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The Creative and Innovative Organisation Climate of South African Management Consulting Companies

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The Creative and Innovative Organisation Climate of South African Management Consulting Companies

A research report submitted by

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ABSTRACT

Innovation and the ability for an organisation, both private and public, to be innovative has become a prerequisite for survival and sustainability in the 21st century. As organisations address the need to innovate, a growing trend is to outsource innovation requirements to external service providers. Management consulting companies have become a typical external service provider to organisations, servicing their management creativity and innovation requirements, often based on the view that management consulting companies have a superior ability to be creative and innovative.

The purpose of this research was to evaluate the creative and innovative organisation climate of South African management consulting companies in comparison to their typical clients industries. Organisation climate was defined as the work environment and conditions created by the combined effect and impact of individual employees, teams, management, leadership, organisation strategy, culture, support systems, policies, procedures and rules.

A total of 310 respondents completed a 7 point likert-scale survey measuring 54 variables that define a creative and innovative organisation climate. Exploratory factor analysis was conducted followed by 2-tailed t-tests on the identified factors to determine the significant differences between management consulting companies and their typical clients' industries.

The creative and innovative ability of management consulting companies in comparison to their clients, in a South African context, could not be determined from the available research. The findings of this research indicated that the secondary and tertiary economic sector would benefit the most, the primary sector would have limited benefits and the quaternary sector would benefit the least from outsourcing creativity and innovation to South African management consulting companies.

In comparison to the total combined industry sectors, management consulting companies showed an equal support for creativity and innovation as critical to organisation strategy, equal provision of relevant resources to execute innovation strategies and equal provision of a physical environment and enablers to enhance

organisational creativity and innovation. In comparison to the total combined industry, It was however found that South African management consulting companies have individuals, teams, an organisation culture, leaders and managers that have a greater ability and propensity to be creative and innovative. Overall, supporting the view that, generally, South African management consulting companies have an organisation climate that is more supportive, enabling and enhancing of organisational creativity and innovation.

DECLARATION

I, Zaheer Suliman, declare that this research report is my own, unaided work. It is submitted in partial fulfilment of the requirements of the degree of Masters of Business Administration at the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination in this or any other university.

Zaheer Suliman

Date:

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1 INTRODUCTION

1.1 Purpose of the Study

The purpose of this research is to evaluate the creative and innovative organisation climate of South African management consulting companies in comparison to their typical clients' industries.

1.2 Context of the Study

1.2.1 *Innovation in Today's World*

Following the global recession where global banks collapsed, being rescued by public money, increasing operating costs, continuous wars, increasing social unrest, climate change, environmental disasters and crises, at no other time since the industrial revolution has the future seemed so uncertain (Fojt, 2011). In today's world, humanity's most pressing problems are not merely technological, but social, cultural, political and global in scope.

The challenge for organisations and countries to remain relevant, competitive and sustainable is continuously increasing as economies stagnate, competitiveness increases and consumers become more demanding (Hamel, 2012). Given this context, the ability for an organisation to innovate by being creative and innovative in improving and reinventing its products, processes, services and business models, has become a universal requirement for success and sustainability in the 21st century (Fojt, 2011; Hamel, 2012; More, 2011).

The need for creative and innovative abilities to address an organisation's challenges is not limited to the private sector alone, but rather to all sectors of an economy, both private and public. This view is substantiated by numerous studies that have shown that innovation within all economic sectors is a key contributing factor for economic growth, long term sustainability of an economy and the long term

prosperity of a country (Jorgenson, 2011; Mobbs, 2010; N. Rosenberg, 2004).

1.2.1 *Organisation Climate is critical for Creativity and Innovation*

The literature review showed that there are numerous factors that define an organisation's creative and innovative ability. A number of studies have shown that an "organisation's climate" plays a critical role in defining the organisations ability to be creative and innovative (Amabile, 1996; Bordia, Kronenberg, & Neely, 2005; Dul & Ceylan, 2011; Ford & Gioia, 2000; George, 2007). An organisation's climate can be defined as the combined effect and impact, on an organisation, from its individual employees, teams, management, leadership, organisation strategy, culture, support systems, policies, procedures and rules (Ivancevich, 2007).

