the ease to enter new markets, the greater the amount of Financial resources to be focused on core business and vice versa.
- The greater the ease to enter new markets, the greater the flexibility to make strategic management decisions and vice versa;
- The greater the ease to enter new markets, the higher the service levels and vice versa;
- The greater the ease to enter new markets, the greater the quantity of specialist services and vice versa.

“Utilising existing assets more effective” and “ More flexible to make strategic management decisions” both had (4) significant correlations each.

“Utilise existing assets more effective” correlates values between “allows greater control over whole operation” ; “Yields high levels of customer service”; “Fosters loyalty and identity within the company and with customers” and “Greater flexibility” as 0.673; 0.560; 0.519 and 0.569 respectively. This is a directly related proportionality. Respondents indicate that the greater the control over the whole operation, the use of existing assets becomes even more effective and vice versa. The same applies to:

- The higher the levels of customer service, the greater the use of existing assets effectiveness and vice versa;
- The greater the loyalty and identity within the company, the greater the use of existing assets effectiveness and vice versa;
- The greater the flexibility, the greater the use of existing assets effectively and vice versa.

“More flexible to make strategic management decisions” correlates values between “Utilise existing assets more effective”; “Allows Financial resources to be focused on core business”; “More Cost effective” and “Permits tighter budgeting planning” is 0.542; 0.577; 0.710 and 0.558 respectively. This is a directly related proportionality. Respondents indicate that the greater the flexibility to make strategic management decisions, the greater the use of existing assets effectively and vice versa. The same applies to:

- The greater the flexibility to make strategic management decisions, the greater the amount of financial resources to be focused on core business and vice versa.
- The greater the flexibility to make strategic management decisions, the greater the cost effectiveness and vice versa;
- The greater the flexibility to make strategic management decisions, the greater the stringency of budget planning and vice versa.

“Exploit greater management expertise of third party service providers” has (3) significant correlations. “Exploit greater management expertise of third party service providers” correlates values between “Allows greater control over whole operation” ; “Utilise in-house expertise” and “Fosters loyalty and identity within the company and with customers” is 0.721; 0.572 and 0.542 respectively. This is a directly related proportionality. Respondents indicate that the greater the control over the whole operation, the greater the use of management expertise of third party service providers and vice versa. The same applies to:

- The greater the use of in-house expertise, the greater the use of expertise of third party service providers and vice versa.
- The greater the control over the whole operation, the great the use of management expertise of third party service providers and vice versa.
- The greater the loyalty and identity within the company and with customers, the greater the management expertise of the party service providers and vice versa.

“Fosters loyalty and identity within the company and with customers”, “Greater flexibility”, “Allows Financial resources to be focused on core business”, “Less Industrial Relations Problems”, “Higher Service Levels” and “More "Specialist" services” all have 2 significant correlations each.

“Fosters loyalty and identity within the company and with customers” correlation value between “allows greater control over whole operation” and “utilise in house expertise” is 0.658 and 0.775 respectively. This is a directly related proportionality. Therefore respondents indicate that the greater the control over the whole operation the higher it fosters loyalty and identity within the company and with customers and

vice versa. The same applies to the utilisation of in house expertise between loyalty and identity within the company and with customers.

“Greater flexibility” correlates values between “Yields high levels of customer service” and “More cost effective” at 0.715 and 0.622 respectively. This is a directly related proportionality. Respondents indicate that the greater the flexibility, the higher the levels of customer service and vice verse. The same applies between more cost effective and Greater flexibility.

“Allows Financial resources to be focused on core business” correlates values between “Employment of Specialised skill” and “Utilise existing assets more effective” at 0.582 and 0.521 respectively. This is a directly related proportionality. Respondents indicate that the greater the employment of specialised skills, the greater the amount of financial resources will be focused on core business and vice versa. The same applies to: the greater the use of existing assets effectively, the greater the amount of financial resources will be focused on core business and vice versa.

“Less Industrial Relations Problems” correlates values between “Utilise in-house expertise” and “Fosters loyalty and identity within the company and with customers” at 0.782 and 0.687 respectively. This is a directly related proportionality. Respondents indicate that the greater the use of in house expertise, the greater the decrease in industrial relation problems and vice versa. The same applies to: the greater the loyalty and identity within the company and with customers the greater the decrease in industrial relation problems and vice versa.

“Higher Service Levels” correlates values between “Allows Financial resources to be focused on core business” and “More flexible to make strategic management decisions” is 0.736 and 0.636 respectively. This is a directly related proportionality. Respondents indicate that the greater the service levels, the greater amount of Financial resources to be focused on core business and vice versa. The same applies to: the greater the service levels, the greater the flexibility to make strategic management decisions and vice versa.

“More "Specialist" services” correlates values between “Allows Financial resources to be focused on core business” and “Higher Service Levels” is 0.684 and 0.694

respectively. This is a directly related proportionality. Respondents indicate that the greater the quantity of specialist services, the greater the amount of Financial resources to be focused on core business and vice versa. The same applies to: the greater the quantity of specialist services, the greater the level of service and vice versa.

The correlation value between “Allows greater control over whole operation” and “Yields high levels of customer service” is 0.701. This is a directly related proportionality. Respondents indicate that the greater the controls over the whole operation, the higher the yields of customer service, and vice versa.

4.17. Effect Size

Effect size is a measure of a relationship between a dependent numerical variable and how it is affected by independent categorical variables, which are interpreted using partial eta square values.

Dependent Variable: What percentage of business would you say you are losing because of high inaccurate costing?

Table 4.54 Tests of Between-Subjects Effects

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	
Corrected Model	1132.048[a]	9	125.783	0.777	0.655	0.636	
Intercept	1157.006	1	1157.006	7.151	0.056	0.641	
Q1	122.583	2	61.292	0.379	0.707	0.159	large effect
Q3	24.500	1	24.500	0.151	0.717	0.036	small to medium effect
Q5	232.510	1	232.510	1.437	0.297	0.264	large effect
Q6	158.127	1	158.127	0.977	0.379	0.196	large

							effect
Q7	16.667	1	16.667	0.103	0.764	0.025	small effect

The table indicates that Q1, Q5 and Q6 have large effects on the percentage of business that is being lost because of high inaccurate costing.

4.18. Chapter summary

This chapter collated the results of the study and analyses them using statistical techniques. The results was also interpreted and compared and contrasted against previous literature as mentioned in chapter 2.

CHAPTER FIVE

Conclusion and Recommendations

5.1 Introduction

Oryx Energies vision is to be the leader in the LPG business by moving to attractive market offers, by adjusting to the customer demand and by being profitable in the countries where we choose to operate. Its mission is to consolidate its position in the LPG market and commitment to forging long term partnerships with its customers, ensuring quality service is delivered efficiently and consistently. To provide an entrepreneurial environment where employees are able to reach their full potential and deliver on the company's objectives, standards and customer service principles. They wish to optimize their current business in order to keep a profitable growth while improving continuously our LPG offers & competitiveness on the market. The number of competitors within the LPG sector is constantly increasing and one needs to be agile to remain competitive and attain market share. Outsourcing of maintenance services appears to be the trend amongst the LPG sector. Outsourcing is seen by most companies as a cost-saving strategy where their non-core functions are outsourced to companies that provide these services as their core activities. Some critics i.e. Omar *et al.,* 2016; Cali *et al.,* 2015 and Gareisis 2002 say that this will increase loss of jobs but this has not deterred companies from using these strategies in business.

Insourcing on the other hand is taking control of the operation in-house as opposed to outsourcing. Outsourcing has many hidden costs and at times they become difficult to control therefore insourcing can be the needed solution to keep costs and operations in control. Companies also resort to insourcing when they are disappointed and dissatisfied with the outsourced company's services.

This chapter presents the specific findings relating to the research objectives, the limitations of the study and recommendations to the firm and for future research.

5.2Research conclusion

5.2.1 Objective one

The aim of research objective one was determining if the scarcity of skill impacts loss of current business. It was found that majority of the sample population were concerned that due to the scarcity of skills contractors can pass over critical key information to oppositions since most contractors work for more than one oil company due to the speciality of the industry. Our contractors may not have the company's best interests at heart and thus can destroy the relationship between the customer and Oryx Energies thus resulting in loss of business.

5.2.2 Objective Two

This objective focused on the impact of outsourcing on the following factors:

5.2.2.1 Reputation

The total sample population believes that the biggest asset of any business is its reputation. When a company's reputation is tarnished it can hurt the business negatively. Scandals normally occur due to unethical behaviour. This in turn has a major chain effect on the business and thus will impact their bottom line. The stock prices will surely fall and anxiety is created amongst the employees which will thus create low employee morale in the work place. This also can cause further scrutiny by the public and even government. Employee turnover will increase.

5.2.2.2 Costs

Outsourcing contractors have no specific or standardized rates that is regulated amongst contractors, thus discrepancy in cost is a common finding. Due to these high inaccurate costing, thus results in Oryx Energies profit margin decreasing. The implication of this is a ripple effect on company budgets, salaries, finances; time spent correcting the issue thus actually increasing cost to company.

5.2.2.3 Quality of work

The study found that above half of the sample population believed in-sourcing would result in more focus and dedication to the task whereas the remaining sample population favored outsourcing. This therefore suggests that in-sourcing results in better quality of work than outsourcing.

5.2.2.4 Timelines

Majority of the sample population agree that the outsourcing process is often accompanied by significant delays in response to communications, actions and contractors choose which work to prioritise due to their preferred interest, thus causing bias.

5.2.2.5 Variation orders

Majority of the sample population found that the current variation order results in a loss of profit margins.

5.2.3 Objective Three

The aim of research objective three is to clarify if the current outsourcing maintenance contractors show prejudice amongst different LPG supplies. It was unanimously found amongst the sample population that contractors possessed bias over certain suppliers is evident.

5.3. Implication of this research

This research study contributes to the growing body of outsourcing versus in-sourcing literature and is unique to the LPG industry. It substantiated the existing literature whilst providing deep insight into the nature of outsourcing maintenance functions and the broader LGP industry in which it operates. Most importantly, the study yielded practical understanding and information that could be used by Oryx Energies to guide its decision making and shape its future strategy.

5.4. Recommendations for Oryx Energies

These would be the current recommendation to implement now:

- Strict applications of SLA
- Pilot a hybrid system(combination of in-sourcing and outsourcing)
- We recommend involving other people within the company in the planning phase, except for only managers. This will enhance their motivation and make them feel more involved and they may also contribute with better practical solutions.

- Lastly, there should always be an exit strategy in place in order to create boundaries and safety if the contract would end. If possible the company could include training in the contract in order to avoid the possibility of losing information when ending the contract.

5.5. Recommendations for future studies

The follow are recommended:

- Larger sample size (questionnaire should be given to all staff not only to management)
- Questionnaire should be distributed by an independent source to all leading LPG companies.
- The financial impact must be considered. A cost exercise should be done as critical spares must be stocked within the company. The company can choose to have them located in every region or in a central location which can be accessed nationally.
- The transition will be critical and thus it is extremely crucial that all manpower, tools and strategies are all in place.
- Certain skills are more specialized than others, one needs to evaluate whether it is feasible to employ every skill needed since it may be seldom required.
- A study should be done on having a combination of both an internal & external team. Where the insourced team runs with routine day to day maintenance and an outsourced team runs with more complex and no routine projects which requires a more complex set of skills.
- Hybrid system should be the future study.

5.6. Limitations of the study

The following were the limitations:

- The results may not be conclusive because the sample size may be too small.
- The available date may be lacking which will affect the total scope of the research.

- When compiling the data, the answers received through the various contact processes must be taken at face value.

5.7. Summary

It is thus proposed that Oryx Energies redesign their internal polices, paradigms and procedures to ensure that contractors and management are aware of the implications on SLA's rules. Most respondents believe that insourcing will be more effective in terms of profit margins, timely response to clients, avoid biasness and the leakage of confidential information.

References

Aron, R. and Singh, J. 2005. Getting offshoring right. *Harvard Business Review,* vol. 83, no.12, pp. 135-143.

Barthelemy, J. and Quelin, B.V. 2006. Complexity of outsourcing contracts and ex post transaction costs: an empirical investigation. *Journal of Management Studies*, vol. 43, no. 8, pp. 1775-1797.

Bernard, H. R. 2000. *Social research methods: qualitative and quantitative approaches*. Sage Publications, California.

Broni-Bediako, E. and Dankwa, O.K. 2013. Assessment Of Liquefied Petroleum Gas (LPG) Utilisation In Ghana – A Study At Tarkwa. *International Journal of Scientific and Technology Research,* vol. 2, no. 9, pp. 6-10.

Cachon, G.P and Harker, P.T. 2002. Competition and outsourcing with sales economics. *Journal of Management Science*, vol. 48, no.10, pp. 1227-1368.

Cali, J., Cogswell, H., Buzwani, M., Ohadi, E., and Avila, C. 2016. Cost-benefit analysis of outsourcing cleaning services at Mahalapye hospital, Botswana. *Journal of Hospital Administration*, vol. 5, no. 1, pp, 114-124.

Creswell, J.W. 2014. *A concise introduction to mixed methods.* Sage Publications. California.

Cruz, A.M, Denis, E.R. and Sanchez, V.M. 2002. Management of service contracts using an independent service provider (ISP) as support technology. *Journal of Clinical Engineering*, vol. 27, pp, 202-209.

Doval, E. 2016. Is Outsourcing a Strategic Tool to Enhance. *Review of General Management*, vol. 23, no.1, pp. 78-87.

Drauz, R. 2014. Re-insourcing as a manufacturing-strategic option during a crisis—Cases from the automobile industry. *Journal of Business Research*, vol. 67, no.3, pp. 346-353 [Online].Available at: https://doi.org/10.1016/j.jbusres.2013.01.004 [Accessed 23 January 2018].

Embleton, P.R and Wright, P.C. 1998. A practical guide to successful outsourcing. *Empowerment in organizations*, vol. 6, no. 3, pp. 94-106.

Engardio, P., Arndt, M. and Foust, D. 2006. The future of outsourcing, Business Week, vol. 4, no. 1. January 30. Available 4/1/ 08: http://www.businessweek.com/magazine/content/ 06_05/b3969401.htm

Faremi, O. Adenuga, O. and Ameh, J. 2017. Maintenance management sourcing strategies and the condition of tertiary institution buildings in Lagos and Ogun States, Nigeria. *Ethiopian Journal of Environmental Studies and*

Management, vol. 10, no. 1. pp. 64-74. [Online]. Available at: http://dx.doi.org/10.4314/ejesm.v10i1.7 [Accessed 4 June 2018].

Feng, Q and Lu, L.X, 2012. The Strategic Perils of Low Cost Outsourcing. *Journal Management Science*, vol. 58, no. 6, pp.1-15 [Online]. Available at: https://doi.org/10.1287/mnsc.1110.1481 [Accessed 14 May 2018].

Fink, A. and Kosecoff, J. 1985. *How to conduct surveys: a step by step guide*. Sage Publications, California.

Gareiss, R. 2002. Analzying the outsourcers. *Information Week November 18.*

Gilbert, S.M, Xia, Y and Yu, G. 2006. Strategic outsourcing for competing OEMs that face cost reduction opportunities. *IIE Transactions*, vol. 38, no. 11, pp. 903-915.

Gunasekaran, A. Irani, Z. Choy, K. Filippi, L. and Papadopoulos, L, 2015. Performance measures and metrics in outsourcing decisions: A review for research and applications. *International Journal of Production Economics*. vol. 161, 153-166 [Online] Available at: https://doi.org/10.1016/j.ijpe.2014.12.021 [Accessed 13 June 2018].

Gupta, S., Woodside, A., Dubelaar, C. and Bradmoore, D. 2009. Diffusing knowledge based core competencies for leveraging innovation strategies: modelling outsourcing to knowledge process organization(KPO's) in pharmazeptical networks. *Journal of Industrial Marketing Management*, vol. 38, no. 2, pp. 219-227.

Hamel, G and Prahalad, C. K. 1993. The core competence of the corporation. Harvard Business school publishing corporation.

Handsfield, R. 2006. A Brief history of outsourcing, published online on June 1, 2006, https://scm.ncsu.edu/scm-articles/article/a-brief-history-of-outsourcing.

Hassan, M. A. 2015. *Research Population*. Retrieved September 29, 2015, from http://www.academia.edu/5563491/Research_Population

Hatonen, J and Eriksson, T. 2009. 30+ years of research and practice of outsourcing- Exploring the past and anticipating the future. *Journal of International Management,* vol.15, no. 2, pp. 142-155.

Imbuga, A.and Guyo, W. 2018. Influence of fleet management outsourcing on service delivery performance in Nairobi Bottlers Limited. *International Journal of Supply chain Management,* vol. 3, no. 1, pp. 46-59.

Ka včič, K. Gošnik, D. Beker, I. Suklan, J. 2015. How does Logistics Outsourcing Influence Organisation. *International Journal of Industrial Engineering and Management (IJIEM)*, vol. 6, no. 3, pp. 101-107 [Online]. Available at: www.iim.ftn.uns.ac.rs/ijiem_journal.php [Accessed 18 April 2018].

Lacity, M.C and Hirschheim, R. A. 1993. Information system outsourcing : Myths , Metaphors and Realities. John Wiley and sons. Inc. New York. USA.

Lacity, P.M. Yan, A. Khan, S. 2017. Review of 23 Years of Empirical Research on Information Technology. *In Proceedings of the 50th Hawaii International Conference on System Sciences*, pp 5214-5224.

Laradi, M. Olomolaiye, A. Douraid, A. 2015. Modeling Trading &Procurement Cycle Based on Insourcing and Outsourcing Strategy. *In International Conference on Operations Excellence and Service Engineering*, Florida, USA, 10-11 September 2015, pp440-448.

Levery, M. 1998. Outsourcing Maintenance- a question of strategy. *Journal of Engineering Management,* vol. 8, pp. 34-40.

Liu, Y and Tyagi, R. K. 2011. The Benefit of competitive upward channel decentralization. *Journal of management Science*. vol. 57, no. 4, pp. iv-795.

Lloyd, P. 2014. The status of LP gas industry in South Africa. *International conference on the Eleventh industrial and commercial use of energy.* August 19-20th , Cape Town, pp 2411-2432.

Maley, J. Kowalkowski, C. Brege, S. and Biggeman, S. 2015. Outsourcing maintenance in comple process industries- managing firm capabilities in lock-in effect. *Asia Pacific Journal of Marketing and Logistics*, vol. 27, no. 5, pp. 801-825.

Masmoudi, M. Houria, Z.B. Masmoudi, F. 2014. Multicriteria decision making for Medical equipment maintenance: Insourcing, outsourcing and service contract. *In International Conference on Control, Decision and Information Technologies (CoDIT)*, Metz, France, 3-5 November 2014, p 269.

Mclvor, R. 2000. A practical framework for understanding the outsourcing process. *International Journal of Supply Chain Management,* vol. 5, no.1, pp, 22-36.

Mclvor, R., 2005. *The outsourcing process*. Cambridge University Press, Cambridge, UK.

Mclvor, R., 2008. What is the right outsourcing strategy for your process. *Journal of European Management,* vol. 26, no. 1, pp. 24-34.

Mwaniki, L.W. 2016. Factors that influence the adoption of insorcing in public technical and vocational education and training institutes in Kiambu Country. *International Journal of Academic Research in Business and social sciences*, vol. 5, no. 7, pp. 112-122.

Nansaior, A.,Patanothai, A., Rambo, T and Simaraks, S. 2011. Climbing the energy ladder or diversitying energy sources? The continuing importance of household use of biomass energy in urbanizing communities in Northeast Thailand. *Biomass and Bioenergy,* vol. 35, no. 10, pp. 4180-4188.

Omar, A. Bass, J.M. and Lowit, P. 2016. Exploring the factors that influence the success of insourced government ICT projects. *Electronic Journal of Information Systems in Developing Countries*, vol. 77, no. 5, pp.1-22. [Online]. Available at: http://www.ejisdc.org/ojs2/index.php/ejisdc/articl... [Accessed 12 February 2018].

Oryx Energies. 2018. Oryx Energies [online] Available at: http://www.oryxenergies.com/. [Accessed 1 March 2018].

Porter, M.E. 1996. What is Strategy? *Harvard Business Review*, vol. 74, no. 6, pp. 61-79.

Quinn, J.B., 2000. Outsourcing innovation: the new engine of growth. *Sloan management review*, vol. 41, no. 4, pp.13.

Sanchis-Pedregosa, C. Palacin-Sanchez, M. J. and Gonzalez-Zamora, M.D.M. 2014. Exploring the financial impact of outsourcing services strategy on manufacturing firms. *Operations Management Research*, vol. 7, no. 3-4, pp. 77-85.

Sanders, M. Lewis, P. and Thornhill, A . 2009. *Research methods for business Students Always learning.* 5th Ed. Publisher Prentice Hall. New Jersey.

Sanders, N.R. Locke, A. Moore, C. and Autry, C.W. 2007. A multidimensional frame work for understanding outsourcing arrangements. *Journal of supply chain management,* vol. 43, no. 4, pp. 3-15.

Soderberg, L., Bengtsson, L.and Kaulio, M. 2017. A model for outsourcing and governing of maintenance within the process industry. *Operations Management Research,* vol. 10, pp. 20-32.

Stevenson, W.J. 2005. *Operations management* . 8th ed. McGraw-Hill, New York.

Tertychka, V. 2015. Insourcing or outsourcing for ex-ante and ex-post analysis in public policy- making.[online] Available at: http://ekmair.ukma.edu.ua/handle/123456789/11510.[Accesses 1 March 2018]

Weele, A. 2005. *Purchasing and Supply chain management: Analysis, Strategy, Planning and Practice*. 4th Ed. Thomson Learning, London

Willemse, I. 2009. *Statistical methods and calculation skills*. 3rd ed. Juta & Co. Cape Town.

Appendix 1 Questionnaire

1. Which level of management is responsible for making decisions regarding Outsourcing or insourcing in your company? Please tick the applicable box or boxes:
    - Board of Directors
    - Executive Management
    - Department Heads
    - Line Managers

2. In the case of outsourcing of the maintenance function, indicate the influence of the following factors are, or will be, on this decision:

	Very Weak	Weak	Strong	Very Strong
a) Achieving lower costs				
b) Less capital expenditure				
c) Focus on core competencies				
d) Employment of Specialised skill				

3. Due to scarcity of technical skills within the LPG industry there are a limited number of contractors. Are you concerned that confidential information could be leaked?
    - Yes
    - No

4. What percentage of business would you say you are losing because of high inaccurate costing?
    - <10%
    - !0 – 20%
    - 20 – 30%
    - 30 – 40%
    - 50 – 60%
    - 70 – 80%
    - >80%

5. Is current variation order influencing loss in profit margin?
    - Yes
    - No

6. Would insourcing or outsourcing result in having more focus and dedication to each task?

    - Insourcing
    - Outsourcing

7. The outsourcing process is often accompanied by significant delays in response to communications and action. Are you concerned that outsources contractors choose which work to prioritise due to their preferred interest, thus causing biasness?
    - Yes
    - No

8. Does the company use and strictly enforces penalty clauses to ensure SLA's are met?
    - Yes
    - No

9. In the case where you keep the maintenance function in-house, please indicate how important from a scale of 1 to 10 (1 being the least important and 10 being the most important) each of the following benefits are to your company:

    a. Allows greater control over whole operation
    b. Yields high levels of customer service
    c. More cost effective
    d. Utilise in-house expertise
    e. Fosters loyalty and identity within the company and with customers
    f. Greater flexibility
    g. Utilise existing assets more effective

10. In the case of outsourcing or potential outsourcing of the maintenance function, Please indicate how important from a scale of 1 to 10 (1 being the least important and 10 being the most important) each of the following benefits are, or will be, to your company:

a) Allows Financial resources to be focused on core business
b) More Cost effective
c) Permits tighter budgeting planning
d) Less Industrial Relations Problems
e) Exploit greater management expertise of third party service providers
f) More flexible to make strategic management decisions
g) Higher Service Levels
h) More "Specialist" services
i) Accommodates seasonal peaks more effectively
j) Easier to enter new markets

11. Does current outsourcing have any impact on the Company's reputation and quality of work?
    - Agree
    - Disagree

Appendix 2 Ethical clearance

UNIVERSITY OF KWAZULU-NATAL
INYUVESI YAKWAZULU-NATALI

12 October 2017

Mr Inderesan Govender (214567609)
Graduate School of Business & Leadership
Westville Campus

Dear Mr Govender,

Protocol reference number: HSS/1890/017M
Project title: The challenges regarding outsourcing of Key Maintenance functions in the Liquid Petroleum Gas Sector, South Africa

Approval Notification – Expedited Approval

In response to your application received on 03 October 2017, the Humanities & Social Sciences Research Ethics Committee has considered the abovementioned application and the protocol has been granted **FULL APPROVAL.**

Any alteration/s to the approved research protocol i.e. Questionnaire/Interview Schedule, Informed Consent Form, Title of the Project, Location of the Study, Research Approach and Methods must be reviewed and approved through the amendment/modification prior to its implementation. In case you have further queries, please quote the above reference number.

PLEASE NOTE: Research data should be securely stored in the discipline/department for a period of 5 years.

The ethical clearance certificate is only valid for a period of 3 years from the date of issue. Thereafter Recertification must be applied for on an annual basis.

I take this opportunity of wishing you everything of the best with your study.

Yours faithfully

.....
Dr Shenuka Singh (Chair)

/ms

Cc Supervisor: Dr Muhammad Hoque
Cc Academic Leader Research: Dr Emmanuel Mutambara
Cc School Administrator: Ms Zarina Bulliyraj

Humanities & Social Sciences Research Ethics Committee
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Appendix 3 Consent

UNIVERSITY OF KWAZULU-NATAL
GRADUATE SCHOOL OF BUSINESS AND LEADERSHIP

MBA Research Project
Researcher: Inderesan Govender (084 4012544)
Supervisor: Dr Muhammad Hoque (0312608690)
Research Office: Ms P Ximba 031-2603587

CONSENT

I LERATO MOGAADIE (full names of participant) hereby confirm that I understand the contents of this document and the nature of the research project, and I consent to participating in the research project.

I understand that I am at liberty to withdraw from the project at any time, should I so desire.

SIGNATURE OF PARTICIPANT ..... DATE 19 JUNE 2018

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UNIVERSITY OF KWAZULU-NATAL
GRADUATE SCHOOL OF BUSINESS AND LEADERSHIP

MBA Research Project
Researcher: Inderesan Govender (084 4012544)
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Research Office: Ms P Ximba 031-2603587

CONSENT

I...ERIKA-MLONDI SIBETHA.....(full names of participant) hereby confirm that I understand the contents of this document and the nature of the research project, and I consent to participating in the research project.

I understand that I am at liberty to withdraw from the project at any time, should I so desire.

SIGNATURE OF PARTICIPANT ..... DATE 05/06/2018.....

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Appendix 3 Consent

UNIVERSITY OF KWAZULU-NATAL
GRADUATE SCHOOL OF BUSINESS AND LEADERSHIP

MBA Research Project
Researcher: Inderesan Govender (084 4012544)
Supervisor: Dr Muhammad Hoque (0312608690)
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CONSENT

I.....Mxolisi Nkonyana.....(full names of participant) hereby confirm that I understand the contents of this document and the nature of the research project, and I consent to participating in the research project.

I understand that I am at liberty to withdraw from the project at any time, should I so desire.

SIGNATURE OF PARTICIPANT ..... DATE 29-06-2018

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Appendix 3 Consent

Appendix 3

UNIVERSITY OF KWAZULU-NATAL
GRADUATE SCHOOL OF BUSINESS AND LEADERSHIP

MBA Research Project
Researcher: Inderesan Govender (084 4012544)
Supervisor: Dr Muhammad Hoque (0312608690)
Research Office: Ms P Ximba 031-2603587

CONSENT

I.....SANDRA TERERA I.....(full names of participant) hereby confirm that I understand the contents of this document and the nature of the research project, and I consent to participating in the research project.

I understand that I am at liberty to withdraw from the project at any time, should I so desire.

SIGNATURE OF PARTICIPANT ..... DATE 19/06/2018

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UNIVERSITY OF KWAZULU-NATAL
GRADUATE SCHOOL OF BUSINESS AND LEADERSHIP

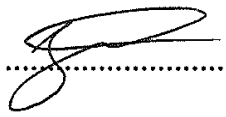
MBA Research Project
Researcher: Inderesan Govender (084 4012544)
Supervisor: Dr Muhammad Hoque (0312608690)
Research Office: Ms P Ximba 031-2603587

CONSENT

I, Zuko Madokwe (full names of participant) hereby confirm that I understand the contents of this document and the nature of the research project, and I consent to participating in the research project.

I understand that I am at liberty to withdraw from the project at any time, should I so desire.

SIGNATURE OF PARTICIPANT DATE



06-06-2018

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UNIVERSITY OF KWAZULU-NATAL
GRADUATE SCHOOL OF BUSINESS AND LEADERSHIP

MBA Research Project
Researcher: Inderesan Govender (084 4012544)
Supervisor: Dr Muhammad Hoque (0312608690)
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CONSENT

I, René Leandra Burgess (full names of participant) hereby confirm that I understand the contents of this document and the nature of the research project, and I consent to participating in the research project.

I understand that I am at liberty to withdraw from the project at any time, should I so desire.

SIGNATURE OF PARTICIPANT ..... DATE 6.6.2018

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UNIVERSITY OF KWAZULU-NATAL
GRADUATE SCHOOL OF BUSINESS AND LEADERSHIP

MBA Research Project
Researcher: Inderesan Govender (084 4012544)
Supervisor: Dr Muhammad Hoque (0312608690)
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CONSENT

I.....RAPHAEL.....COTTON.....(full names of participant) hereby confirm that I understand the contents of this document and the nature of the research project, and I consent to participating in the research project.

I understand that I am at liberty to withdraw from the project at any time, should I so desire.

SIGNATURE OF PARTICIPANT ..... DATE ....2018/06/11.....

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UNIVERSITY OF KWAZULU-NATAL
GRADUATE SCHOOL OF BUSINESS AND LEADERSHIP

MBA Research Project
Researcher: Inderesan Govender (084 4012544)
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Research Office: Ms P Ximba 031-2603587

CONSENT

I, NIRANDRAN KEEGAN NAIDOO (full names of participant) hereby confirm that I understand the contents of this document and the nature of the research project, and I consent to participating in the research project.

I understand that I am at liberty to withdraw from the project at any time, should I so desire.

SIGNATURE OF PARTICIPANT ..... DATE 11/06/2018.

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UNIVERSITY OF KWAZULU-NATAL
GRADUATE SCHOOL OF BUSINESS AND LEADERSHIP

MBA Research Project
Researcher: Inderesan Govender (084 4012544)
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CONSENT

I.....EUGENE PETER DRYDING.....(full names of participant) hereby confirm that I understand the contents of this document and the nature of the research project, and I consent to participating in the research project.

I understand that I am at liberty to withdraw from the project at any time, should I so desire.

SIGNATURE OF PARTICIPANT ..... DATE 05/06/2018

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UNIVERSITY OF KWAZULU-NATAL
GRADUATE SCHOOL OF BUSINESS AND LEADERSHIP

MBA Research Project
Researcher: Inderesan Govender (084 4012544)
Supervisor: Dr Muhammad Hoque (0312608690)
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CONSENT

I……Larne Gina Le Roux……(full names of participant) hereby confirm that I understand the contents of this document and the nature of the research project, and I consent to participating in the research project.

I understand that I am at liberty to withdraw from the project at any time, should I so desire.

SIGNATURE OF PARTICIPANT DATE

05 June 2018

…… ……

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UNIVERSITY OF KWAZULU-NATAL
GRADUATE SCHOOL OF BUSINESS AND LEADERSHIP

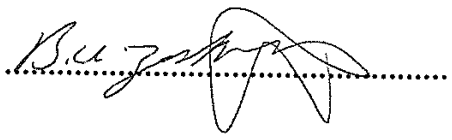
MBA Research Project
Researcher: Inderesan Govender (084 4012544)
Supervisor: Dr Muhammad Hoque (0312608690)
Research Office: Ms P Ximba 031-2603587

CONSENT

I Baruch Wayne Zwarenstein (full names of participant) hereby confirm that I understand the contents of this document and the nature of the research project, and I consent to participating in the research project.

I understand that I am at liberty to withdraw from the project at any time, should I so desire.

SIGNATURE OF PARTICIPANT



DATE

28/05/2018

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UNIVERSITY OF KWAZULU-NATAL
GRADUATE SCHOOL OF BUSINESS AND LEADERSHIP

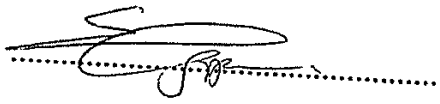
MBA Research Project
Researcher: Inderesan Govender (084 4012544)
Supervisor: Dr Muhammad Hoque (0312608690)
Research Office: Ms P Ximba 031-2603587

CONSENT

I, Sipho Mahlangu (full names of participant) hereby confirm that I understand the contents of this document and the nature of the research project, and I consent to participating in the research project.

I understand that I am at liberty to withdraw from the project at any time, should I so desire.

SIGNATURE OF PARTICIPANT



DATE

01-06-2018

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Appendix 3 Consent

UNIVERSITY OF KWAZULU-NATAL
GRADUATE SCHOOL OF BUSINESS AND LEADERSHIP

MBA Research Project
Researcher: Inderesan Govender (084 4012544)
Supervisor: Dr Muhammad Hoque (0312608690)
Research Office: Ms P Ximba 031-2603587

CONSENT

I.....Mariana Saud.....(full names of participant) hereby confirm that I understand the contents of this document and the nature of the research project, and I consent to participating in the research project.

I understand that I am at liberty to withdraw from the project at any time, should I so desire.

SIGNATURE OF PARTICIPANT ..... DATE .....13/06/2018.....

This page is to be retained by researcher

Appendix 3 Consent

UNIVERSITY OF KWAZULU-NATAL
GRADUATE SCHOOL OF BUSINESS AND LEADERSHIP

MBA Research Project
Researcher: Inderesan Govender (084 4012544)
Supervisor: Dr Muhammad Hoque (0312608690)
Research Office: Ms P Ximba 031-2603587

CONSENT

I **Manivasagan Govindasami** (full names of participant) hereby confirm that I understand the contents of this document and the nature of the research project, and I consent to participating in the research project.

I understand that I am at liberty to withdraw from the project at any time, should I so desire.

SIGNATURE OF PARTICIPANT DATE

13 June 2018

....

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Appendix 4 Data

Statements

Q1	Which level of management is responsible for making decisions regarding Outsourcing or insourcing in your company?
Q2.1	Achieving lower costs
Q2.2	Less capital expenditure
Q2.3	Focus on core competencies
Q2.4	Employment of Specialised skill
Q3	Due to scarcity of technical skills , are you concerned that confidential information could be leaked and how?
Q4	What percentage of business would you say you are losing because of high inaccurate costing?
Q5	Is current variation order influencing loss in profit margin?
Q6	Would insourcing or outsourcing result in having more focus and dedication to each task and why
Q7	The outsourcing process is often has significant delays,are you concernedcontractors choose which work to prioritise, thus causing biasness.
Q8	Does the company use and strictly enforces penalty clauses to ensure SLA's are met?
Q9a	Allows greater control over whole operation
Q9b	Yields high levels of customer service
Q9c	More cost effective
Q9d	Utilise in-house expertise
Q9e	Fosters loyalty and identity within the company and with customers
Q9f	Greater flexibility
Q9g	Utilise existing assets more effective
Q10a	Allows Financial resources to be focused on core business
Q10b	More Cost effective
Q10c	Permits tighter budgeting planning
Q10d	Less Industrial Relations Problems
Q10e	Exploit greater management expertise of third party service providers
Q10f	More flexible to make strategic management decisions
Q10g	Higher Service Levels
Q10h	More "Specialist" services
Q10i	Accommodates seasonal peaks more effectively
Q10j	Easier to enter new markets
Q11	Does current outsourcing have any impact on the Company's reputation and quality of work?

Chi Square Tests

	Chi-Square	df	Asymp. Sig.
Which level of management is responsible for making decisions regarding Outsourcing or insourcing?	5.2	2	0.074
Achieving lower costs	3.6	2	0.019
Less capital expenditure	7.667	3	0.026
Focus on core competencies	6.4	2	0.015
Employment of Specialised skill	4.467	3	0.215
Due to scarcity of technical skills. Are you concerned that confidential information could be leaked?	8.067	1	0.005
What percentage of business would you say you are losing because of high inaccurate costing?	3	9	0.964
Is current variation order influencing loss in profit margin?	3.267	1	0.000
Would insourcing or outsourcing result in having more focus and dedication to each task and why	0.067	1	0.549
Are you concerned that outsources contractors choose which work to prioritise , thus causing biasness.	4.571	1	0.000
Does the company use and strictly enforces penalty clauses to ensure SLA's are met?	2.8	2	0.000
Allows greater control over whole operation	3.8	5	0.579
Yields high levels of customer service	5.333	4	0.255
More cost effective	11.333	4	0.023
Utilise in-house expertise	5.4	5	0.369
Fosters loyalty and identity within the company and with customers	8.6	5	0.126
Greater flexibility	13.467	6	0.036
Utilise existing assets more effective	3.933	3	0.269
Allows Financial resources to be focused on core business	6	6	0.423
More Cost effective	3.8	5	0.579
Permits tighter budgeting planning	4.733	7	0.692
Less Industrial Relations Problems	5.4	5	0.369
Exploit greater management expertise of third party service providers	6.867	7	0.443
More flexible to make strategic management decisions	2.6	7	0.919
Higher Service Levels	4.733	7	0.692
More "Specialist" services	3.8	5	0.579
Accommodates seasonal peaks more effectively	3.2	6	0.783
Easier to enter new markets	6	6	0.423

Reliabilities

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Reliability

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Reliability Statistics

onbach's Alp	N of Items
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Reliability

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Missing Val	Definition o	User-defined missing values are treated as missing.
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Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	15	100.0
	Excluded[a]	0	0.0
	Total	15	100.0

a. Listwise deletion based on all variables in the

Reliability Statistics

onbach's Alp	N of Items
0.825	10

Frequencies

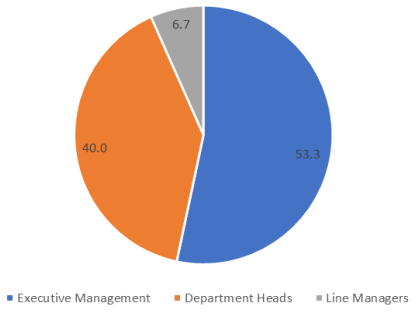
Position

		Frequency	Percent	Valid Percen	mulative Percent
Valid	Area Sales	1	6.7	6.7	6.7
	Area Sales	1	6.7	6.7	13.3
	Depot Mana	3	20.0	20.0	33.3
	General Ma	1	6.7	6.7	40.0
	HSSEQ Ma	1	6.7	6.7	46.7
	KZN Area S	1	6.7	6.7	53.3
	National Op	1	6.7	6.7	60.0
	Procuremer	1	6.7	6.7	66.7
	Sales Mana	3	20.0	20.0	86.7
	Sales Repr	1	6.7	6.7	93.3
	Technical C	1	6.7	6.7	100.0
	Total	15	100.0	100.0	

	Frequency	Percent
Area Sales	1	6.7
Area Sales	1	6.7
Depot Mana	3	20.0
General Ma	1	6.7
HSSEQ Ma	1	6.7
KZN Area S	1	6.7
National Op	1	6.7
Procuremer	1	6.7
Sales Mana	3	20.0
Sales Repr	1	6.7
Technical C	1	6.7
Total	15	100.0

nt is responsible for making decisions regarding Outsourcing or ins

		Frequency	Percent	Valid Percen	mulative Percent
Valid	Executive M	8	53.3	53.3	53.3
	Department	6	40.0	40.0	93.3
	Line Manag	1	6.7	6.7	100.0
	Total	15	100.0	100.0	



Achieving lower costs

		Frequency	Percent	Valid Percen	mulative Percent
Valid	Weak	2	13.3	13.3	13.3
	Strong	5	33.3	33.3	46.7
	Very strong	8	53.3	53.3	100.0
	Total	15	100.0	100.0	

Less capital expenditure

		Frequency	Percent	Valid Percen	mulative Percent
Valid	Very weak	1	6.7	6.7	6.7
	Weak	2	13.3	13.3	20.0
	Strong	8	53.3	53.3	73.3
	Very strong	4	26.7	26.7	100.0
	Total	15	100.0	100.0	

Focus on core competencies

		Frequency	Percent	Valid Percen	mulative Percent
Valid	Very weak	1	6.7	6.7	6.7
	Strong	5	33.3	33.3	40.0
	Very strong	9	60.0	60.0	100.0
	Total	15	100.0	100.0	

Employment of Specialised skill

		Frequency	Percent	Valid Percen	mulative Percent
Valid	Very weak	2	13.3	13.3	13.3
	Weak	2	13.3	13.3	26.7
	Strong	4	26.7	26.7	53.3
	Very strong	7	46.7	46.7	100.0
	Total	15	100.0	100.0	

stry there are a limited number of contractors. Are you concerned th

		Frequency	Percent	Valid Percen	nulative Percent
Valid	Yes	13	86.7	86.7	86.7
	No	2	13.3	13.3	100.0
	Total	15	100.0	100.0	

	Frequency	Percent
Yes	13	86.7
No	2	13.3
Total	15	100.0

What percentageyou are losing because of high inaccurate costing?