In order to fulfil an organisation's creative and innovative requirements, organisations can choose to build an internally creative and innovative organisation climate or choose to outsource their creative and innovative requirements to external service providers, or both (Hölzl, et al., 2005).

1.2.2 *Management Consulting Companies Creativity and Innovation Ability*

Management consulting companies have become a particular type of service provider that organisations outsource their management creative and innovative requirements to, often assuming management consulting companies have a superior ability to be creative and innovative (Czerniawska, 2007).

There are, however, differing views regarding management consulting companies' ability to be creative and innovative (Mahoney, 2011). One perspective states that consulting companies are "innovation factories", developing effective new solutions that positively impact clients and the global economy (Birkinshaw & Mol, 2006; Hargadon & Sutton, 1997). An opposite perspective states that consulting firms are becoming less creative and innovative (Mahoney, 2011), suggesting that the conventional view of management consultants as disseminators of new management

ideas is exaggerated and that consultants now perform relatively standardised roles (Sturdy, Handley, Clark, & Fincham, 2008).

Given the different views of management consulting companies' creative and innovative abilities, a question emerges regarding their ability to be creative and innovative in comparison to their clients and whether it is, therefore, justified for an organisation to outsource its creative and innovative requirements to management consulting companies.

1.3 Problem statement

1.3.1 *Main problem*

The purpose of this research is to evaluate the creative and innovative organisation climate of South African management consulting companies in comparison to their typical clients' industries.

1.3.2 *Sub-Problem 1*

The first sub-problem is to identify the factors that define a creative and innovative organisation climate.

1.3.3 *Sub-Problem 2*

The second sub-problem is to evaluate the creative and innovative organisation climate of South African management consulting companies in comparison to their typical clients' industries.

1.4 Significance of the study

The study fills a gap in that there is limited or no research conducted on understanding whether management consulting companies have a superior creative

and innovative organisation climate in comparison to their clients, specifically within a South African context.

The study will identify the organisation climate factors that define a creative and innovative organisation and determine, for each organisation climate factor, the significant differences between management consulting companies and their typical client industries, either where management consulting companies are superior, equal or inferior. The differences will inform both management consulting companies and their clients on particular organisational climate factors that need possible change, improvement or transformation in order to improve their innovativeness.

The study will ultimately provide insight into the justification for organisations to acquire management consulting services based on the view that management consulting companies have superior creative and innovative abilities.

1.5 Delimitations of the study

The delimitations narrow the scope of this study, including and excluding certain factors. These delimitations are listed below:

- The study is limited to the comparison of the creative and innovative organisation climate between management consulting companies and their typical clients industries. The study will not provide an absolute status of either management consulting companies or their typical clients' industries creative and innovative ability.
- The study will be limited to the management consulting companies with offices in Gauteng province, South Africa, limiting the finding to the South African context.
- The study will exclude individual management consultants / contractors and will focus on medium to large management consulting companies.
- Management consulting companies sampling will exclude standard service offerings, such as auditing, tax and focused analytics, and will focus exclusively on service offerings that are specifically procured for its creative

and innovative abilities. Examples include strategy, organisation design, performance improvement, operations management, marketing, technology and innovation.

1.6 Definition of terms

Management consulting - an advisory service contracted provided by specially trained and qualified persons who, objectively and independently, assist client organisations to identify management problems, analyse such problems and help in the implementation of solutions (Greiner & Metzger, 1982).

Organisation Climate - the work environment and conditions created by the combined effect and impact of individual employees, teams, management, leadership, organisation strategy, culture, support systems, policies, procedures and rules (Ivancevich, 2007).

Creativity – the ability to develop new ideas, concepts, solutions and practices that are novel and is applied in the context of solving a particular organisational problem (Runnalls, Sampson, Boedker, & Vamos, 2009).

Innovation - the application of practical tools and techniques that make changes, to products, processes, services and business models that results in the introduction of something new, adds value to customers and contributes to the knowledge store of the organisation (O'Sullivan & Dooley, 2008).