		Frequency	Percent	Valid Percen	nulative Percent
Valid	.00	2	13.3	13.3	13.3
	5.00	2	13.3	13.3	26.7
	12.00	1	6.7	6.7	33.3
	13.00	1	6.7	6.7	40.0
	15.00	1	6.7	6.7	46.7
	20.00	3	20.0	20.0	66.7
	25.00	1	6.7	6.7	73.3
	30.00	2	13.3	13.3	86.7
	38.00	1	6.7	6.7	93.3
	45.00	1	6.7	6.7	100.0
	Total	15	100.0	100.0	

Descriptive Statistics

	N	Minimum	Maximum	Mean	td. Deviation
What perce	15	0.00	45.00	18.53	13.44

Is current variation order influencing loss in profit margin?

		Frequency	Percent	Valid Percen	nulative Percent
Valid	Yes	11	73.3	73.3	73.3
	No	4	26.7	26.7	100.0
	Total	15	100.0	100.0	

		Yes	Do not know	No	Insourcing	Outsourcing	Square p-values
4	Does the cc	20.0	26.7	53.3			0.000
3	The outsou	78.6		21.4			0.000
2	Would insourcing or outsourcing result in having				53.3	46.7	0.549
1	Is current va	73.3		26.7			0.000

ng or outsourcing result in having more focus and dedication to eac

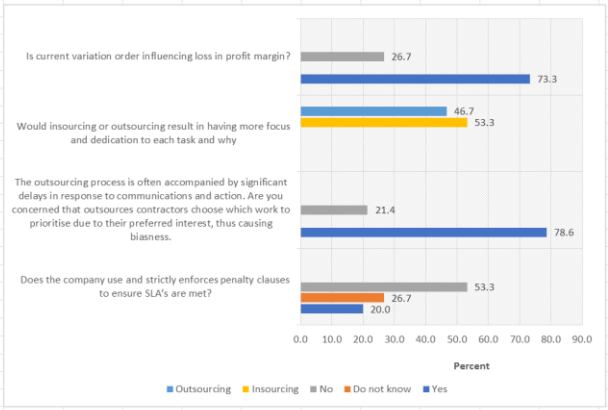
		Frequency	Percent	Valid Percen	nulative Percent
Valid	Insourcing	8	53.3	53.3	53.3
	Outsourcing	7	46.7	46.7	100.0
	Total	15	100.0	100.0	

nunications and action. Are you concerned that outsources contract

		Frequency	Percent	Valid Percen	nulative Percent
Valid	Yes	11	73.3	78.6	78.6
	No	3	20.0	21.4	100.0
	Total	14	93.3	100.0	
Missing	System	1	6.7		
Total		15	100.0		

company use and strictly enforces penalty clauses to ensure SLA's

		Frequency	Percent	Valid Percen	nulative Percent
Valid	Yes	3	20.0	20.0	20.0
	Do not know	4	26.7	26.7	46.7
	No	8	53.3	53.3	100.0
	Total	15	100.0	100.0	



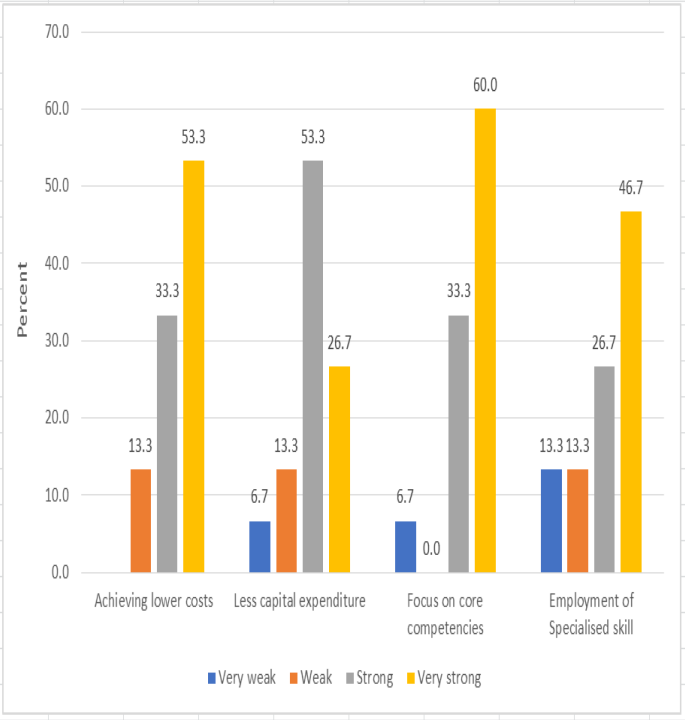
	Mean	eighted Mea	Weighted Rank
More cost effective	8.80	9.18	1
Utilise existing assets more effective	8.87	9.08	2
Fosters loyalty and identity within the company and with customers	8.53	8.89	3
Greater flexibility	8.27	8.74	4
Yields high levels of customer service	7.80	8.59	5
Utilise in-house expertise	8.20	8.46	6
Allows greater control over whole operation	7.87	8.36	7

	Mean	eighted Mea	Weighted Rank
Allows Financial resources to be focused on core business	7.80	8.33	1
Less Industrial Relations Problems	7.60	8.30	2
Higher Service Levels	7.13	8.07	3
More "Specialist" services	7.47	7.98	4
Permits tighter budgeting planning	7.00	7.97	5
More flexible to make strategic management decisions	6.60	7.65	6
Exploit greater management expertise of third party service providers	6.87	7.60	7
Easier to enter new markets	6.67	7.56	8
Accommodates seasonal peaks more effectively	6.47	7.54	9
More Cost effective	6.53	7.51	10

Section Analysis

	Very weak		Weak		Strong		Very strong		Chi Square
	Count	Row N %	Count	Row N %	Count	Row N %	Count	Row N %	p-value
Achieving lo	0	0.0%	2	13.3%	5	33.3%	8	53.3%	0.019
Less capital	1	6.7%	2	13.3%	8	53.3%	4	26.7%	0.026
Focus on cc	1	6.7%	0	0.0%	5	33.3%	9	60.0%	0.015
Employment	2	13.3%	2	13.3%	4	26.7%	7	46.7%	0.215

	Very weak	Weak	Strong	Very strong
Achieving lo	0.0	13.3	33.3	53.3
Less capital	6.7	13.3	53.3	26.7
Focus on cc	6.7	0.0	33.3	60.0
Employment	13.3	13.3	26.7	46.7



Correlations

Correlations

			Achieving lower costs	Less capital expenditure	Focus on core competencies	Employment of Specialised skill	Allows greater control over whole operation	Yields high levels of customer service	More cost effective	Utilise in-house expertise	Fosters loyalty and identity within the company and with customers	Greater flexibility	Utilise existing assets more effective	Allows Financial resources to be focused on core business	More Cost effective	Permits tighter budgeting planning	Less Industrial Relations Problems	Exploit greater management expertise of third party service providers	More flexible to make strategic management decisions	Higher Service Levels	More "Specialist" services	Accommodates seasonal peaks more effectively	Easier to enter new markets
Spearman's rho	Achieving lower costs	Correlation Coefficient	1.000																				
		Sig. (2-tailed)																					
		N	15																				
	Less capital expenditure	Correlation Coefficient	0.275	1.000																			
		Sig. (2-tailed)	0.321																				
		N	15	15																			
	Focus on core competencies	Correlation Coefficient	0.313	-0.186	1.000																		
		Sig. (2-tailed)	0.255	0.508																			
		N	15	15	15																		
	Employment of Specialised skill	Correlation Coefficient	0.018	-0.340	0.271	1.000																	
		Sig. (2-tailed)	0.949	0.215	0.329																		
		N	15	15	15	15																	
	Allows greater control over whole operation	Correlation Coefficient	0.027	0.086	0.104	0.004	1.000																
		Sig. (2-tailed)	0.923	0.760	0.713	0.989																	
		N	15	15	15	15	15																
	Yields high levels of customer service	Correlation Coefficient	0.270	0.126	0.015	-0.243	.701**	1.000															
		Sig. (2-tailed)	0.330	0.655	0.957	0.383	0.004																
		N	15	15	15	15	15	15															
	More cost effective	Correlation Coefficient	0.176	-0.077	0.157	0.157	0.274	0.384	1.000														
		Sig. (2-tailed)	0.530	0.785	0.575	0.577	0.322	0.157															
		N	15	15	15	15	15	15	15														
	Utilise in-house expertise	Correlation Coefficient	-0.273	-0.401	0.236	0.103	0.463	-0.046	0.050	1.000													
		Sig. (2-tailed)	0.324	0.139	0.398	0.715	0.082	0.870	0.859														
		N	15	15	15	15	15	15	15	15													
	Fosters loyalty and identity within the company and with customers	Correlation Coefficient	-0.224	-0.228	0.278	0.229	.658**	0.219	0.188	.775**	1.000												
		Sig. (2-tailed)	0.421	0.414	0.316	0.412	0.008	0.433	0.502	0.001													
		N	15	15	15	15	15	15	15	15	15												
	Greater flexibility	Correlation Coefficient	0.091	-0.302	0.107	-0.051	0.495	.715**	.622*	0.120	0.353	1.000											
		Sig. (2-tailed)	0.747	0.274	0.705	0.856	0.061	0.003	0.013	0.669	0.196												
		N	15	15	15	15	15	15	15	15	15	15											
	Utilise existing assets more effective	Correlation Coefficient	0.052	-0.359	0.070	0.446	.673**	.560*	0.497	0.318	.519*	.569*	1.000										
		Sig. (2-tailed)	0.855	0.189	0.804	0.096	0.006	0.030	0.059	0.248	0.047	0.027											
		N	15	15	15	15	15	15	15	15	15	15	15										
	Allows Financial resources to be focused on core business	Correlation Coefficient	0.284	-0.045	0.198	.582*	0.117	0.306	0.512	-0.255	0.198	0.387	.521*	1.000									
		Sig. (2-tailed)	0.305	0.873	0.478	0.023	0.678	0.268	0.051	0.359	0.480	0.154	0.046										
		N	15	15	15	15	15	15	15	15	15	15	15	15									
	More Cost effective	Correlation Coefficient	0.428	0.258	-0.213	0.210	0.140	0.169	0.126	-0.467	-0.304	-0.136	0.356	0.382	1.000								
		Sig. (2-tailed)	0.112	0.354	0.446	0.454	0.618	0.547	0.653	0.080	0.270	0.629	0.193	0.160									
		N	15	15	15	15	15	15	15	15	15	15	15	15	15								
	Permits tighter budgeting planning	Correlation Coefficient	0.378	0.441	-0.092	0.245	0.337	0.162	0.449	-0.065	0.137	0.170	0.284	0.378	0.395	1.000							
		Sig. (2-tailed)	0.165	0.100	0.744	0.380	0.219	0.564	0.093	0.764	0.626	0.544	0.305	0.164	0.145								
		N	15	15	15	15	15	15	15	15	15	15	15	15	15	15							
	Less Industrial Relations Problems	Correlation Coefficient	-0.435	-0.309	0.359	0.083	0.477	0.192	0.158	.782**	.687**	0.190	0.411	-0.079	-0.460	-0.216	1.000						
		Sig. (2-tailed)	0.106	0.263	0.189	0.824	0.072	0.493	0.573	0.001	0.005	0.497	0.128	0.779	0.084	0.438							
		N	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15						
	Exploit greater management expertise of third party service providers	Correlation Coefficient	0.052	-0.087	0.253	0.067	.721**	0.449	-0.194	.572*	.542*	0.202	0.369	-0.056	-0.092	-0.122	0.501	1.000					
		Sig. (2-tailed)	0.855	0.758	0.364	0.812	0.002	0.093	0.489	0.026	0.037	0.470	0.175	0.843	0.743	0.665	0.057						
		N	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15					
	More flexible to make strategic management decisions	Correlation Coefficient	0.494	0.148	0.094	0.383	0.400	0.334	0.398	-0.059	0.033	0.180	.542*	.577*	.710**	.558*	-0.071	0.293	1.000				
		Sig. (2-tailed)	0.061	0.598	0.740	0.159	0.139	0.224	0.142	0.836	0.907	0.521	0.037	0.024	0.003	0.031	0.803	0.290					
		N	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15				
	Higher Service Levels	Correlation Coefficient	0.339	0.207	0.029	0.249	0.143	0.335	0.310	-0.176	0.148	0.335	0.298	.736**	0.271	0.442	-0.072	0.130	.636*	1.000			
		Sig. (2-tailed)	0.217	0.460	0.917	0.370	0.611	0.222	0.261	0.530	0.597	0.222	0.281	0.002	0.329	0.099	0.799	0.643	0.011				
		N	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15			
	More "Specialist" services	Correlation Coefficient	0.013	0.288	0.184	0.221	0.216	0.293	0.247	-0.012	0.385	0.144	0.329	.684**	0.091	0.272	0.348	0.090	0.350	.694**			
		Sig. (2-tailed)	0.963	0.298	0.513	0.428	0.439	0.289	0.375	0.965	0.156	0.609	0.231	0.005	0.748	0.326	0.204	0.751	0.201	0.004			
		N	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15		
	Accommodates seasonal peaks more effectively	Correlation Coefficient	0.450	0.429	0.255	0.222	.527*	.543*	0.489	-0.250	0.117	0.360	0.379	.594*	0.463	.731**	-0.104	0.178	.701**	.560*	0.443	1.000	
		Sig. (2-tailed)	0.093	0.111	0.358	0.425	0.044	0.037	0.064	0.368	0.677	0.187	0.164	0.019	0.082	0.002	0.713	0.526	0.004	0.030	0.098		
		N	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	
	Easier to enter new markets	Correlation Coefficient	0.466	0.189	0.344	0.513	0.136	0.155	0.458	0.008	0.213	0.064	0.280	.692**	0.270	0.399	0.048	0.176	.627*	.696**	.529*	.556*	1.000
		Sig. (2-tailed)	0.080	0.548	0.209	0.050	0.629	0.582	0.086	0.976	0.446	0.821	0.312	0.004	0.330	0.141	0.865	0.529	0.012	0.004	0.042	0.031	
		N	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Crosstabulations

Crosstabs

Notes

Output Created		26-OCT-2018 18:09:59
Comments		
Input	Data	C:\Users\singh\OneDrive\Stats Analysis\1 - 2018\Inderesan Govender\Inderesan - Data.sav
	Active Data	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows	15
Missing Val	Definition o	User-defined missing values are treated as missing.
	Cases Use	Statistics for each table are based on all the cases with valid data in the specified range(s) for all variables in each table.
Syntax		CROSSTABS /TABLES=Q1 Q2.1 Q2.2 Q2.3 Q2.4 Q3 Q5 Q6 Q7 Q8 Q11 BY Position /FORMAT=AVALUE TABLES /STATISTICS=CHISQ /CELLS=COUNT ROW COLUMN TOTAL /COUNT ROUND CELL /METHOD=EXACT TIMER(5).
Resources	Processor T	0:00:00.31
	Elapsed Tir	0:00:00.34
	Dimensions	2
	Cells Availa	349496
	Time for Ex	0:00:00.29

Which level of management is responsible for making decisions regarding Outsourcing or insourcing in your company? * Position

Crosstab

		Position											Total
		Area Sales	Engin	Sales Man	epot Manage	neral Manag	SEQ Manage	rea Sales Ma	Operations	curement Of	ales Manage	s Represent	chnical Officer	
Which level	Executive M	Count	0	0	1	1	1	1	0	1	2	0	1	8
		% within Wl	0.0%	0.0%	12.5%	12.5%	12.5%	12.5%	0.0%	12.5%	25.0%	0.0%	12.5%	100.0%
		% within Pc	0.0%	0.0%	33.3%	100.0%	100.0%	100.0%	0.0%	100.0%	66.7%	0.0%	100.0%	53.3%
		% of Total	0.0%	0.0%	6.7%	6.7%	6.7%	6.7%	0.0%	6.7%	13.3%	0.0%	6.7%	53.3%
	Department	Count	1	1	2	0	0	0	1	0	1	0	0	6
		% within Wl	16.7%	16.7%	33.3%	0.0%	0.0%	0.0%	16.7%	0.0%	16.7%	0.0%	0.0%	100.0%
		% within Pc	100.0%	100.0%	66.7%	0.0%	0.0%	0.0%	100.0%	0.0%	33.3%	0.0%	0.0%	40.0%
		% of Total	6.7%	6.7%	13.3%	0.0%	0.0%	0.0%	6.7%	0.0%	6.7%	0.0%	0.0%	40.0%
	Line Manag	Count	0	0	0	0	0	0	0	0	0	1	0	1
		% within Wl	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
		% within Pc	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	6.7%
		% of Total	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	6.7%	0.0%	6.7%
Total		Count	1	1	3	1	1	1	1	1	3	1	1	15
		% within Wl	6.7%	6.7%	20.0%	6.7%	6.7%	6.7%	6.7%	6.7%	20.0%	6.7%	6.7%	100.0%
		% within Pc	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
		% of Total	6.7%	6.7%	20.0%	6.7%	6.7%	6.7%	6.7%	6.7%	20.0%	6.7%	6.7%	100.0%

Chi-Square Tests

	Value	df	Significance	ct Sig. (2-sided)
Pearson Ch	24.167[a]	20	0.235	0.600
Likelihood R	18.831	20	0.533	0.832
Fisher's Exa	23.830			0.832
N of Valid C	15			

a. 33 cells (100.0%) have expected count less than 5. The minimum expected count is .07.