Client – The organisation or person that procures the services of management consultants.

Outsourcing - The process of purchasing goods and services from external vendors rather than internally producing the same goods or performing the same services.

1.7 Assumptions

The following assumptions have been made regarding the study:

- The samples will be able to honestly share information on the creativity and innovation organisation climate factors of their organisations.
- Medium to large management consulting companies operating in Gauteng province, South Africa would provide a representative sample of the creative and innovative abilities of the general South African management consulting industry.
- Creativity and innovation is a relevant requirement in all economic industry sectors.
- Management consulting companies are hired by organisations in all economic sectors. By obtaining cross economic sector client sample data, a representative reflection of typical management consulting clients can be obtained.
- The factors that enable a creative and innovative organisation climate are universally applicable to all demographic breakdowns, namely race, culture, religion and gender.
- The factors that make global organisations more creative and innovative are applicable to a South African context.
- Creative and innovative organisations' climate factors are applicable to all hierarchical organisation levels, from top management to administrators and operators.

2 LITERATURE REVIEW

2.1 Introduction

The literature review will present a summary of the importance of innovation in the present context, followed by a discussion on the outsourcing of an organisation's creative and innovative requirements to management consulting companies and conclude with the organisational climate factors that define a creative and innovative organisation climate.

2.2 Innovation: Impact and Approach

2.2.1 *Defining Innovation*

Reviewing the literature, a single and unanimous definition of innovation has not emerged, but rather that innovation within organisations has different meanings and interpretations depending on the specific context (Baregheh, Rowley, & Sambrook, 2009; More, 2011; O'Sullivan & Dooley, 2008).

Despite the lack of a clear definition, some common traits were found to underlie most definitions. Organisation innovation can be typically (O'Sullivan & Dooley, 2008; Runnalls, et al., 2009) divided into three categories:

1. Product innovation – defined as making beneficial changes to outputs generated by an organisation, typically a physical and tangible product;
2. Process innovation – defined as making beneficial changes to the processes that produce products or services; and
3. Service innovation – defined as making beneficial changes to the services that customers use.

Despite the general three categories, Hamel (Hamel, 2002), has been a strong promoter of business model innovation which has, more recently, been recognised as a new type of organisation innovation.

4. Business model innovation – defined as making beneficial changes to the operating model, market structure and design of an organisations operations business environment.

In the categories listed, the phrase “beneficial changes” is relative and open to multiple interpretations. Some scholars (Christensen, 2003; O'Sullivan & Dooley, 2008) state that beneficial changes refers to the size and scope of the change to the product, process, service and / or business model. They further state that there are two key types of innovation: radical or incremental. Radical innovation is specific to making significant changes to the status quo, usually transforming or revolutionising an industry and operating environment, whilst incremental innovation is specific to making small improvements on a continuous basis.

Irrespective of the innovation category and type, innovation within organisations does not happen naturally. Some scholars (Govindarajan & Trimble, 2010; O'Sullivan & Dooley, 2008; Runnalls, et al., 2009) have stated that in order to enable any category, be it product, process, service or business model innovation or any type, be it radical or incremental, a key requirement is to have an “innovation process” embedded and operational within an organisation. They elaborate on the stages of an innovation process by defining three key stages, namely Idea Generation / Ideation, Incubation and Commercialisation.

Idea Generation / Ideation refers to the stage of generating and proposing creative new ideas applicable to improving or transforming an organisation’s products, processes, services and / or business model/s.

Incubation refers to the stage where ideas are tested and refined through experimentation, critique, networking & research.

Commercialisation refers to the stage where the final innovation is executed to gain the benefits intended. Typically products are launched after the relevant preparation of operations and staff alignment to the innovation, processes are updated and changed through training, equipment and documentation is updated and services are changed or improved.