Achieving lower costs * Position

Crosstab

		Position											Total
		Area Sales	Engin	Sales Man	epot Manage	neral Manag	SEQ Manage	rea Sales Ma	Operations	curement Of	ales Manage	s Represent	chnical Officer	
Achieving lc	Weak	Count	0	1	0	0	0	0	0	0	1	0	0	2
		% within Ac	0.0%	50.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	50.0%	0.0%	0.0%	100.0%
		% within Pc	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	33.3%	0.0%	0.0%	13.3%
		% of Total	0.0%	6.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	6.7%	0.0%	0.0%	13.3%
	Strong	Count	0	0	3	0	0	0	0	0	1	0	1	5
		% within Ac	0.0%	0.0%	60.0%	0.0%	0.0%	0.0%	0.0%	0.0%	20.0%	0.0%	20.0%	100.0%
		% within Pc	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	33.3%	0.0%	100.0%	33.3%
		% of Total	0.0%	0.0%	20.0%	0.0%	0.0%	0.0%	0.0%	0.0%	6.7%	0.0%	6.7%	33.3%
	Very strong	Count	1	0	0	1	1	1	1	1	1	1	0	8
		% within Ac	12.5%	0.0%	0.0%	12.5%	12.5%	12.5%	12.5%	12.5%	12.5%	12.5%	0.0%	100.0%
		% within Pc	100.0%	0.0%	0.0%	100.0%	100.0%	100.0%	100.0%	100.0%	33.3%	100.0%	0.0%	53.3%
		% of Total	6.7%	0.0%	0.0%	6.7%	6.7%	6.7%	6.7%	6.7%	6.7%	6.7%	0.0%	53.3%
Total		Count	1	1	3	1	1	1	1	1	3	1	1	15
		% within Ac	6.7%	6.7%	20.0%	6.7%	6.7%	6.7%	6.7%	6.7%	20.0%	6.7%	6.7%	100.0%
		% within Pc	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
		% of Total	6.7%	6.7%	20.0%	6.7%	6.7%	6.7%	6.7%	6.7%	20.0%	6.7%	6.7%	100.0%

Chi-Square Tests

	Value	df	Significance	ct Sig. (2-sided)
Pearson Ch	21.750[a]	20	0.354	0.475
Likelihood R	22.512	20	0.313	0.273
Fisher's Exa	21.730			0.273
N of Valid C	15			

a. 33 cells (100.0%) have expected count less than 5. The minimum expected count is .13.

Less capital expenditure * Position

Crosstab

		Position											Total
		Area Sales	Engin	Sales Man	epot Manage	neral Manag	SEQ Manage	rea Sales Ma	Operations	curement Of	ales Manage	s Represent	chnical Officer	
Less capita	Very weak	Count	0	0	0	0	0	0	0	0	1	0	0	1
		% within Le	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	100.0%
		% within Pc	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	33.3%	0.0%	0.0%	6.7%
		% of Total	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	6.7%	0.0%	0.0%	6.7%
	Weak	Count	0	1	0	0	1	0	0	0	0	0	0	2
		% within Le	0.0%	50.0%	0.0%	0.0%	50.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
		% within Pc	0.0%	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	13.3%
		% of Total	0.0%	6.7%	0.0%	0.0%	6.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	13.3%
	Strong	Count	1	0	2	0	0	0	1	1	1	1	1	8
		% within Le	12.5%	0.0%	25.0%	0.0%	0.0%	0.0%	12.5%	12.5%	12.5%	12.5%	12.5%	100.0%
		% within Pc	100.0%	0.0%	66.7%	0.0%	0.0%	0.0%	100.0%	100.0%	33.3%	100.0%	100.0%	53.3%
		% of Total	6.7%	0.0%	13.3%	0.0%	0.0%	0.0%	6.7%	6.7%	6.7%	6.7%	6.7%	53.3%
	Very strong	Count	0	0	1	1	0	1	0	0	1	0	0	4
		% within Le	0.0%	0.0%	25.0%	25.0%	0.0%	25.0%	0.0%	0.0%	25.0%	0.0%	0.0%	100.0%
		% within Pc	0.0%	0.0%	33.3%	100.0%	0.0%	100.0%	0.0%	0.0%	33.3%	0.0%	0.0%	26.7%
		% of Total	0.0%	0.0%	6.7%	6.7%	0.0%	6.7%	0.0%	0.0%	6.7%	0.0%	0.0%	26.7%
Total		Count	1	1	3	1	1	1	1	1	3	1	1	15
		% within Le	6.7%	6.7%	20.0%	6.7%	6.7%	6.7%	6.7%	6.7%	20.0%	6.7%	6.7%	100.0%
		% within Pc	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
		% of Total	6.7%	6.7%	20.0%	6.7%	6.7%	6.7%	6.7%	6.7%	20.0%	6.7%	6.7%	100.0%

Chi-Square Tests

	Value	df	Significance	ct Sig. (2-sided)
Pearson Ch	27.500[a]	30	0.597	0.801
Likelihood R	23.697	30	0.786	0.947
Fisher's Exa	34.196			0.947
N of Valid C	15			

a. 44 cells (100.0%) have expected count less than 5. The minimum expected count is .07.

Focus on core competencies * Position

Crosstab

			Position											
			Area Sales Engi	Sales Mana	epot Manage	eneral Manag	SEQ Manag	rea Sales Ma	Operations	curement Of	ales Manage	s Represent	chnical Officer	Total
Focus on c	Very weak	Count	0	0	1	0	0	0	0	0	0	0	0	1
		% within Fo	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
		% within Po	0.0%	0.0%	33.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	6.7%
		% of Total	0.0%	0.0%	6.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	6.7%
	Strong	Count	0	0	1	1	1	0	0	0	2	0	0	5
		% within Fo	0.0%	0.0%	20.0%	20.0%	20.0%	0.0%	0.0%	0.0%	40.0%	0.0%	0.0%	100.0%
		% within Po	0.0%	0.0%	33.3%	100.0%	100.0%	0.0%	0.0%	0.0%	66.7%	0.0%	0.0%	33.3%
		% of Total	0.0%	0.0%	6.7%	6.7%	6.7%	0.0%	0.0%	0.0%	13.3%	0.0%	0.0%	33.3%
	Very strong	Count	1	1	1	0	0	1	1	1	1	1	1	9
		% within Fo	11.1%	11.1%	11.1%	0.0%	0.0%	11.1%	11.1%	11.1%	11.1%	11.1%	11.1%	100.0%
		% within Po	100.0%	100.0%	33.3%	0.0%	0.0%	100.0%	100.0%	100.0%	33.3%	100.0%	100.0%	60.0%
		% of Total	6.7%	6.7%	6.7%	0.0%	0.0%	6.7%	6.7%	6.7%	6.7%	6.7%	6.7%	60.0%
Total		Count	1	1	3	1	1	1	1	1	3	1	1	15
		% within Fo	6.7%	6.7%	20.0%	6.7%	6.7%	6.7%	6.7%	6.7%	20.0%	6.7%	6.7%	100.0%
		% within Po	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
		% of Total	6.7%	6.7%	20.0%	6.7%	6.7%	6.7%	6.7%	6.7%	20.0%	6.7%	6.7%	100.0%

Chi-Square Tests

	Value	df	Significance	ct Sig. (2-sided)
Pearson Ch	13.778[a]	20	0.842	1.000
Likelihood F	15.186	20	0.766	1.000
Fisher's Exa	22.278			1.000
N of Valid C	15			

a. 33 cells (100.0%) have expected count less than 5. The minimum expected count is .07.

Employment of Specialised skill * Position

Crosstab

			Position											
			Area Sales Engi	Sales Mana	epot Manage	eneral Manag	SEQ Manag	rea Sales Ma	Operations	curement Of	ales Manage	s Represent	chnical Officer	Total
Employmen	Very weak	Count	0	0	1	0	0	0	0	0	0	1	0	2
		% within En	0.0%	0.0%	50.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	50.0%	0.0%	100.0%
		% within Po	0.0%	0.0%	33.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	13.3%
		% of Total	0.0%	0.0%	6.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	6.7%	0.0%	13.3%
	Weak	Count	0	0	1	1	0	0	0	0	0	0	0	2
		% within En	0.0%	0.0%	50.0%	50.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
		% within Po	0.0%	0.0%	33.3%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	13.3%
		% of Total	0.0%	0.0%	6.7%	6.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	13.3%
	Strong	Count	0	0	0	0	0	0	1	1	2	0	0	4
		% within En	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	25.0%	25.0%	50.0%	0.0%	0.0%	100.0%
		% within Po	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%	66.7%	0.0%	0.0%	26.7%
		% of Total	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	6.7%	6.7%	13.3%	0.0%	0.0%	26.7%
	Very strong	Count	1	1	1	0	1	1	0	0	1	0	1	7
		% within En	14.3%	14.3%	14.3%	0.0%	14.3%	14.3%	0.0%	0.0%	14.3%	0.0%	14.3%	100.0%
		% within Po	100.0%	100.0%	33.3%	0.0%	100.0%	100.0%	0.0%	0.0%	33.3%	0.0%	100.0%	46.7%
		% of Total	6.7%	6.7%	6.7%	0.0%	6.7%	6.7%	0.0%	0.0%	6.7%	0.0%	6.7%	46.7%
Total		Count	1	1	3	1	1	1	1	1	3	1	1	15
		% within En	6.7%	6.7%	20.0%	6.7%	6.7%	6.7%	6.7%	6.7%	20.0%	6.7%	6.7%	100.0%
		% within Po	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
		% of Total	6.7%	6.7%	20.0%	6.7%	6.7%	6.7%	6.7%	6.7%	20.0%	6.7%	6.7%	100.0%

Chi-Square Tests

	Value	df	Significance	ct Sig. (2-sided)	
Pearson Ch	29.643[a]	30	0.484	0.798	
Likelihood F	26.952	30	0.626	0.895	
Fisher's Exa	31.372			0.895	Use the Fisher Exact Test value from each table
N of Valid C	15				

a. 44 cells (100.0%) have expected count less than 5. The minimum expected count is .13.

Due to scarcity of technical skills , are you concerned that confidential information could be leaked? * Position

Crosstab

			Position											
			Area Sales Engi	Sales Mana	epot Manage	eneral Manag	SEQ Manag	rea Sales Ma	Operations	curement Of	ales Manage	s Represent	chnical Officer	Total
Due to scar	Yes	Count	1	1	2	1	0	1	1	1	3	1	1	13
		% within Du	7.7%	7.7%	15.4%	7.7%	0.0%	7.7%	7.7%	7.7%	23.1%	7.7%	7.7%	100.0%
		% within Po	100.0%	100.0%	66.7%	100.0%	0.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	86.7%
		% of Total	6.7%	6.7%	13.3%	6.7%	0.0%	6.7%	6.7%	6.7%	20.0%	6.7%	6.7%	86.7%
	No	Count	0	0	1	0	1	0	0	0	0	0	0	2
		% within Du	0.0%	0.0%	50.0%	0.0%	50.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
		% within Po	0.0%	0.0%	33.3%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	13.3%
		% of Total	0.0%	0.0%	6.7%	0.0%	6.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	13.3%
Total		Count	1	1	3	1	1	1	1	1	3	1	1	15
		% within Du	6.7%	6.7%	20.0%	6.7%	6.7%	6.7%	6.7%	6.7%	20.0%	6.7%	6.7%	100.0%
		% within Po	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
		% of Total	6.7%	6.7%	20.0%	6.7%	6.7%	6.7%	6.7%	6.7%	20.0%	6.7%	6.7%	100.0%

Chi-Square Tests

	Value	df	Significance	ct Sig. (2-sided)
Pearson Ch	9.231[a]	10	0.510	0.914
Likelihood F	7.961	10	0.633	0.914
Fisher's Exa	10.823			0.914
N of Valid C	15			

a. 22 cells (100.0%) have expected count less than 5. The minimum expected count is .13.

Is current variation order influencing loss in profit margin? * Position

Crosstab

		Position											Total
		Area Sales Engi	Sales Man	epot Manage	neral Manag	SEQ Manage	rea Sales Ma	Operations	urement Offi	ales Manage	s Represent	chnical Officer	
Is current va	Yes	Count	1	1	0	1	0	1	1	1	3	1	1	11
		% within Is	9.1%	9.1%	0.0%	9.1%	0.0%	9.1%	9.1%	9.1%	27.3%	9.1%	9.1%	100.0%
		% within Po	100.0%	100.0%	0.0%	100.0%	0.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	73.3%
		% of Total	6.7%	6.7%	0.0%	6.7%	0.0%	6.7%	6.7%	6.7%	20.0%	6.7%	6.7%	73.3%
	No	Count	0	0	3	0	1	0	0	0	0	0	0	4
		% within Is	0.0%	0.0%	75.0%	0.0%	25.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
		% within Po	0.0%	0.0%	100.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	26.7%
		% of Total	0.0%	0.0%	20.0%	0.0%	6.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	26.7%
Total		Count	1	1	3	1	1	1	1	1	3	1	1	15
		% within Is	6.7%	6.7%	20.0%	6.7%	6.7%	6.7%	6.7%	6.7%	20.0%	6.7%	6.7%	100.0%
		% within Po	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
		% of Total	6.7%	6.7%	20.0%	6.7%	6.7%	6.7%	6.7%	6.7%	20.0%	6.7%	6.7%	100.0%

Chi-Square Tests

	Value	df	Significance	ct Sig. (2-sided)
Pearson Ch	15.000[a]	10	0.132	0.105
Likelihood R	17.397	10	0.066	0.105
Fisher's Exa	12.889			0.105
N of Valid C	15			

a. 22 cells (100.0%) have expected count less than 5. The minimum expected count is .27.

Would insourcing or outsourcing result in having more focus and dedication to each task and why * Position

Crosstab

		Position											Total
		Area Sales Engi	Sales Man	epot Manage	neral Manag	SEQ Manage	rea Sales Ma	Operations	urement Offi	ales Manage	s Represent	chnical Officer	
Would insou	Insourcing	Count	0	0	2	0	1	0	1	1	2	1	0	8
		% within Wo	0.0%	0.0%	25.0%	0.0%	12.5%	0.0%	12.5%	12.5%	25.0%	12.5%	0.0%	100.0%
		% within Po	0.0%	0.0%	66.7%	0.0%	100.0%	0.0%	100.0%	100.0%	66.7%	100.0%	0.0%	53.3%
		% of Total	0.0%	0.0%	13.3%	0.0%	6.7%	0.0%	6.7%	6.7%	13.3%	6.7%	0.0%	53.3%
	Outsourcing	Count	1	1	1	1	0	1	0	0	1	0	1	7
		% within Wo	14.3%	14.3%	14.3%	14.3%	0.0%	14.3%	0.0%	0.0%	14.3%	0.0%	14.3%	100.0%
		% within Po	100.0%	100.0%	33.3%	100.0%	0.0%	100.0%	0.0%	0.0%	33.3%	0.0%	100.0%	46.7%
		% of Total	6.7%	6.7%	6.7%	6.7%	0.0%	6.7%	0.0%	0.0%	6.7%	0.0%	6.7%	46.7%
Total		Count	1	1	3	1	1	1	1	1	3	1	1	15
		% within Wo	6.7%	6.7%	20.0%	6.7%	6.7%	6.7%	6.7%	6.7%	20.0%	6.7%	6.7%	100.0%
		% within Po	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
		% of Total	6.7%	6.7%	20.0%	6.7%	6.7%	6.7%	6.7%	6.7%	20.0%	6.7%	6.7%	100.0%

Chi-Square Tests

	Value	df	Significance	ct Sig. (2-sided)
Pearson Ch	9.643[a]	10	0.472	1.000
Likelihood R	13.090	10	0.219	1.000
Fisher's Exa	9.184			1.000
N of Valid C	15			

a. 22 cells (100.0%) have expected count less than 5. The minimum expected count is .47.

The outsourcing process is significant delays, Are you concerned that work isprioritisde due to their preferred interest, thus causing biasness. * Position

Crosstab

		Position											Total
		Area Sales Engi	Sales Man	epot Manage	neral Manag	SEQ Manage	rea Sales Ma	Operations	urement Offi	ales Manage	s Represent	chnical Officer	
The outsou	Yes	Count	1	1	2	1	1	0	1	2	1	1	11
		% within Th	9.1%	9.1%	18.2%	9.1%	9.1%	0.0%	9.1%	18.2%	9.1%	9.1%	100.0%
		% within Po	100.0%	100.0%	66.7%	100.0%	100.0%	0.0%	100.0%	66.7%	100.0%	100.0%	78.6%
		% of Total	7.1%	7.1%	14.3%	7.1%	7.1%	0.0%	7.1%	14.3%	7.1%	7.1%	78.6%
	No	Count	0	0	1	0	0	1	0	1	0	0	3
		% within Th	0.0%	0.0%	33.3%	0.0%	0.0%	33.3%	0.0%	33.3%	0.0%	0.0%	100.0%
		% within Po	0.0%	0.0%	33.3%	0.0%	0.0%	100.0%	0.0%	33.3%	0.0%	0.0%	21.4%
		% of Total	0.0%	0.0%	7.1%	0.0%	0.0%	7.1%	0.0%	7.1%	0.0%	0.0%	21.4%
Total		Count	1	1	3	1	1	1	1	3	1	1	14
		% within Th	7.1%	7.1%	21.4%	7.1%	7.1%	7.1%	7.1%	21.4%	7.1%	7.1%	100.0%
		% within Po	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
		% of Total	7.1%	7.1%	21.4%	7.1%	7.1%	7.1%	7.1%	21.4%	7.1%	7.1%	100.0%

Chi-Square Tests

	Value	df	Significance	ct Sig. (2-sided)
Pearson Ch	6.081[a]	9	0.732	1.000
Likelihood R	6.910	9	0.646	1.000
Fisher's Exa	7.335			1.000
N of Valid C	14			

a. 20 cells (100.0%) have expected count less than 5. The minimum expected count is .21.

Does the company use and strictly enforces penalty clauses to ensure SLA's are met? * Position

Crosstab

		Position											Total
		Area Sales Engi	Sales Man	epot Manage	neral Manag	SEQ Manage	rea Sales Ma	Operations	urement Offi	ales Manage	s Represent	chnical Officer	
Does the co	Yes	Count	1	0	0	1	0	0	0	0	1	0	0	3
		% within Do	33.3%	0.0%	0.0%	33.3%	0.0%	0.0%	0.0%	0.0%	33.3%	0.0%	0.0%	100.0%
		% within Po	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	33.3%	0.0%	0.0%	20.0%
		% of Total	6.7%	0.0%	0.0%	6.7%	0.0%	0.0%	0.0%	0.0%	6.7%	0.0%	0.0%	20.0%
	Do not kno	Count	0	0	1	0	0	0	0	0	1	1	1	4
		% within Do	0.0%	0.0%	25.0%	0.0%	0.0%	0.0%	0.0%	0.0%	25.0%	25.0%	25.0%	100.0%
		% within Po	0.0%	0.0%	33.3%	0.0%	0.0%	0.0%	0.0%	0.0%	33.3%	100.0%	100.0%	26.7%
		% of Total	0.0%	0.0%	6.7%	0.0%	0.0%	0.0%	0.0%	0.0%	6.7%	6.7%	6.7%	26.7%
	No	Count	0	1	2	0	1	1	1	1	1	0	0	8
		% within Do	0.0%	12.5%	25.0%	0.0%	12.5%	12.5%	12.5%	12.5%	12.5%	0.0%	0.0%	100.0%
		% within Po	0.0%	100.0%	66.7%	0.0%	100.0%	100.0%	100.0%	100.0%	33.3%	0.0%	0.0%	53.3%
		% of Total	0.0%	6.7%	13.3%	0.0%	6.7%	6.7%	6.7%	6.7%	6.7%	0.0%	0.0%	53.3%
Total		Count	1	1	3	1	1	1	1	1	3	1	1	15
		% within Do	6.7%	6.7%	20.0%	6.7%	6.7%	6.7%	6.7%	6.7%	20.0%	6.7%	6.7%	100.0%
		% within Po	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
		% of Total	6.7%	6.7%	20.0%	6.7%	6.7%	6.7%	6.7%	6.7%	20.0%	6.7%	6.7%	100.0%

Chi-Square Tests

	Value	df	Significance	ct Sig. (2-sided)
Pearson Ch	19.167[a]	20	0.511	0.847
Likelihood R	19.878	20	0.466	0.960
Fisher's Exa	18.731			0.960
N of Valid C	15			

a. 33 cells (100.0%) have expected count less than 5. The minimum expected count is .20.

Does current outsourcing have any impact on the Company's reputation and quality of work? * Position

Crosstab

		Position											Total
		Area Sales Engi	Sales Man	epot Manage	neral Manag	SEQ Manage	rea Sales Ma	Operations	urement Offi	ales Manage	s Represent	chnical Officer	
Does curre	Yes	Count	1	1	3	1	1	1	1	1	3	1	1	15
		% within Do	6.7%	6.7%	20.0%	6.7%	6.7%	6.7%	6.7%	6.7%	20.0%	6.7%	6.7%	100.0%
		% within Po	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
		% of Total	6.7%	6.7%	20.0%	6.7%	6.7%	6.7%	6.7%	6.7%	20.0%	6.7%	6.7%	100.0%
Total		Count	1	1	3	1	1	1	1	1	3	1	1	15
		% within Do	6.7%	6.7%	20.0%	6.7%	6.7%	6.7%	6.7%	6.7%	20.0%	6.7%	6.7%	100.0%
		% within Po	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
		% of Total	6.7%	6.7%	20.0%	6.7%	6.7%	6.7%	6.7%	6.7%	20.0%	6.7%	6.7%	100.0%

Chi-Square Tests

	Value
Pearson Ch	[a]
N of Valid C	15

a. No statistics are computed because Does current outsourcing have any impact on the Company's reputation and quality of work? is a constant.

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  /STATISTICS=CHISQ
  /CELLS=COUNT ROW COLUMN TOTAL
  /COUNT ROUND CELL
  /METHOD=EXACT TIMER(5).
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Crosstabs

Notes

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Missing Val	Definition o	User-defined missing values are treated as missing.
	Cases Use	Statistics for each table are based on all the cases with valid data in the specified range(s) for all variables in each table.
Syntax		CROSSTABS /TABLES=Q2.1 Q2.2 Q2.3 Q2.4 Q3 Q5 Q6 Q7 Q8 Q11 BY Q1 /FORMAT=AVALUE TABLES /STATISTICS=CHISQ /CELLS=COUNT
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Achieving lower costs * Which level of management is responsible for making decisions regarding Outsourcing or insourcing in your company?

Crosstab

			s responsible for making decisions regarding Outsourcing or ii			Total
			Executive Manage	partment He	ine Managers	
Achieving lc	Weak	Count	1	1	0	2
		% within Ac	50.0%	50.0%	0.0%	100.0%
		% within WI	12.5%	16.7%	0.0%	13.3%
		% of Total	6.7%	6.7%	0.0%	13.3%
	Strong	Count	2	3	0	5
		% within Ac	40.0%	60.0%	0.0%	100.0%
		% within WI	25.0%	50.0%	0.0%	33.3%
		% of Total	13.3%	20.0%	0.0%	33.3%
	Very strong	Count	5	2	1	8
		% within Ac	62.5%	25.0%	12.5%	100.0%
		% within WI	62.5%	33.3%	100.0%	53.3%
		% of Total	33.3%	13.3%	6.7%	53.3%
Total		Count	8	6	1	15
		% within Ac	53.3%	40.0%	6.7%	100.0%
		% within WI	100.0%	100.0%	100.0%	100.0%
		% of Total	53.3%	40.0%	6.7%	100.0%

Chi-Square Tests

	Value	df	: Significance	ct Sig. (2-sic	ct Sig. (1-sic	int Probability
Pearson Ch	2.172[a]	4	0.704	0.876		
Likelihood F	2.563	4	0.633	0.876		
Fisher's Exa	2.998			0.876		
Linear-by-L	.013[b]	1	0.910	1.000	0.549	0.206
N of Valid C	15					

a. 9 cells (100.0%) have expected count less than 5. The minimum expected count is .13.
b. The standardized statistic is -.113.

Less capital expenditure * Which level of management is responsible for making decisions regarding Outsourcing or insourcing in your company?

Crosstab

			s responsible for making decisions regarding Outsourcing or ii			Total
			Executive Manage	partment He	ine Managers	
Less capita	Very weak	Count	1	0	0	1
		% within Le	100.0%	0.0%	0.0%	100.0%
		% within WI	12.5%	0.0%	0.0%	6.7%
		% of Total	6.7%	0.0%	0.0%	6.7%
	Weak	Count	1	1	0	2
		% within Le	50.0%	50.0%	0.0%	100.0%
		% within WI	12.5%	16.7%	0.0%	13.3%
		% of Total	6.7%	6.7%	0.0%	13.3%
	Strong	Count	3	4	1	8
		% within Le	37.5%	50.0%	12.5%	100.0%
		% within WI	37.5%	66.7%	100.0%	53.3%
		% of Total	20.0%	26.7%	6.7%	53.3%
	Very strong	Count	3	1	0	4
		% within Le	75.0%	25.0%	0.0%	100.0%
		% within WI	37.5%	16.7%	0.0%	26.7%
		% of Total	20.0%	6.7%	0.0%	26.7%
Total		Count	8	6	1	15
		% within Le	53.3%	40.0%	6.7%	100.0%
		% within WI	100.0%	100.0%	100.0%	100.0%
		% of Total	53.3%	40.0%	6.7%	100.0%

Chi-Square Tests

	Value	df	: Significance	ct Sig. (2-sic	ct Sig. (1-sic	int Probability
Pearson Ch	2.891[a]	6	0.822	0.925		
Likelihood F	3.609	6	0.729	0.925		
Fisher's Exa	4.832			0.925		
Linear-by-L	.000[b]	1	1.000	1.000	0.580	0.188
N of Valid C	15					

a. 12 cells (100.0%) have expected count less than 5. The minimum expected count is .07.
b. The standardized statistic is .000.

Focus on core competencies * Which level of management is responsible for making decisions regarding Outsourcing or insourcing in your company?

Crosstab

			s responsible for making decisions regarding Outsourcing or i			Total
			Executive Manage	partment Heine Managers		
Focus on c	Very weak	Count	1	0	0	1
		% within Fo	100.0%	0.0%	0.0%	100.0%
		% within WI	12.5%	0.0%	0.0%	6.7%
		% of Total	6.7%	0.0%	0.0%	6.7%
	Strong	Count	3	2	0	5
		% within Fo	60.0%	40.0%	0.0%	100.0%
		% within WI	37.5%	33.3%	0.0%	33.3%
		% of Total	20.0%	13.3%	0.0%	33.3%
	Very strong	Count	4	4	1	9
		% within Fo	44.4%	44.4%	11.1%	100.0%
		% within WI	50.0%	66.7%	100.0%	60.0%
		% of Total	26.7%	26.7%	6.7%	60.0%
Total		Count	8	6	1	15
		% within Fo	53.3%	40.0%	6.7%	100.0%
		% within WI	100.0%	100.0%	100.0%	100.0%
		% of Total	53.3%	40.0%	6.7%	100.0%

Chi-Square Tests

	Value	df	: Significance	ct Sig. (2-sic	ct Sig. (1-sic	oint Probability
Pearson Ch	1.694[a]	4	0.792	1.000		
Likelihood F	2.370	4	0.668	1.000		
Fisher's Exa	2.891			1.000		
Linear-by-L	1.289[b]	1	0.256	0.357	0.211	0.149
N of Valid C	15					

a. 9 cells (100.0%) have expected count less than 5. The minimum expected count is .07.
b. The standardized statistic is 1.135.

Employment of Specialised skill * Which level of management is responsible for making decisions regarding Outsourcing or insourcing in your company?

Crosstab

			s responsible for making decisions regarding Outsourcing or i			Total
			Executive Manage	partment Heine Managers		
Employmen	Very weak	Count	1	0	1	2
		% within En	50.0%	0.0%	50.0%	100.0%
		% within WI	12.5%	0.0%	100.0%	13.3%
		% of Total	6.7%	0.0%	6.7%	13.3%
	Weak	Count	1	1	0	2
		% within En	50.0%	50.0%	0.0%	100.0%
		% within WI	12.5%	16.7%	0.0%	13.3%
		% of Total	6.7%	6.7%	0.0%	13.3%
	Strong	Count	2	2	0	4
		% within En	50.0%	50.0%	0.0%	100.0%
		% within WI	25.0%	33.3%	0.0%	26.7%
		% of Total	13.3%	13.3%	0.0%	26.7%
	Very strong	Count	4	3	0	7
		% within En	57.1%	42.9%	0.0%	100.0%
		% within WI	50.0%	50.0%	0.0%	46.7%
		% of Total	26.7%	20.0%	0.0%	46.7%
Total		Count	8	6	1	15
		% within En	53.3%	40.0%	6.7%	100.0%
		% within WI	100.0%	100.0%	100.0%	100.0%
		% of Total	53.3%	40.0%	6.7%	100.0%

Chi-Square Tests

	Value	df	: Significance	ct Sig. (2-sic	ct Sig. (1-sic	oint Probability
Pearson Ch	7.500[a]	6	0.277	0.391		
Likelihood F	5.818	6	0.444	0.745		
Fisher's Exa	5.675			0.760		
Linear-by-L	.925[b]	1	0.336	0.358	0.225	0.090
N of Valid C	15					

a. 12 cells (100.0%) have expected count less than 5. The minimum expected count is .13.
b. The standardized statistic is -.962.

Due to scarcity of technical skills. Are you concerned that confidential information could be leaked and how? * Which level of management is responsible for making decisions regarding Outsourcing or insourcing in your company?

Crosstab

			s responsible for making decisions regarding Outsourcing or i			Total
			Executive Manage	partment Heine Managers		
Due to scar	Yes	Count	7	5	1	13
		% within Du	53.8%	38.5%	7.7%	100.0%
		% within WI	87.5%	83.3%	100.0%	86.7%
		% of Total	46.7%	33.3%	6.7%	86.7%
	No	Count	1	1	0	2
		% within Du	50.0%	50.0%	0.0%	100.0%
		% within WI	12.5%	16.7%	0.0%	13.3%
		% of Total	6.7%	6.7%	0.0%	13.3%
Total		Count	8	6	1	15
		% within Du	53.3%	40.0%	6.7%	100.0%
		% within WI	100.0%	100.0%	100.0%	100.0%
		% of Total	53.3%	40.0%	6.7%	100.0%

Chi-Square Tests

	Value	df	: Significance	ct Sig. (2-sic	ct Sig. (1-sic	oint Probability
Pearson Ch	.216[a]	2	0.897	1.000		
Likelihood F	0.345	2	0.841	1.000		
Fisher's Exa	1.043			1.000		
Linear-by-L	.006[b]	1	0.937	1.000	0.724	0.457
N of Valid C	15					

a. 4 cells (66.7%) have expected count less than 5. The minimum expected count is .13.
b. The standardized statistic is -.079.

Is current variation order influencing loss in profit margin? * Which level of management is responsible for making decisions regarding Outsourci

Crosstab

			s responsible for making decisions regarding Outsourcing or i			Total
			Executive Manage	partment Heine Managers		
Is current va	Yes	Count	6	4	1	11
		% within Is	54.5%	36.4%	9.1%	100.0%
		% within WI	75.0%	66.7%	100.0%	73.3%
		% of Total	40.0%	26.7%	6.7%	73.3%
	No	Count	2	2	0	4
		% within Is	50.0%	50.0%	0.0%	100.0%
		% within WI	25.0%	33.3%	0.0%	26.7%
		% of Total	13.3%	13.3%	0.0%	26.7%
Total		Count	8	6	1	15
		% within Is	53.3%	40.0%	6.7%	100.0%
		% within WI	100.0%	100.0%	100.0%	100.0%
		% of Total	53.3%	40.0%	6.7%	100.0%

Chi-Square Tests

	Value	df	: Significance	ct Sig. (2-sic	ct Sig. (1-sic	oint Probability
Pearson Ch	.511[a]	2	0.774	1.000		
Likelihood F	0.762	2	0.683	1.000		
Fisher's Exa	0.782			1.000		
Linear-by-L	.015[b]	1	0.903	1.000	0.646	0.349
N of Valid C	15					

a. 5 cells (83.3%) have expected count less than 5. The minimum expected count is .27.
b. The standardized statistic is -.122.

Would insourcing or outsourcing result in having more focus and dedication to each task *
Which level of management is responsible for making decisions regarding Outsourcing or insourcing in your company?
Crosstab

			s responsible for making decisions regarding Outsourcing or i			Total
			Executive Manage	partment He	ine Managers	
Would insou	Insourcing	Count	5	2	1	8
		% within W	62.5%	25.0%	12.5%	100.0%
		% within W	62.5%	33.3%	100.0%	53.3%
		% of Total	33.3%	13.3%	6.7%	53.3%
	Outsourcing	Count	3	4	0	7
		% within W	42.9%	57.1%	0.0%	100.0%
		% within W	37.5%	66.7%	0.0%	46.7%
		% of Total	20.0%	26.7%	0.0%	46.7%
Total		Count	8	6	1	15
		% within W	53.3%	40.0%	6.7%	100.0%
		% within W	100.0%	100.0%	100.0%	100.0%
		% of Total	53.3%	40.0%	6.7%	100.0%

Chi-Square Tests

	Value	df	Significance	ct Sig. (2-sic	ct Sig. (1-sic	oint Probability
Pearson Ch	2.109[a]	2	0.348	0.445		
Likelihood R	2.505	2	0.286	0.445		
Fisher's Exa	2.015			0.445		
Linear-by-L	.047[b]	1	0.829	1.000	0.568	0.294
N of Valid C	15					

a. 6 cells (100.0%) have expected count less than 5. The minimum expected count is .47.
b. The standardized statistic is .216.

The outsourcing process is often accompanied by significant delays in response to communications and action.
Are you concerned that outsources contractors choose which work to prioritise due to their preferred interest, thus causing biasness.
* Which level of management is responsible for making decisions regarding Outsourcing or insourcing in your company?
Crosstab

			s responsible for making decisions regarding Outsourcing or i			Total
			Executive Manage	partment He	ine Managers	
The outsou	Yes	Count	7	3	1	11
		% within Th	63.6%	27.3%	9.1%	100.0%
		% within W	100.0%	50.0%	100.0%	78.6%
		% of Total	50.0%	21.4%	7.1%	78.6%
	No	Count	0	3	0	3
		% within Th	0.0%	100.0%	0.0%	100.0%
		% within W	0.0%	50.0%	0.0%	21.4%
		% of Total	0.0%	21.4%	0.0%	21.4%
Total		Count	7	6	1	14
		% within Th	50.0%	42.9%	7.1%	100.0%
		% within W	100.0%	100.0%	100.0%	100.0%
		% of Total	50.0%	42.9%	7.1%	100.0%

Chi-Square Tests

	Value	df	Significance	ct Sig. (2-sic	ct Sig. (1-sic	oint Probability
Pearson Ch	5.091[a]	2	0.078	0.154		
Likelihood R	6.230	2	0.044	0.096		
Fisher's Exa	4.592			0.096		
Linear-by-L	1.679[b]	1	0.195	0.308	0.212	0.170
N of Valid C	14					

a. 5 cells (83.3%) have expected count less than 5. The minimum expected count is .21.
b. The standardized statistic is 1.296.

Does the company use and strictly enforces penalty clauses to ensure SLA's are met?
* Which level of management is responsible for making decisions regarding Outsourcing or insourcing in your company?
Crosstab

			s responsible for making decisions regarding Outsourcing or i			Total
			Executive Manage	partment He	ine Managers	
Does the cc	Yes	Count	2	1	0	3
		% within Dc	66.7%	33.3%	0.0%	100.0%
		% within W	25.0%	16.7%	0.0%	20.0%
		% of Total	13.3%	6.7%	0.0%	20.0%
	Do not kno	Count	2	1	1	4
		% within Dc	50.0%	25.0%	25.0%	100.0%
		% within W	25.0%	16.7%	100.0%	26.7%
		% of Total	13.3%	6.7%	6.7%	26.7%
	No	Count	4	4	0	8
		% within Dc	50.0%	50.0%	0.0%	100.0%
		% within W	50.0%	66.7%	0.0%	53.3%
		% of Total	26.7%	26.7%	0.0%	53.3%
Total		Count	8	6	1	15
		% within Dc	53.3%	40.0%	6.7%	100.0%
		% within W	100.0%	100.0%	100.0%	100.0%
		% of Total	53.3%	40.0%	6.7%	100.0%

Chi-Square Tests

	Value	df	Significance	ct Sig. (2-sic	ct Sig. (1-sic	oint Probability
Pearson Ch	3.333[a]	4	0.504	0.672		
Likelihood R	3.242	4	0.518	0.672		
Fisher's Exa	3.209			0.672		
Linear-by-L	.029[b]	1	0.865	1.000	0.546	0.195
N of Valid C	15					

a. 9 cells (100.0%) have expected count less than 5. The minimum expected count is .20.
b. The standardized statistic is .170.

Does current outsourcing have any impact on the Company's reputation and quality of work?
* Which level of management is responsible for making decisions regarding Outsourcing or insourcing in your company?
Crosstab

			s responsible for making decisions regarding Outsourcing or i			Total
			Executive Manage	partment He	ine Managers	
Does currer	Yes	Count	8	6	1	15
		% within Dc	53.3%	40.0%	6.7%	100.0%
		% within W	100.0%	100.0%	100.0%	100.0%
		% of Total	53.3%	40.0%	6.7%	100.0%
Total		Count	8	6	1	15
		% within Dc	53.3%	40.0%	6.7%	100.0%
		% within W	100.0%	100.0%	100.0%	100.0%
		% of Total	53.3%	40.0%	6.7%	100.0%

Chi-Square Tests

	Value
Pearson Ch	.[a]
N of Valid C	15

a. No statistics are computed because Does current outsourcing have any impact on the Company's reputation and quality of work? is a constant.