Despite variations in the definition of innovation, specific themes that contribute to the definition of innovation within an organisation context have been identified, namely that innovation involves:

- Creating something new or different – the creation or introduction of a new product, process, service and/or business model that has not existed or applied previously, ultimately adding value to a customer or stakeholder (O'Sullivan & Dooley, 2008; OECD, 1997).
- Creating added value and wealth – for a product, process, service or business model to be deemed innovative, it must ultimately add value to a customer or stakeholder (O'Sullivan & Dooley, 2008; OECD, 1997). More (More, 2011) has specifically stated that ultimately it must create wealth in the form of net cash flows, achieved through an added competitive advantage and position within an industry.
- Enabling through creative thinking – the achievement of an innovation is often preceded by creative mental processes that result in the generation of novel ideas and concepts that are appropriate, useful and actionable (Amabile, 1996; Dul & Ceylan, 2010, 2011).
- Enabling within an organisation through an innovation process - creativity and invention is interpreted as the moment of clarity of the novel idea, however to make the novel idea an innovation it has to be executed, implemented and commercialized (Govindarajan & Trimble, 2010; O'Sullivan & Dooley, 2008; Sarros, Cooper, & Santora, 2008). Creativity can be regarded as the starting point of innovation but in order to become an innovative organisation, an innovation process is critical for the implementation of creative ideas.

2.2.2 *Innovation as a Requirement*

Following the global recession where global banks collapsed, being rescued by public money, increasing operating costs, continuous wars, increasing social unrest, climate change, environmental disasters and crises, at no other time since the industrial revolution has the future seemed so uncertain (Fojt, 2011). In today's

world, humanity's most pressing problems are not merely technological, but social, cultural, political and global in scope.

Hamel (Hamel, 2012) states that the challenge for organisations and countries to remain relevant, competitive and sustainable is continuously increasing as economies stagnate, competitiveness increases and consumers become more demanding. Given this context, the ability for an organisation to innovate by being creative and innovative in improving and reinventing its products, processes, services and business model/s, according to numerous scholars, has become a universal requirement for success and sustainability in the 21st century (Fojt, 2011; Hamel, 2012; More, 2011). Some scholars (Hamel & Green, 2007; Liker, 2004; Moore, 2005) proceed to state that to develop an organisation that is capable of constant innovation is not an aspiration but rather a design specification, it is not a strategy but a fundamental requirement and necessity.

The degree to which industry leaders understand the importance and applicability of innovation will directly impact the economic performance of an organisation and a country's macro economy. This requirement is supported by a global study that surveyed 1590 respondents in leadership roles (Andrew, Manget, Michael, Taylor, & Zablit, 2010), finding innovation is once again a top priority for most companies with 26% of respondents citing it as a top priority and a further 45% ranking it as a top three priority. The study also found that, crucially, innovative organisations typically generate superior returns for their shareholders. These findings are supported by another study (Mckinsey, 2010) that found 84% of executives sampled saying innovation is extremely important to their company's growth strategy.

In South Africa, a study (Deloitte, 2012) surveying 30 CEO's across seven industries operating in South Africa, found that innovation topped the opportunity rankings, moving up from its previously held fourth position. The findings confirmed that innovation and its ability to generate profitable and sustainable growth is a vital component of any business strategy.

2.2.3 *Innovation Impact on Economic Growth*

The relationship between innovation and economic growth has been studied extensively, with the general outcome stating that innovation has a positive impact on macroeconomic growth and organisation performance. Rosenberg (N. Rosenberg, 2004) states that economic activity has been the single most important component of long-term economic growth and that there are only two methods of increasing the output of an economy, specifically by:

1. Increasing the number of inputs that go into the productive process; or
2. Getting more output from the same number of inputs.

In order to determine the effectiveness of the two methods, Abramowitz (Abramovitz, 1956) measured the growth in the output of the American economy between 1870 and 1950 and the growth in inputs of capital and labour over the same time period. In comparing the results he found that growth of inputs accounted for only 15% of the actual growth in the output of the economy. In a statistical sense, innovation was attributed to the majority of the economy's growth, specifically the growth of 85%.