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Crosstabs

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Achieving lower costs * Due to scarcity of technical skills within the LPG industry there are a limited number of contractors.
Are you concerned that confidential information could be leaked?
Crosstab

			/ there are a limited number of contractors. Are yo		Total
			Yes	No	
Achieving lc	Weak	Count	2	0	2
		% within Ac	100.0%	0.0%	100.0%
		% within Du	15.4%	0.0%	13.3%
		% of Total	13.3%	0.0%	13.3%
	Strong	Count	4	1	5
		% within Ac	80.0%	20.0%	100.0%
		% within Du	30.8%	50.0%	33.3%
		% of Total	26.7%	6.7%	33.3%
	Very strong	Count	7	1	8
		% within Ac	87.5%	12.5%	100.0%
		% within Du	53.8%	50.0%	53.3%
		% of Total	46.7%	6.7%	53.3%
Total		Count	13	2	15
		% within Ac	86.7%	13.3%	100.0%
		% within Du	100.0%	100.0%	100.0%
		% of Total	86.7%	13.3%	100.0%

Chi-Square Tests

	Value	df	: Significance(2-sided)	Sig. (2-sided)	Sig. (1-sided)	Point Probability
Pearson Ch	.505[a]	2	0.777	1.000		
Likelihood F	0.748	2	0.688	1.000		
Fisher's Exa	0.896			1.000		
Linear-by-L	.043[b]	1	0.837	1.000	0.648	0.381
N of Valid C	15					

a. 5 cells (83.3%) have expected count less than 5. The minimum expected count is .27.
b. The standardized statistic is .206.

Less capital expenditure * Due to scarcity of technical skills within the LPG industry there are a limited number of contractors.
Are you concerned that confidential information could be leaked?
Crosstab

			/ there are a limited number of contractors. Are yo		Total
			Yes	No	
Less capita	Very weak	Count	1	0	1
		% within Le	100.0%	0.0%	100.0%
		% within Du	7.7%	0.0%	6.7%
		% of Total	6.7%	0.0%	6.7%
	Weak	Count	1	1	2
		% within Le	50.0%	50.0%	100.0%
		% within Du	7.7%	50.0%	13.3%
		% of Total	6.7%	6.7%	13.3%
	Strong	Count	7	1	8
		% within Le	87.5%	12.5%	100.0%
		% within Du	53.8%	50.0%	53.3%
		% of Total	46.7%	6.7%	53.3%
	Very strong	Count	4	0	4
		% within Le	100.0%	0.0%	100.0%
		% within Du	30.8%	0.0%	26.7%
		% of Total	26.7%	0.0%	26.7%
Total		Count	13	2	15
		% within Le	86.7%	13.3%	100.0%
		% within Du	100.0%	100.0%	100.0%
		% of Total	86.7%	13.3%	100.0%

Chi-Square Tests

	Value	df	: Significance(2-sided)	Sig. (2-sided)	Sig. (1-sided)	Point Probability
Pearson Ch	3.101[a]	3	0.376	0.429		
Likelihood F	2.979	3	0.395	0.429		
Fisher's Exa	3.272			0.429		
Linear-by-L	.808[b]	1	0.369	0.657	0.295	0.190
N of Valid C	15					

a. 7 cells (87.5%) have expected count less than 5. The minimum expected count is .13.
b. The standardized statistic is -.899.

Focus on core competencies * Due to scarcity of technical skills within the LPG industry there are a limited number of contractors.
Are you concerned that confidential information could be leaked ?
Crosstab

			/ there are a limited number of contractors. Are yo		Total
			Yes	No	
Focus on c	Very weak	Count	1	0	1
		% within Fo	100.0%	0.0%	100.0%
		% within Du	7.7%	0.0%	6.7%
		% of Total	6.7%	0.0%	6.7%
	Strong	Count	3	2	5
		% within Fo	60.0%	40.0%	100.0%
		% within Du	23.1%	100.0%	33.3%
		% of Total	20.0%	13.3%	33.3%
	Very strong	Count	9	0	9
		% within Fo	100.0%	0.0%	100.0%
		% within Du	69.2%	0.0%	60.0%
		% of Total	60.0%	0.0%	60.0%
Total		Count	13	2	15
		% within Fo	86.7%	13.3%	100.0%
		% within Du	100.0%	100.0%	100.0%
		% of Total	86.7%	13.3%	100.0%

Chi-Square Tests

	Value	df	: Significance(2-sided)	Sig. (2-sided)	Sig. (1-sided)	Point Probability
Pearson Ch	4.615[a]	2	0.099	0.229		
Likelihood F	5.050	2	0.080	0.229		
Fisher's Exa	4.244			0.229		
Linear-by-L	.723[b]	1	0.395	0.571	0.229	0.095
N of Valid C	15					

a. 5 cells (83.3%) have expected count less than 5. The minimum expected count is .13.
b. The standardized statistic is -.850.

Employment of Specialised skill * Due to scarcity of technical skills within the LPG industry there are a limited number of contractors.
Are you concerned that confidential information could be leaked?
Crosstab

			/ there are a limited number of contractors. Are yo		Total
			Yes	No	
Employmen	Very weak	Count	2	0	2
		% within En	100.0%	0.0%	100.0%
		% within Du	15.4%	0.0%	13.3%
		% of Total	13.3%	0.0%	13.3%
	Weak	Count	2	0	2
		% within En	100.0%	0.0%	100.0%
		% within Du	15.4%	0.0%	13.3%
		% of Total	13.3%	0.0%	13.3%
	Strong	Count	4	0	4
		% within En	100.0%	0.0%	100.0%
		% within Du	30.8%	0.0%	26.7%
		% of Total	26.7%	0.0%	26.7%
	Very strong	Count	5	2	7
		% within En	71.4%	28.6%	100.0%
		% within Du	38.5%	100.0%	46.7%
		% of Total	33.3%	13.3%	46.7%
Total		Count	13	2	15
		% within En	86.7%	13.3%	100.0%
		% within Du	100.0%	100.0%	100.0%
		% of Total	86.7%	13.3%	100.0%

Chi-Square Tests

	Value	df	: Significance(2-sided)	Sig. (2-sided)	Sig. (1-sided)	Point Probability
Pearson Ch	2.637[a]	3	0.451	0.733		
Likelihood F	3.404	3	0.333	0.467		
Fisher's Exa	2.169			0.733		
Linear-by-L	1.662[b]	1	0.197	0.333	0.200	0.200
N of Valid C	15					

a. 7 cells (87.5%) have expected count less than 5. The minimum expected count is .27.
b. The standardized statistic is 1.289.

Is current variation order influencing loss in profit margin?

* Due to scarcity of technical skills within the LPG industry there are a limited number of contractors

. Are you concerned that confidential information could be leaked?

Crosstab

			/ there are a limited number of contractors. Are yo		Total
			Yes	No	
Is current va	Yes	Count	11	0	11
		% within Is	100.0%	0.0%	100.0%
		% within Du	84.6%	0.0%	73.3%
		% of Total	73.3%	0.0%	73.3%
	No	Count	2	2	4
		% within Is	50.0%	50.0%	100.0%
		% within Du	15.4%	100.0%	26.7%
		% of Total	13.3%	13.3%	26.7%
Total		Count	13	2	15
		% within Is	86.7%	13.3%	100.0%
		% within Du	100.0%	100.0%	100.0%
		% of Total	86.7%	13.3%	100.0%

Chi-Square Tests

	Value	df	: Significance	ct Sig. (2-sic	ct Sig. (1-sic	oint Probability
Pearson Ch	6.346[a]	1	0.012	0.057	0.057	
Continuity C	2.757	1	0.097			
Likelihood R	6.235	1	0.013	0.057	0.057	
Fisher's Exact Test				0.057	0.057	
Linear-by-L	5.923[c]	1	0.015	0.057	0.057	0.057
N of Valid C	15					

a. 3 cells (75.0%) have expected count less than 5. The minimum expected count is .53.

b. Computed only for a 2x2 table

c. The standardized statistic is 2.434.

Would insourcing or outsourcing result in having more focus and dedication to each task and why

* Due to scarcity of technical skills within the LPG industry there are a limited number of contractors.

Are you concerned that confidential information could be leaked?

Crosstab

			/ there are a limited number of contractors. Are yo		Total
			Yes	No	
Would insou	Insourcing	Count	6	2	8
		% within Wo	75.0%	25.0%	100.0%
		% within Du	46.2%	100.0%	53.3%
		% of Total	40.0%	13.3%	53.3%
	Outsourcing	Count	7	0	7
		% within Wo	100.0%	0.0%	100.0%
		% within Du	53.8%	0.0%	46.7%
		% of Total	46.7%	0.0%	46.7%
Total		Count	13	2	15
		% within Wo	86.7%	13.3%	100.0%
		% within Du	100.0%	100.0%	100.0%
		% of Total	86.7%	13.3%	100.0%

Chi-Square Tests

	Value	df	: Significance	ct Sig. (2-sic	ct Sig. (1-sic	oint Probability
Pearson Ch	2.019[a]	1	0.155	0.467	0.267	
Continuity C	0.435	1	0.509			
Likelihood R	2.783	1	0.095	0.467	0.267	
Fisher's Exact Test				0.467	0.267	
Linear-by-L	1.885[c]	1	0.170	0.467	0.267	0.267
N of Valid C	15					

a. 2 cells (50.0%) have expected count less than 5. The minimum expected count is .93.

b. Computed only for a 2x2 table

c. The standardized statistic is -1.373.

Are you concerned that outsources contractors choose which work to prioritise due to their preferred interest, thus causing biasness.

* Due to scarcity of technical skills within the LPG industry there are a limited number of contractors.

The outsourcing process is often accompanied by significant delays in response to communications and action. Are you concerned that confidential i

Crosstab

			/ there are a limited number of contractors. Are yo		Total
			Yes	No	
The outsou	Yes	Count	10	1	11
		% within Th	90.9%	9.1%	100.0%
		% within Du	83.3%	50.0%	78.6%
		% of Total	71.4%	7.1%	78.6%
	No	Count	2	1	3
		% within Th	66.7%	33.3%	100.0%
		% within Du	16.7%	50.0%	21.4%
		% of Total	14.3%	7.1%	21.4%
Total		Count	12	2	14
		% within Th	85.7%	14.3%	100.0%
		% within Du	100.0%	100.0%	100.0%
		% of Total	85.7%	14.3%	100.0%

Chi-Square Tests

	Value	df	: Significance	ct Sig. (2-sic	ct Sig. (1-sic	oint Probability
Pearson Ch	1.131[a]	1	0.287	0.396	0.396	
Continuity C	0.018	1	0.894			
Likelihood R	0.962	1	0.327	1.000	0.396	
Fisher's Exact Test				0.396	0.396	
Linear-by-L	1.051[c]	1	0.305	0.396	0.396	0.363
N of Valid C	14					

a. 3 cells (75.0%) have expected count less than 5. The minimum expected count is .43.

b. Computed only for a 2x2 table

c. The standardized statistic is 1.025.

Does the company use and strictly enforces penalty clauses to ensure SLA's are met?
* Due to scarcity of technical skills within the LPG industry there are a limited number of contractors.
Are you concerned that confidential information could be leaked and how?
Crosstab

			r there are a limited number of contractors. Are yo		Total
			Yes	No	
Does the cc	Yes	Count	3	0	3
		% within Dc	100.0%	0.0%	100.0%
		% within Du	23.1%	0.0%	20.0%
		% of Total	20.0%	0.0%	20.0%
	Do not knov	Count	3	1	4
		% within Dc	75.0%	25.0%	100.0%
		% within Du	23.1%	50.0%	26.7%
		% of Total	20.0%	6.7%	26.7%
	No	Count	7	1	8
		% within Dc	87.5%	12.5%	100.0%
		% within Du	53.8%	50.0%	53.3%
		% of Total	46.7%	6.7%	53.3%
Total		Count	13	2	15
		% within Dc	86.7%	13.3%	100.0%
		% within Du	100.0%	100.0%	100.0%
		% of Total	86.7%	13.3%	100.0%

Chi-Square Tests

	Value	df	Significance	ct Sig. (2-sic	ct Sig. (1-sic	oint Probability
Pearson Ch	,938[a]	2	0.626	1.000		
Likelihood F	1.253	2	0.534	1.000		
Fisher's Exa	1.160			1.000		
Linear-by-L	,096[b]	1	0.756	1.000	0.571	0.305
N of Valid C	15					

a. 5 cells (83.3%) have expected count less than 5. The minimum expected count is .40.
b. The standardized statistic is .310.

Does current outsourcing have any impact on the Company's reputation and quality of work? *
Due to scarcity of technical skills within the LPG industry there are a limited number of contractors.
Are you concerned that confidential information could be leaked?
Crosstab

			r there are a limited number of contractors. Are yo		Total
			Yes	No	
Does currer	Yes	Count	13	2	15
		% within Dc	86.7%	13.3%	100.0%
		% within Du	100.0%	100.0%	100.0%
		% of Total	86.7%	13.3%	100.0%
Total		Count	13	2	15
		% within Dc	86.7%	13.3%	100.0%
		% within Du	100.0%	100.0%	100.0%
		% of Total	86.7%	13.3%	100.0%

Chi-Square Tests

	Value
Pearson Ch	.[a]
N of Valid C	15

a. No statistics are computed because Does current outsourcing have any impact on the Company's reputation and quality of work? is a constant.

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Crosstabs

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	Cases Usec	Statistics for each table are based on all the cases with valid data in the specified range(s) for all variables in each table.
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Achieving lower costs * Is current variation order influencing loss in profit margin?

Crosstab

			Is current variation order influencing loss in prof		Total
			Yes	No	
Achieving lc	Weak	Count	2	0	2
		% within Ac	100.0%	0.0%	100.0%
		% within Is	18.2%	0.0%	13.3%
		% of Total	13.3%	0.0%	13.3%
	Strong	Count	2	3	5
		% within Ac	40.0%	60.0%	100.0%
		% within Is	18.2%	75.0%	33.3%
		% of Total	13.3%	20.0%	33.3%
	Very strong	Count	7	1	8
		% within Ac	87.5%	12.5%	100.0%
		% within Is	63.6%	25.0%	53.3%
		% of Total	46.7%	6.7%	53.3%
Total		Count	11	4	15
		% within Ac	73.3%	26.7%	100.0%
		% within Is	100.0%	100.0%	100.0%
		% of Total	73.3%	26.7%	100.0%

Chi-Square Tests

	Value	df	Significance	ct Sig. (2-sic	ct Sig. (1-sic	oint Probability
Pearson Ch	4,389[a]	2	0.111	0.185		
Likelihood F	4.639	2	0.098	0.185		
Fisher's Exa	3.588			0.185		
Linear-by-L	,226[b]	1	0.634	0.713	0.456	0.264
N of Valid C	15					

a. 5 cells (83.3%) have expected count less than 5. The minimum expected count is .53.
b. The standardized statistic is -.475.

Less capital expenditure * Is current variation order influencing loss in profit margin?

Crosstab

			Is current variation order influencing loss in prof		Total
			Yes	No	
Less capita	Very weak	Count	1	0	1
		% within Le	100.0%	0.0%	100.0%
		% within Is	9.1%	0.0%	6.7%
		% of Total	6.7%	0.0%	6.7%
	Weak	Count	1	1	2
		% within Le	50.0%	50.0%	100.0%
		% within Is	9.1%	25.0%	13.3%
		% of Total	6.7%	6.7%	13.3%
	Strong	Count	6	2	8
		% within Le	75.0%	25.0%	100.0%
		% within Is	54.5%	50.0%	53.3%
		% of Total	40.0%	13.3%	53.3%
	Very strong	Count	3	1	4
		% within Le	75.0%	25.0%	100.0%
		% within Is	27.3%	25.0%	26.7%
		% of Total	20.0%	6.7%	26.7%
Total		Count	11	4	15
		% within Le	73.3%	26.7%	100.0%
		% within Is	100.0%	100.0%	100.0%
		% of Total	73.3%	26.7%	100.0%

Chi-Square Tests

	Value	df	Significance	Sig. (2-sided	Sig. (1-sided	Point Probability
Pearson Ch	.938[a]	3	0.816	1.000		
Likelihood R	1.129	3	0.770	1.000		
Fisher's Exa	1.546			1.000		
Linear-by-L	.000[b]	1	1.000	1.000	0.610	0.255
N of Valid C	15					

a. 7 cells (87.5%) have expected count less than 5. The minimum expected count is .27.
b. The standardized statistic is .000.

Focus on core competencies * Is current variation order influencing loss in profit margin?

Crosstab

			Is current variation order influencing loss in prof		Total
			Yes	No	
Focus on c	Very weak	Count	0	1	1
		% within Fo	0.0%	100.0%	100.0%
		% within Is	0.0%	25.0%	6.7%
		% of Total	0.0%	6.7%	6.7%
	Strong	Count	3	2	5
		% within Fo	60.0%	40.0%	100.0%
		% within Is	27.3%	50.0%	33.3%
		% of Total	20.0%	13.3%	33.3%
	Very strong	Count	8	1	9
		% within Fo	88.9%	11.1%	100.0%
		% within Is	72.7%	25.0%	60.0%
		% of Total	53.3%	6.7%	60.0%
Total		Count	11	4	15
		% within Fo	73.3%	26.7%	100.0%
		% within Is	100.0%	100.0%	100.0%
		% of Total	73.3%	26.7%	100.0%

Chi-Square Tests

	Value	df	Significance	Sig. (2-sided	Sig. (1-sided	Point Probability
Pearson Ch	4.318[a]	2	0.115	0.204		
Likelihood R	4.388	2	0.111	0.297		
Fisher's Exa	3.928			0.204		
Linear-by-L	4.030[b]	1	0.045	0.073	0.073	0.066
N of Valid C	15					

a. 5 cells (83.3%) have expected count less than 5. The minimum expected count is .27.
b. The standardized statistic is -2.007.

Employment of Specialised skill * Is current variation order influencing loss in profit margin?

Crosstab

			Is current variation order influencing loss in prof		Total
			Yes	No	
Employmen	Very weak	Count	1	1	2
		% within En	50.0%	50.0%	100.0%
		% within Is	9.1%	25.0%	13.3%
		% of Total	6.7%	6.7%	13.3%
	Weak	Count	1	1	2
		% within En	50.0%	50.0%	100.0%
		% within Is	9.1%	25.0%	13.3%
		% of Total	6.7%	6.7%	13.3%
	Strong	Count	4	0	4
		% within En	100.0%	0.0%	100.0%
		% within Is	36.4%	0.0%	26.7%
		% of Total	26.7%	0.0%	26.7%
	Very strong	Count	5	2	7
		% within En	71.4%	28.6%	100.0%
		% within Is	45.5%	50.0%	46.7%
		% of Total	33.3%	13.3%	46.7%
Total		Count	11	4	15
		% within En	73.3%	26.7%	100.0%
		% within Is	100.0%	100.0%	100.0%
		% of Total	73.3%	26.7%	100.0%

Chi-Square Tests

	Value	df	Significance	Sig. (2-sided	Sig. (1-sided	Point Probability
Pearson Ch	2.581[a]	3	0.461	0.569		
Likelihood R	3.477	3	0.324	0.446		
Fisher's Exa	2.948			0.477		
Linear-by-L	.452[b]	1	0.501	0.604	0.333	0.149
N of Valid C	15					

a. 7 cells (87.5%) have expected count less than 5. The minimum expected count is .53.
b. The standardized statistic is -.672.

Would insourcing or outsourcing result in having more focus and dedication to each task and why * Is

Crosstab

			Is current variation order influencing loss in prof		Total
			Yes	No	
Would inso	Insourcing	Count	5	3	8
		% within Wo	62.5%	37.5%	100.0%
		% within Is	45.5%	75.0%	53.3%
		% of Total	33.3%	20.0%	53.3%
	Outsourcing	Count	6	1	7
		% within Wo	85.7%	14.3%	100.0%
		% within Is	54.5%	25.0%	46.7%
		% of Total	40.0%	6.7%	46.7%
Total		Count	11	4	15
		% within Wo	73.3%	26.7%	100.0%
		% within Is	100.0%	100.0%	100.0%
		% of Total	73.3%	26.7%	100.0%

Chi-Square Tests

	Value	df	Significance	Sig. (2-sided	Sig. (1-sided	Point Probability
Pearson Ch	1.029[a]	1	0.310	0.569	0.338	
Continuity C	0.184	1	0.668			
Likelihood R	1.071	1	0.301	0.569	0.338	
Fisher's Exact Test				0.569	0.338	
Linear-by-L	.960[c]	1	0.327	0.569	0.338	0.287
N of Valid C	15					

a. 2 cells (50.0%) have expected count less than 5. The minimum expected count is 1.87.
b. Computed only for a 2x2 table
c. The standardized statistic is -.980.

Crosstab

		Is current variation order influencing loss in prof		Total
		Yes	No	
Would insou	Insourcing	5	3	8
	% within Wo	62.5%	37.5%	100.0%
	% within Is	45.5%	75.0%	53.3%
	% of Total	33.3%	20.0%	53.3%
	Outsourcing	6	1	7
	% within Wo	85.7%	14.3%	100.0%
	% within Is	54.5%	25.0%	46.7%
	% of Total	40.0%	6.7%	46.7%
Total		11	4	15
	% within Wo	73.3%	26.7%	100.0%
	% within Is	100.0%	100.0%	100.0%
	% of Total	73.3%	26.7%	100.0%

Chi-Square Tests

	Value	df	Significance	ct Sig. (2-sic	ct Sig. (1-sic	oint Probability
Pearson Ch	1.029[a]	1	0.310	0.569	0.338	
Continuity C	0.184	1	0.668			
Likelihood R	1.071	1	0.301	0.569	0.338	
Fisher's Exact Test				0.569	0.338	
Linear-by-L	.960[b]	1	0.327	0.569	0.338	0.287
N of Valid C	15					

a. 2 cells (50.0%) have expected count less than 5. The minimum expected count is 1.87.
b. Computed only for a 2x2 table
c. The standardized statistic is -.980.

The outsourcing process is often accompanied by significant delays in response to communications and action.
Are you concerned that outsources contractors choose which work to prioritise due to their preferred interest, thus causing biasness.
* Is current variation order influencing loss in profit margin?

Crosstab

		Is current variation order influencing loss in prof		Total
		Yes	No	
The outsou	Yes	8	3	11
	% within Th	72.7%	27.3%	100.0%
	% within Is	80.0%	75.0%	78.6%
	% of Total	57.1%	21.4%	78.6%
	No	2	1	3
	% within Th	66.7%	33.3%	100.0%
	% within Is	20.0%	25.0%	21.4%
	% of Total	14.3%	7.1%	21.4%
Total		10	4	14
	% within Th	71.4%	28.6%	100.0%
	% within Is	100.0%	100.0%	100.0%
	% of Total	71.4%	28.6%	100.0%

Chi-Square Tests

	Value	df	Significance	ct Sig. (2-sic	ct Sig. (1-sic	oint Probability
Pearson Ch	.042[a]	1	0.837	1.000	0.670	
Continuity C	0.000	1	1.000			
Likelihood R	0.042	1	0.839	1.000	0.670	
Fisher's Exact Test				1.000	0.670	
Linear-by-L	.039[b]	1	0.843	1.000	0.670	0.495
N of Valid C	14					

a. 3 cells (75.0%) have expected count less than 5. The minimum expected count is .86.
b. Computed only for a 2x2 table
c. The standardized statistic is .198.

Does the company use and strictly enforces penalty clauses to ensure SLA's are met? * Is current variation order influencing loss in pro

Crosstab

		Is current variation order influencing loss in prof		Total
		Yes	No	
Does the co	Yes	3	0	3
	% within Do	100.0%	0.0%	100.0%
	% within Is	27.3%	0.0%	20.0%
	% of Total	20.0%	0.0%	20.0%
	Do not know	3	1	4
	% within Do	75.0%	25.0%	100.0%
	% within Is	27.3%	25.0%	26.7%
	% of Total	20.0%	6.7%	26.7%
	No	5	3	8
	% within Do	62.5%	37.5%	100.0%
	% within Is	45.5%	75.0%	53.3%
	% of Total	33.3%	20.0%	53.3%
Total		11	4	15
	% within Do	73.3%	26.7%	100.0%
	% within Is	100.0%	100.0%	100.0%
	% of Total	73.3%	26.7%	100.0%

Chi-Square Tests

	Value	df	Significance	ct Sig. (2-sic	ct Sig. (1-sic	oint Probability
Pearson Ch	1.577[a]	2	0.455	0.754		
Likelihood R	2.314	2	0.314	0.648		
Fisher's Exa	1.346			0.754		
Linear-by-L	1.420[b]	1	0.233	0.316	0.215	0.164
N of Valid C	15					

a. 5 cells (83.3%) have expected count less than 5. The minimum expected count is .80.
b. The standardized statistic is 1.192.

Does current outsourcing have any impact on the Company's reputation and quality of work? * Is current variation order influencing loss

Crosstab

		Is current variation order influencing loss in prof		Total
		Yes	No	
Does currer	Yes	11	4	15
	% within Do	73.3%	26.7%	100.0%
	% within Is	100.0%	100.0%	100.0%
	% of Total	73.3%	26.7%	100.0%
Total		11	4	15
	% within Do	73.3%	26.7%	100.0%
	% within Is	100.0%	100.0%	100.0%
	% of Total	73.3%	26.7%	100.0%

Chi-Square Tests

	Value
Pearson Ch	.[a]
N of Valid C	15

a. No statistics are computed because Does current outsourcing have any impact on the Company's reputation and quality of work? is a constant.

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Crosstabs

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Achieving lower costs * Would insourcing or outsourcing result in having more focus and dedication to each task and why

Crosstab

		or outsourcing result in having more focus and de		Total
		Insourcing	Outsourcing	
Achieving lo	Weak	1	1	2
	% within Ac	50.0%	50.0%	100.0%
	% within Wo	12.5%	14.3%	13.3%
	% of Total	6.7%	6.7%	13.3%
	Strong	2	3	5
	% within Ac	40.0%	60.0%	100.0%
	% within Wo	25.0%	42.9%	33.3%
	% of Total	13.3%	20.0%	33.3%
	Very strong	5	3	8
	% within Ac	62.5%	37.5%	100.0%
	% within Wo	62.5%	42.9%	53.3%
	% of Total	33.3%	20.0%	53.3%
Total		8	7	15
	% within Ac	53.3%	46.7%	100.0%
	% within Wo	100.0%	100.0%	100.0%
	% of Total	53.3%	46.7%	100.0%

Chi-Square Tests

	Value	df	Significance	ct Sig. (2-sic	ct Sig. (1-sic	oint Probability
Pearson Ch	.636[a]	2	0.728	0.782		
Likelihood R	0.640	2	0.726	0.782		
Fisher's Exa	0.929			0.782		
Linear-by-L	.316[b]	1	0.574	0.730	0.416	0.233
N of Valid C	15					

a. 6 cells (100.0%) have expected count less than 5. The minimum expected count is .93.
b. The standardized statistic is -.562.

Less capital expenditure * Would insourcing or outsourcing result in having more focus and dedication to each task and why

Crosstab

			or outsourcing result in having more focus and de		Total
			Insourcing	Outsourcing	
Less capita	Very weak	Count	1	0	1
		% within Le	100.0%	0.0%	100.0%
		% within Wo	12.5%	0.0%	6.7%
		% of Total	6.7%	0.0%	6.7%
	Weak	Count	1	1	2
		% within Le	50.0%	50.0%	100.0%
		% within Wo	12.5%	14.3%	13.3%
		% of Total	6.7%	6.7%	13.3%
	Strong	Count	5	3	8
		% within Le	62.5%	37.5%	100.0%
		% within Wo	62.5%	42.9%	53.3%
		% of Total	33.3%	20.0%	53.3%
	Very strong	Count	1	3	4
		% within Le	25.0%	75.0%	100.0%
		% within Wo	12.5%	42.9%	26.7%
		% of Total	6.7%	20.0%	26.7%
Total		Count	8	7	15
		% within Le	53.3%	46.7%	100.0%
		% within Wo	100.0%	100.0%	100.0%
		% of Total	53.3%	46.7%	100.0%

Chi-Square Tests

	Value	df	Significance	ct Sig. (2-sic	ct Sig. (1-sic	oint Probability
Pearson Ch	2.444[a]	3	0.485	0.678		
Likelihood R	2.871	3	0.412	0.678		
Fisher's Exa	2.537			0.678		
Linear-by-L	1.500[b]	1	0.221	0.378	0.188	0.127
N of Valid C	15					

a. 8 cells (100.0%) have expected count less than 5. The minimum expected count is .47.
b. The standardized statistic is 1.225.

Focus on core competencies * Would insourcing or outsourcing result in having more focus and dedication to each task and

Crosstab

			or outsourcing result in having more focus and de		Total
			Insourcing	Outsourcing	
Focus on co	Very weak	Count	1	0	1
		% within Fo	100.0%	0.0%	100.0%
		% within Wo	12.5%	0.0%	6.7%
		% of Total	6.7%	0.0%	6.7%
	Strong	Count	3	2	5
		% within Fo	60.0%	40.0%	100.0%
		% within Wo	37.5%	28.6%	33.3%
		% of Total	20.0%	13.3%	33.3%
	Very strong	Count	4	5	9
		% within Fo	44.4%	55.6%	100.0%
		% within Wo	50.0%	71.4%	60.0%
		% of Total	26.7%	33.3%	60.0%
Total		Count	8	7	15
		% within Fo	53.3%	46.7%	100.0%
		% within Wo	100.0%	100.0%	100.0%
		% of Total	53.3%	46.7%	100.0%

Chi-Square Tests

	Value	df	Significance	ct Sig. (2-sic	ct Sig. (1-sic	oint Probability
Pearson Ch	1.250[a]	2	0.535	1.000		
Likelihood R	1.632	2	0.442	1.000		
Fisher's Exa	1.268			1.000		
Linear-by-L	1.158[b]	1	0.282	0.427	0.267	0.196
N of Valid C	15					

a. 6 cells (100.0%) have expected count less than 5. The minimum expected count is .47.
b. The standardized statistic is 1.076.

Employment of Specialised skill * Would insourcing or outsourcing result in having more focus and dedication to each task a

Crosstab

			or outsourcing result in having more focus and de		Total
			Insourcing	Outsourcing	
Employmen	Very weak	Count	2	0	2
		% within En	100.0%	0.0%	100.0%
		% within Wo	25.0%	0.0%	13.3%
		% of Total	13.3%	0.0%	13.3%
	Weak	Count	0	2	2
		% within En	0.0%	100.0%	100.0%
		% within Wo	0.0%	28.6%	13.3%
		% of Total	0.0%	13.3%	13.3%
	Strong	Count	3	1	4
		% within En	75.0%	25.0%	100.0%
		% within Wo	37.5%	14.3%	26.7%
		% of Total	20.0%	6.7%	26.7%
	Very strong	Count	3	4	7
		% within En	42.9%	57.1%	100.0%
		% within Wo	37.5%	57.1%	46.7%
		% of Total	20.0%	26.7%	46.7%
Total		Count	8	7	15
		% within En	53.3%	46.7%	100.0%
		% within Wo	100.0%	100.0%	100.0%
		% of Total	53.3%	46.7%	100.0%

Chi-Square Tests

	Value	df	Significance	ct Sig. (2-sic	ct Sig. (1-sic	oint Probability
Pearson Ch	5.099[a]	3	0.165	0.230		
Likelihood R	6.668	3	0.083	0.230		
Fisher's Exa	4.304			0.230		
Linear-by-L	.521[b]	1	0.471	0.504	0.320	0.144
N of Valid C	15					

a. 8 cells (100.0%) have expected count less than 5. The minimum expected count is .93.
b. The standardized statistic is .722.

The outsourcing process is often accompanied by significant delays in response to communications and action.
Are you concerned that outsources contractors choose which work to prioritise due to their preferred interest, thus causing biasness.
*** Would insourcing or outsourcing result in having more focus and dedication to each task and why**
Crosstab

			or outsourcing result in having more focus and de		Total
			Insourcing	Outsourcing	
The outsou	Yes	Count	6	5	11
		% within Th	54.5%	45.5%	100.0%
		% within W	75.0%	83.3%	78.6%
		% of Total	42.9%	35.7%	78.6%
	No	Count	2	1	3
		% within Th	66.7%	33.3%	100.0%
		% within W	25.0%	16.7%	21.4%
		% of Total	14.3%	7.1%	21.4%
Total		Count	8	6	14
		% within Th	57.1%	42.9%	100.0%
		% within W	100.0%	100.0%	100.0%
		% of Total	57.1%	42.9%	100.0%

Chi-Square Tests

	Value	df	Significance	ct Sig. (2-sic	ct Sig. (1-sic	oint Probability
Pearson Ch	.141[a]	1	0.707	1.000	0.615	
Continuity C	0.000	1	1.000			
Likelihood F	0.144	1	0.704	1.000	0.615	
Fisher's Exact Test				1.000	0.615	
Linear-by-L	.131[c]	1	0.717	1.000	0.615	0.462
N of Valid C	14					

a. 3 cells (75.0%) have expected count less than 5. The minimum expected count is 1.29.
b. Computed only for a 2x2 table
c. The standardized statistic is -.362.

Does the company use and strictly enforces penalty clauses to ensure SLA's are met?
* Would insourcing or outsourcing result in having more focus and dedication to each task
Crosstab

			or outsourcing result in having more focus and de		Total
			Insourcing	Outsourcing	
Does the cc	Yes	Count	1	2	3
		% within Dc	33.3%	66.7%	100.0%
		% within W	12.5%	28.6%	20.0%
		% of Total	6.7%	13.3%	20.0%
	Do not knov	Count	3	1	4
		% within Dc	75.0%	25.0%	100.0%
		% within W	37.5%	14.3%	26.7%
		% of Total	20.0%	6.7%	26.7%
	No	Count	4	4	8
		% within Dc	50.0%	50.0%	100.0%
		% within W	50.0%	57.1%	53.3%
		% of Total	26.7%	26.7%	53.3%
Total		Count	8	7	15
		% within Dc	53.3%	46.7%	100.0%
		% within W	100.0%	100.0%	100.0%
		% of Total	53.3%	46.7%	100.0%

Chi-Square Tests

	Value	df	Significance	ct Sig. (2-sic	ct Sig. (1-sic	oint Probability
Pearson Ch	1.272[a]	2	0.529	0.648		
Likelihood F	1.320	2	0.517	0.648		
Fisher's Exa	1.322			0.648		
Linear-by-L	.045[b]	1	0.833	1.000	0.538	0.235
N of Valid C	15					

a. 6 cells (100.0%) have expected count less than 5. The minimum expected count is 1.40.
b. The standardized statistic is -.211.

Does current outsourcing have any impact on the Company's reputation and quality of work?
* Would insourcing or outsourcing result in having more focus and dedication to each task
Crosstab

			or outsourcing result in having more focus and de		Total
			Insourcing	Outsourcing	
Does currer	Yes	Count	8	7	15
		% within Dc	53.3%	46.7%	100.0%
		% within W	100.0%	100.0%	100.0%
		% of Total	53.3%	46.7%	100.0%
Total		Count	8	7	15
		% within Dc	53.3%	46.7%	100.0%
		% within W	100.0%	100.0%	100.0%
		% of Total	53.3%	46.7%	100.0%