The high contribution to economic growth attributed to innovation cannot occur due to the innovativeness of a single economic sector, but rather through a generally networked economy of innovative industries (Gunday, Ulusoy, Kilic, & Alpkan, 2011). Other scholars (Jorgenson, 2011; Mobbs, 2010; N. Rosenberg, 2004) state that innovation is applicable to all economic sectors, both public and private, with numerous studies having shown that the networked innovation capability within all economic sectors has been the key contributor to economic growth, long term sustainability of an economy and prosperity of a country.

2.3 Outsourcing of Innovation to Management Consulting Companies

2.3.1 *Trends in Innovation Outsourcing*

In a world where technologies and ideas are becoming more integrative, relying on a widening range of skills and areas of expertise, organisations need to acquire at least some external sources of the knowledge and technology necessary to innovate (Quintas & Guy, 1995). Jiang, Frasier et al (Jiang, Frasier, & Prater, 2006) state that the goal of outsourcing, including innovation outsourcing, is to find the best possible way for an organisation to benefit from a total value perspective, taking into account all costs within an organisation's value chain and relationships between various operating functions. Some of the specific advantages have been extensively studied (Fan, 2000; Lowman & Trott, 2012; Stanko & Calantone, 2010) and include a reduction in operating cost, improved product development, improved speed to market and improved competitive advantage, amongst others.

Reviewing market trends, where increased competition, globalisation, ease of market entry and increasing costs are becoming some of the dominant challenges, outsourcing in general is emerging as a common strategy to increase an organisation's competitive position and performance (Quinn, 2000; Stanko & Calantone, 2010; Theys, 2003). In recent decades, organisations have increasingly looked outside their boundaries for innovation capabilities (Stanko & Calantone, 2010), often turning to external service provider to either supplement the organisation's innovation capabilities or to replace them entirely. Historically, the traditional approach has been to primarily source innovation requirements internally, however this trend seems to be changing (Theys, 2003). Globally, industries such as software development, automotive and aerospace development are increasingly relying on external service providers to execute their creative and innovative requirements (Carson, 2007).

A study (Rigby & Zook, 2002) showed that global leaders are realising that conventional methods of sourcing innovation are failing and that the best ideas are not necessarily generated internally. Furthermore, organisations are realising that they do not utilise sufficient external sources of innovation, and that competitive advantages can only be achieved through the integration of internally and externally sourced innovation (Quinn, 2000).

Research (Stanko & Calantone, 2010), however, has shown that the impact of innovation outsourcing on an organisation's innovativeness and performance has been mixed. Using multiple types of innovation relationships has been shown to be positively related to the number of products developed due to the fact that different linkages can be used to create and combine different types of knowledge (Nicholas-Nixon & Woo, 2003). The use of external service providers for activities that are performed internally has also been shown to support an organisation's product portfolio growth as well as new product success (Rothaermel, Gatignon, & Jobe, 2006). The contrary view has also been shown to be true (Beneito, 2006; Huang, Chung, & Lin, 2009; Kessler, Bierly, & Gopalakrishnan, 2000), namely that outsourcing innovation negatively affects organisations' innovative performance and ultimately negatively impacts an organisation's long term creative and innovative abilities.

2.3.2 ***Reasons for Outsourcing***

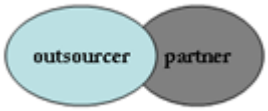
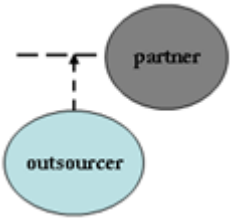
The reasons for an organisation to outsource its creative and innovative functions were found to be numerous, however at a strategic level, two principal theory bases have been suggested to justify outsourcing (Stanko & Calantone, 2010), namely Transactional Cost Economics (TCE) and the Resource Based View (RBV).

TCE has been the dominant view in the outsourcing decision making paradigm, stating that the internalisation of functions is preferred where transaction costs are excessive, conversely outsourcing would be preferred where transaction costs are low (Williamson, 1985).