Chi-Square Tests

	Value
Pearson Ch	.[a]
N of Valid C	15

a. No statistics are computed because Does current outsourcing have any impact on the Company's reputation and quality of work? is a constant.

```
CROSSTABS
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  /COUNT ROUND CELL
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Crosstabs

Notes

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	Cases Use	Statistics for each table are based on all the cases with valid data in the specified range(s) for all variables in each table.
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Achieving lower costs * The outsourcing process is often accompanied by significant delays in response to communications and action.
Are you concerned that outsources contractors choose which work to prioritise due to their preferred interest, thus causing biasness.
Crosstab

			ications and action. Are you concerned that outsc		Total
			Yes	No	
Achieving lc	Weak	Count	2	0	2
		% within Ac	100.0%	0.0%	100.0%
		% within Th	18.2%	0.0%	14.3%
		% of Total	14.3%	0.0%	14.3%
	Strong	Count	3	2	5
		% within Ac	60.0%	40.0%	100.0%
		% within Th	27.3%	66.7%	35.7%
		% of Total	21.4%	14.3%	35.7%
	Very strong	Count	6	1	7
		% within Ac	85.7%	14.3%	100.0%
		% within Th	54.5%	33.3%	50.0%
		% of Total	42.9%	7.1%	50.0%
Total		Count	11	3	14
		% within Ac	78.6%	21.4%	100.0%
		% within Th	100.0%	100.0%	100.0%
		% of Total	78.6%	21.4%	100.0%

Chi-Square Tests

	Value	df	Significance	ct Sig. (2-sic	ct Sig. (1-sic	oint Probability
Pearson Ch	1.782[a]	2	0.410	0.519		
Likelihood F	2.076	2	0.354	0.519		
Fisher's Exa	1.575			0.712		
Linear-by-L	.004[b]	1	0.950	1.000	0.615	0.308
N of Valid C	14					

a. 5 cells (83.3%) have expected count less than 5. The minimum expected count is .43.
b. The standardized statistic is -.062.

Less capital expenditure * The outsourcing process is often accompanied by significant delays in response to communications and action. Are you concerned that outsources contractors choose which work to prioritise due to their preferred interest, thus causing biasness.

Crosstab

	ications and action. Are you concerned that outsc		Yes	No	Total
Less capita	Very weak	Count	1	0	1
		% within Le	100.0%	0.0%	100.0%
		% within Th	9.1%	0.0%	7.1%
		% of Total	7.1%	0.0%	7.1%
	Weak	Count	2	0	2
		% within Le	100.0%	0.0%	100.0%
		% within Th	18.2%	0.0%	14.3%
		% of Total	14.3%	0.0%	14.3%
	Strong	Count	6	2	8
		% within Le	75.0%	25.0%	100.0%
		% within Th	54.5%	66.7%	57.1%
		% of Total	42.9%	14.3%	57.1%
	Very strong	Count	2	1	3
		% within Le	66.7%	33.3%	100.0%
		% within Th	18.2%	33.3%	21.4%
		% of Total	14.3%	7.1%	21.4%
Total		Count	11	3	14
		% within Le	78.6%	21.4%	100.0%
		% within Th	100.0%	100.0%	100.0%
		% of Total	78.6%	21.4%	100.0%

Chi-Square Tests

	Value	df	Significance	ct Sig. (2-sic	ct Sig. (1-sic	oint Probability
Pearson Ch	1.131[a]	3	0.770	1.000		
Likelihood R	1.732	3	0.630	1.000		
Fisher's Exa	1.532			1.000		
Linear-by-L	.911[b]	1	0.340	0.478	0.316	0.247
N of Valid C	14					

a. 7 cells (87.5%) have expected count less than 5. The minimum expected count is .21.
b. The standardized statistic is .954.

Focus on core competencies * The outsourcing process is often accompanied by significant delays in response to communications and action. Are you concerned that outsources contractors choose which work to prioritise due to their preferred interest, thus causing biasness.

Crosstab

	ications and action. Are you concerned that outsc		Yes	No	Total
Focus on c	Very weak	Count	1	0	1
		% within Fo	100.0%	0.0%	100.0%
		% within Th	9.1%	0.0%	7.1%
		% of Total	7.1%	0.0%	7.1%
	Strong	Count	2	2	4
		% within Fo	50.0%	50.0%	100.0%
		% within Th	18.2%	66.7%	28.6%
		% of Total	14.3%	14.3%	28.6%
	Very strong	Count	8	1	9
		% within Fo	88.9%	11.1%	100.0%
		% within Th	72.7%	33.3%	64.3%
		% of Total	57.1%	7.1%	64.3%
Total		Count	11	3	14
		% within Fo	78.6%	21.4%	100.0%
		% within Th	100.0%	100.0%	100.0%
		% of Total	78.6%	21.4%	100.0%

Chi-Square Tests

	Value	df	Significance	ct Sig. (2-sic	ct Sig. (1-sic	oint Probability
Pearson Ch	2.781[a]	2	0.249	0.374		
Likelihood R	2.724	2	0.256	0.604		
Fisher's Exa	2.759			0.374		
Linear-by-L	.145[b]	1	0.703	1.000	0.374	0.148
N of Valid C	14					

a. 5 cells (83.3%) have expected count less than 5. The minimum expected count is .21.
b. The standardized statistic is -.381.

Employment of Specialised skill * The outsourcing process is often accompanied by significant delays in response to communications and action. Are you concerned that outsources contractors choose which work to prioritise due to their preferred interest, thus causing biasness.

Crosstab

	ications and action. Are you concerned that outsc		Yes	No	Total
Employmen	Very weak	Count	2	0	2
		% within En	100.0%	0.0%	100.0%
		% within Th	18.2%	0.0%	14.3%
		% of Total	14.3%	0.0%	14.3%
	Weak	Count	1	0	1
		% within En	100.0%	0.0%	100.0%
		% within Th	9.1%	0.0%	7.1%
		% of Total	7.1%	0.0%	7.1%
	Strong	Count	2	2	4
		% within En	50.0%	50.0%	100.0%
		% within Th	18.2%	66.7%	28.6%
		% of Total	14.3%	14.3%	28.6%
	Very strong	Count	6	1	7
		% within En	85.7%	14.3%	100.0%
		% within Th	54.5%	33.3%	50.0%
		% of Total	42.9%	7.1%	50.0%
Total		Count	11	3	14
		% within En	78.6%	21.4%	100.0%
		% within Th	100.0%	100.0%	100.0%
		% of Total	78.6%	21.4%	100.0%

Chi-Square Tests

	Value	df	Significance	ct Sig. (2-sic	ct Sig. (1-sic	oint Probability
Pearson Ch	2.970[a]	3	0.396	0.500		
Likelihood R	3.261	3	0.353	0.615		
Fisher's Exa	2.764			0.615		
Linear-by-L	.115[b]	1	0.735	0.797	0.500	0.173
N of Valid C	14					

a. 7 cells (87.5%) have expected count less than 5. The minimum expected count is .21.
b. The standardized statistic is .339.

Does the company use and strictly enforces penalty clauses to ensure SLA's are met? * The outsourcing process is often accompanied by significant delays in response to communications and action. Are you concerned that outsources contractors choose which work to prioritise due to their preferred interest, thus causing biasness.

Crosstab

	ications and action. Are you concerned that outsc		Yes	No	Total
Does the co	Yes	Count	2	0	2
		% within Do	100.0%	0.0%	100.0%
		% within Th	18.2%	0.0%	14.3%
		% of Total	14.3%	0.0%	14.3%
	Do not know	Count	3	1	4
		% within Do	75.0%	25.0%	100.0%
		% within Th	27.3%	33.3%	28.6%
		% of Total	21.4%	7.1%	28.6%
	No	Count	6	2	8
		% within Do	75.0%	25.0%	100.0%
		% within Th	54.5%	66.7%	57.1%
		% of Total	42.9%	14.3%	57.1%
Total		Count	11	3	14
		% within Do	78.6%	21.4%	100.0%
		% within Th	100.0%	100.0%	100.0%
		% of Total	78.6%	21.4%	100.0%

Chi-Square Tests

	Value	df	Significance	ct Sig. (2-sic	ct Sig. (1-sic	oint Probability
Pearson Ch	.636[a]	2	0.727	1.000		
Likelihood R	1.052	2	0.591	1.000		
Fisher's Exa	0.725			1.000		
Linear-by-L	.379[b]	1	0.538	0.714	0.462	0.308
N of Valid C	14					

a. 5 cells (83.3%) have expected count less than 5. The minimum expected count is .43.
b. The standardized statistic is .615.

Does current outsourcing have any impact on the Company's reputation and quality of work?

The outsourcing process is often accompanied by significant delays in response to communications and action.

" Are you concerned that outsources contractors choose which work to prioritise due to their preferred interest, thus causing biasness.

Crosstab

			ications and action. Are you concerned that outsc		Total
			Yes	No	
Does currer	Yes	Count	11	3	14
		% within Dc	78.6%	21.4%	100.0%
		% within Th	100.0%	100.0%	100.0%
		% of Total	78.6%	21.4%	100.0%
Total		Count	11	3	14
		% within Dc	78.6%	21.4%	100.0%
		% within Th	100.0%	100.0%	100.0%
		% of Total	78.6%	21.4%	100.0%

Chi-Square Tests

	Value
Pearson Ch	[a]
N of Valid C	14

a. No statistics are computed because Does current outsourcing have any impact on the Company's reputation and quality of work? is a constant.

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  /METHOD=EXACT TIMER(5).
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Crosstabs

Notes

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Missing Val	Definition o	User-defined missing values are treated as missing.
	Cases Use	Statistics for each table are based on all the cases with valid data in the specified range(s) for all variables in each table.
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Achieving lower costs * Does the company use and strictly enforces penalty clauses to ensure SLA's are met?

Crosstab

			npany use and strictly enforces penalty clauses to ensure SL			Total
			Yes	Do not know	No	
Achieving lc	Weak	Count	0	1	1	2
		% within Ac	0.0%	50.0%	50.0%	100.0%
		% within Dc	0.0%	25.0%	12.5%	13.3%
		% of Total	0.0%	6.7%	6.7%	13.3%
	Strong	Count	0	2	3	5
		% within Ac	0.0%	40.0%	60.0%	100.0%
		% within Dc	0.0%	50.0%	37.5%	33.3%
		% of Total	0.0%	13.3%	20.0%	33.3%
	Very strong	Count	3	1	4	8
		% within Ac	37.5%	12.5%	50.0%	100.0%
		% within Dc	100.0%	25.0%	50.0%	53.3%
		% of Total	20.0%	6.7%	26.7%	53.3%
Total		Count	3	4	8	15
		% within Ac	20.0%	26.7%	53.3%	100.0%
		% within Dc	100.0%	100.0%	100.0%	100.0%
		% of Total	20.0%	26.7%	53.3%	100.0%

Chi-Square Tests

	Value	df	Significance	ct Sig. (2-sic	ct Sig. (1-sic	oint Probability
Pearson Ch	4.031[a]	4	0.402	0.457		
Likelihood F	5.197	4	0.268	0.531		
Fisher's Exa	3.809			0.531		
Linear-by-L	.789[b]	1	0.374	0.520	0.265	0.126
N of Valid C	15					

a. 9 cells (100.0%) have expected count less than 5. The minimum expected count is .40.
b. The standardized statistic is -.889.

Less capital expenditure * Does the company use and strictly enforces penalty clauses to ensure SLA's are met?

Crosstab

			npany use and strictly enforces penalty clauses to ensure SL			Total
			Yes	Do not know	No	
Less capita	Very weak	Count	0	1	0	1
		% within Le	0.0%	100.0%	0.0%	100.0%
		% within Dc	0.0%	25.0%	0.0%	6.7%
		% of Total	0.0%	6.7%	0.0%	6.7%
	Weak	Count	0	0	2	2
		% within Le	0.0%	0.0%	100.0%	100.0%
		% within Dc	0.0%	0.0%	25.0%	13.3%
		% of Total	0.0%	0.0%	13.3%	13.3%
	Strong	Count	2	3	3	8
		% within Le	25.0%	37.5%	37.5%	100.0%
		% within Dc	66.7%	75.0%	37.5%	53.3%
		% of Total	13.3%	20.0%	20.0%	53.3%
	Very strong	Count	1	0	3	4
		% within Le	25.0%	0.0%	75.0%	100.0%
		% within Dc	33.3%	0.0%	37.5%	26.7%
		% of Total	6.7%	0.0%	20.0%	26.7%
Total		Count	3	4	8	15
		% within Le	20.0%	26.7%	53.3%	100.0%
		% within Dc	100.0%	100.0%	100.0%	100.0%
		% of Total	20.0%	26.7%	53.3%	100.0%

Chi-Square Tests

	Value	df	Significance	ct Sig. (2-sic	ct Sig. (1-sic	oint Probability
Pearson Ch	6.797[a]	6	0.340	0.430		
Likelihood F	8.475	6	0.205	0.328		
Fisher's Exa	5.972			0.498		
Linear-by-L	.000[b]	1	1.000	1.000	0.585	0.144
N of Valid C	15					

a. 12 cells (100.0%) have expected count less than 5. The minimum expected count is .20.
b. The standardized statistic is .000.

Focus on core competencies * Does the company use and strictly enforces penalty clauses to ensure SLA's are met?

Crosstab

			npany use and strictly enforces penalty clauses to ensure SL			Total
			Yes	Do not know	No	
Focus on c	Very weak	Count	0	0	1	1
		% within Fo	0.0%	0.0%	100.0%	100.0%
		% within Dc	0.0%	0.0%	12.5%	6.7%
		% of Total	0.0%	0.0%	6.7%	6.7%
	Strong	Count	1	2	2	5
		% within Fo	20.0%	40.0%	40.0%	100.0%
		% within Dc	33.3%	50.0%	25.0%	33.3%
		% of Total	6.7%	13.3%	13.3%	33.3%
	Very strong	Count	2	2	5	9
		% within Fo	22.2%	22.2%	55.6%	100.0%
		% within Dc	66.7%	50.0%	62.5%	60.0%
		% of Total	13.3%	13.3%	33.3%	60.0%
Total		Count	3	4	8	15
		% within Fo	20.0%	26.7%	53.3%	100.0%
		% within Dc	100.0%	100.0%	100.0%	100.0%
		% of Total	20.0%	26.7%	53.3%	100.0%

Chi-Square Tests

	Value	df	Significance	ct Sig. (2-sic	ct Sig. (1-sic	oint Probability
Pearson Ch	1.472[a]	4	0.832	0.888		
Likelihood F	1.829	4	0.767	0.888		
Fisher's Exa	2.162			0.888		
Linear-by-L	.274[b]	1	0.601	0.744	0.427	0.159
N of Valid C	15					

a. 9 cells (100.0%) have expected count less than 5. The minimum expected count is .20.
b. The standardized statistic is -.523.

Employment of Specialised skill * Does the company use and strictly enforces penalty clauses to ensure SLA's are met?

Crosstab

			npany use and strictly enforces penalty clauses to ensure SLA			Total
			Yes	Do not know	No	
Employmen	Very weak	Count	0	1	1	2
		% within En	0.0%	50.0%	50.0%	100.0%
		% within Do	0.0%	25.0%	12.5%	13.3%
		% of Total	0.0%	6.7%	6.7%	13.3%
	Weak	Count	1	0	1	2
		% within En	50.0%	0.0%	50.0%	100.0%
		% within Do	33.3%	0.0%	12.5%	13.3%
		% of Total	6.7%	0.0%	6.7%	13.3%
	Strong	Count	0	1	3	4
		% within En	0.0%	25.0%	75.0%	100.0%
		% within Do	0.0%	25.0%	37.5%	26.7%
		% of Total	0.0%	6.7%	20.0%	26.7%
	Very strong	Count	2	2	3	7
		% within En	28.6%	28.6%	42.9%	100.0%
		% within Do	66.7%	50.0%	37.5%	46.7%
		% of Total	13.3%	13.3%	20.0%	46.7%
Total		Count	3	4	8	15
		% within En	20.0%	26.7%	53.3%	100.0%
		% within Do	100.0%	100.0%	100.0%	100.0%
		% of Total	20.0%	26.7%	53.3%	100.0%

Chi-Square Tests

	Value	df	Significance(2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi	3.817[a]	6	0.701	0.873		
Likelihood R	5.139	6	0.526	0.888		
Fisher's Exa	4.042			0.888		
Linear-by-L	.157[b]	1	0.691	0.777	0.416	0.107
N of Valid C	15					

a. 12 cells (100.0%) have expected count less than 5. The minimum expected count is .40.
b. The standardized statistic is -.397.

Does current outsourcing have any impact on the Company's reputation and quality of work?
*** Does the company use and strictly enforces penalty clauses to ensure SLA's are met?**

Crosstab

			npany use and strictly enforces penalty clauses to ensure SLA			Total
			Yes	Do not know	No	
Does curre	Yes	Count	3	4	8	15
		% within Do	20.0%	26.7%	53.3%	100.0%
		% within Do	100.0%	100.0%	100.0%	100.0%
		% of Total	20.0%	26.7%	53.3%	100.0%
Total		Count	3	4	8	15
		% within Do	20.0%	26.7%	53.3%	100.0%
		% within Do	100.0%	100.0%	100.0%	100.0%
		% of Total	20.0%	26.7%	53.3%	100.0%

Chi-Square Tests

	Value
Pearson Chi	.[a]
N of Valid C	15

a. No statistics are computed because Does current outsourcing have any impact on the Company's reputation and quality of work? is a constant.

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CROSSTABS
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Crosstabs

Notes

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	Weight	<none>
	Split File	<none>
	N of Rows i	15
Missing Val	Definition o	User-defined missing values are treated as missing.
	Cases Used	Statistics for each table are based on all the cases with valid data in the specified range(s) for all variables in each table.
Syntax		CROSSTABS /TABLES=Q2.1 Q2.2 Q2.3 Q2.4 BY Q11 /FORMAT=AVALUE TABLES /STATISTICS=CHISQ /CELLS=COU
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	Dimensions	2
	Cells Availa	349496
	Time for Ex	0:00:00.00

Achieving lower costs * Does current outsourcing have any impact on the Company's reputation and quality of work?

Crosstab

			itsourcing have any impact on the Co	Total
			Yes	
Achieving lc	Weak	Count	2	2
		% within Ac	100.0%	100.0%
		% within Do	13.3%	13.3%
		% of Total	13.3%	13.3%
	Strong	Count	5	5
		% within Ac	100.0%	100.0%
		% within Do	33.3%	33.3%
		% of Total	33.3%	33.3%
	Very strong	Count	8	8
		% within Ac	100.0%	100.0%
		% within Do	53.3%	53.3%
		% of Total	53.3%	53.3%
Total		Count	15	15
		% within Ac	100.0%	100.0%
		% within Do	100.0%	100.0%
		% of Total	100.0%	100.0%

Chi-Square Tests

	Value
Pearson Chi	.[a]
N of Valid C	15

a. No statistics are computed because Does current outsourcing have any impact on the Company's reputation and quality of work? is a constant.

Less capital expenditure * Does current outsourcing have any impact on the Company's reputation and quality of work?

Crosstab

			itsourcing have any impact on the Co	Total
			Yes	
Less capita	Very weak	Count	1	1
		% within Le	100.0%	100.0%
		% within Do	6.7%	6.7%
		% of Total	6.7%	6.7%
	Weak	Count	2	2
		% within Le	100.0%	100.0%
		% within Do	13.3%	13.3%
		% of Total	13.3%	13.3%
	Strong	Count	8	8
		% within Le	100.0%	100.0%
		% within Do	53.3%	53.3%
		% of Total	53.3%	53.3%
	Very strong	Count	4	4
		% within Le	100.0%	100.0%
		% within Do	26.7%	26.7%
		% of Total	26.7%	26.7%
Total		Count	15	15
		% within Le	100.0%	100.0%
		% within Do	100.0%	100.0%
		% of Total	100.0%	100.0%

Chi-Square Tests

	Value
Pearson Chi	.[a]
N of Valid C	15

a. No statistics are computed because Does current outsourcing have any impact on the Company's reputation and quality of work? is a constant.

Focus on core competencies * Does current outsourcing have any impact on the Company's reputation and quality of work?

Crosstab

			itsourcing have any impact on the Co	Total
			Yes	
Focus on c	Very weak	Count	1	1
		% within Fo	100.0%	100.0%
		% within Do	6.7%	6.7%
		% of Total	6.7%	6.7%
	Strong	Count	5	5
		% within Fo	100.0%	100.0%
		% within Do	33.3%	33.3%
		% of Total	33.3%	33.3%
	Very strong	Count	9	9
		% within Fo	100.0%	100.0%
		% within Do	60.0%	60.0%
		% of Total	60.0%	60.0%
Total		Count	15	15
		% within Fo	100.0%	100.0%
		% within Do	100.0%	100.0%
		% of Total	100.0%	100.0%

Chi-Square Tests

	Value
Pearson Chi	.[a]
N of Valid C	15

a. No statistics are computed because Does current outsourcing have any impact on the Company's reputation and quality of work? is a constant.

Employment of Specialised skill * Does current outsourcing have any impact on the Company's reputation and quality of work?

Crosstab

			itsourcing have any impact on the Co	Total
			Yes	
Employmen	Very weak	Count	2	2
		% within En	100.0%	100.0%
		% within Do	13.3%	13.3%
		% of Total	13.3%	13.3%
	Weak	Count	2	2
		% within En	100.0%	100.0%
		% within Do	13.3%	13.3%
		% of Total	13.3%	13.3%
	Strong	Count	4	4
		% within En	100.0%	100.0%
		% within Do	26.7%	26.7%
		% of Total	26.7%	26.7%
	Very strong	Count	7	7
		% within En	100.0%	100.0%
		% within Do	46.7%	46.7%
		% of Total	46.7%	46.7%
Total		Count	15	15
		% within En	100.0%	100.0%
		% within Do	100.0%	100.0%
		% of Total	100.0%	100.0%

Chi-Square Tests

	Value
Pearson Chi	.[a]
N of Valid C	15

a. No statistics are computed because Does current outsourcing have any impact on the Company's reputation and quality of work? is a constant.

Effect Size

Tests of Between-Subjects Effects									
Dependent Variable: What percentage of business would you say you are losing bec									
Source	ll Sum of Sc	df	Mean Square	F	Sig.	tial Eta Squared			
Corrected M	1132.048[a]	9	125.783	0.777	0.655	0.636			
Intercept	1157.006	1	1157.006	7.151	0.056	0.641			
Q1	122.583	2	61.292	0.379	0.707	0.159	large effect		Which level of management is responsible for making decisions regarding Outsourcing or insourcing in your company?
Q3	24.500	1	24.500	0.151	0.717	0.036	small to medium effect		Due to scarcity of technical skills within the LPG industry there are a limited number of contractors. Are you concerned that confidential information could be leaked?
Q5	232.510	1	232.510	1.437	0.297	0.264	large effect		Is current variation order influencing loss in profit margin?
Q6	158.127	1	158.127	0.977	0.379	0.196	large effect		Would insourcing or outsourcing result in having more focus and dedication to each task?
Q7	16.667	1	16.667	0.103	0.764	0.025	small effect		The outsourcing process is often accompanied by significant delays in response to communications and action. Are you concerned that outsources contractors choose which work to prioritise due to their preferred interest, thus causing biasness.

Appendix 5 Turnitin Report Summary

Dissertation

ORIGINALITY REPORT

10%	5%	3%	7%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

PRIMARY SOURCES

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3	Submitted to University of KwaZulu-Natal Student Paper	2%
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