RBV views organisations as a collection of productive resources that are rare, non-imitable, valuable and not substitutable (Barney, 1991). Such resources include, but are not limited to, assets, capabilities, organisational processes and knowledge. Where such resources are considered different and are both expensive and time consuming to develop, organisations will outsource activities that are non-core to their operations, whilst keeping and protecting activities that give the organisation a competitive advantage (Odagiri, 2003). Hedman and Kalling (Hedman & Kalling, 2002) state that there are numerous resource attributes described in the RBV that give organisations a competitive advantage, specifically identifying value, rarity, cost to imitate and organisation efficiency, typically called the VRIO framework.

Both TCE and RBV assume that as a function is outsourced, the organisation fundamentally eliminates the function from its internal operations. An alternate view states that organisations would not eliminate the outsourced function entirely, but rather outsource only certain parts of the internal function. The benefits associated with the alternate view was summarised in a study (Insead, 2012b) that scanned a range of research reviewing the strategic benefits for innovation outsourcing. The conclusions found that outsourcing from an outsourcer to an outsourced partner, can be categorised into four categories, namely: absorption, substitution, complementarity and benchmarking. Table 1 provides a brief definition of these categories.

Table 1: Four Reasons for Outsourcing

Absorption	Substitution	Complementarity	Benchmarking
			
Learn the Know-how related with the focal outsourced project to achieve superior technical solutions. Learn the know-how of the peripheral technologies to balance the product technology change	Reduce costs by sharing investment or using a partner's economies of scale. Replace internally developed components with market-ready components or subsystems	Utilise the external partner's resource to compliment the core activities. Organisations own capacity is the prerequisite of outsourcing	Seek for a benchmark to imitate and a catalyst for organisation change

In the specific context of outsourcing to management consulting companies, numerous justifying reasons for outsourcing were found. Czerniawska (Czerniawska, 2007) found that the top two reasons for hiring consultants were that the organisations' staff did not have the relevant skills to develop original and creative thinking, and where the organisation assumed that the consulting companies were a source of superior skills and creative ability. Other research has found that the reasons for organisations to outsource innovation to management consulting companies can be categorised into four fundamental categories (PWC, 2006), namely:

1. People- accessing external specialist skills and capabilities superior to that of the outsourcing organisation;

2. Process- accessing a wider range of tested and reviewed frameworks and methodologies;
3. Perspective- accessing an independent, objective or innovative perspective; and
4. Politics- accessing an objective perspective to validate a decision or solution or to support the implementation of an unpopular change.

Overall, the use of management consulting companies can enhance rapid decision making, where the management consultants act as information sources, providing useful information that informs the organisation's competitive environment (Eisenhardt, 1989). The ability for management consulting companies to successfully fulfil their clients expectations was validated by a UK based study (MCA, 2010) that surveyed clients in order to determine their satisfaction levels. The study found that only 1% of clients sampled were unsatisfied, 41% were satisfied and 58% were very satisfied.

2.3.3 *Outsourcing in the Innovation Context*

An organisation's innovation process often takes place by combining several input sources (Theys, 2003), usually through a combination of both internal and external sources. Internally sourced innovation is defined as innovation that is sourced from within an organisation's boundaries, typically through the organisation's climate and functions (Amabile, 1996; Christiansen, 2000; Ivancevich, 2007). Externally sourced innovation, typically classified as open innovation, has emerging as a growing trend and refers to innovation that is sourced from external outsourced stakeholders (Chesbrough, 2012). Differences in internally and externally sourced innovation have been explored (Chesbrough, 2012), ultimately justifying that both sources have their merits in terms of their impact on an organisation's innovative abilities and results.

Open innovation assumes that organisations can and should use a combination of internally and externally generated ideas and paths to market as part of its innovation process, as well as combining internal and external ideas into platforms, architectures and systems (Chesbrough, 2012). The benefits of sourcing external

creative input has been validated (Dervitsiotis, 2010; Jaruzelski, Loehr, & Holman, 2011), stating that sourcing of external information from customers or users, suppliers, specialists, advisors and researchers positively impacts an organisations creative and innovative ability.

Chesbrough (Chesbrough, 2012) defines “outside-in” and “inside-out” as the two principle types of open innovation. Outside-in involves opening an organisation’s innovation processes to numerous kinds of external inputs and contributions, whilst inside-out requires organisations to allow unused and underutilized ideas to be distributed externally for external stakeholders to critique, contribute to, use and improve.

Both views of open innovation share the insight that being open is a powerful generative mechanism to stimulate innovation. In comparison with closed-innovation, defined as innovation incubated and developed solely within an organisation’s boundaries, structures, departments and people, the open innovation paradigm has shown to create superior innovation results when applied (Chesbrough, 2012; Gronlund, Sjodin, Ronnberg, & Frishammar, 2010; Jonathan, 2010), supporting the view that an organisation’s ability to innovate can be enhanced by implementing open innovation, or elements thereof.

Theys (Theys, 2003) states that a challenge for organisations is the implementation of internal processes, systems and capabilities to effectively utilise open sources of innovation. Teece (Teece, 1988) supports this view and elaborates that in order for an organisation to take maximum advantage from its internally and externally generated ideas, organisations should create conditions that stimulate the creation of new combinations of knowledge in order to positively impact the organisation’s performance and give the organisation a competitive advantage. Rigby and Zook (Rigby & Zook, 2002) state that this approach can allow an organisation to remove certain non-core functions from its organisation in order to develop a greater focus on direct product and/or service value creation, where the resulting impact could be a leaner, faster, more efficient and focused organisation.

2.3.4 *Outsourcing of Innovation to Management Consultants*

As part of the process of innovation, organisations can choose to build an internally creative and innovative organisation or to outsource the creative and innovative requirements to external service providers (Hölzl, et al., 2005). Kodama (Kodama, 1995) states that effective outsourcing of innovation depends on the strategic integration between an organisation and the service providers, potentially allowing the organisation to rapidly acquire new capabilities to ensure the presence of knowledge and technological resources beyond the organisations existing internal capabilities. Based on the Resource Based View paradigm, outsourcing of innovation can be viewed as enhancing the purchasing organisation's innovative capacity. Oerlemans et al (Oerlemans, Meeus, & Boekema, 1998) argue that, through the partnerships with best-in-class and superior service providers, an organisation's innovative ability can be influenced and enhanced. Such an impact occurs (Theys, 2003) by shifting the risk of innovation to the outsourced service provider, by leveraging the superior specialist skills of external service providers through an effective knowledge sharing process, through collaborative team work and the strategic purpose of the external service provider to positively impact the client's innovative abilities.

Management consulting companies are acknowledged as achieving the status of superior innovation abilities by both developing and legitimizing new management tools, frameworks and practices that are usually exploited by their clients (Abrahamson, 1996; Heusinkveld & Benders, 2002). Organisations also adopt industry practices from consultants simply due to the pressures of staying relevant by adopting competitor practices (Fox-Wolfgramm, Boal, & Hunt, 1998).

Even though a study comparing the specific innovation abilities of management consulting companies in South Africa, in comparison to their typical client industries could not be found, a UK study (NESTA, 2009) that compared the innovation capabilities of 9 industry sectors found that business and management consulting companies were the most innovative. The consulting sector was strong on accessing

external ideas and using different skill groups, relying heavily on team-work with over a fifth of sales coming from innovative products.

Outsourcing innovation to consultants has been shown to reduce the internal administration overhead of an organisation, however certain limitations exist. Often internal administration overheads are reduced but external administration overheads rise with the net benefit depending on whether the cost of the external interface is greater or less than the cost of the internal interface (Hölzl, et al., 2005).

2.3.5 *The Innovation Status of Management Consulting Companies*

Given the outsourcing of innovation to management consulting companies, a question arises, namely whether management consulting companies are more creative and innovative than their clients in order to meet and fulfil clients' outsourced creative and innovative requirements.

Globally, management consulting companies have typically been acknowledged as the pioneers and disseminators of management tools, frameworks and practices within various industries, often being accredited with the creation of industry trends and innovations that shape and transform management practices, industries and client performance (Sturdy, 2009).

Numerous studies and scholars have supported this view (Birkinshaw & Mol, 2006; Czerniawska, 2007; Hargadon & Sutton, 1997; MCA, 2010; NESTA, 2009), praising management consulting companies as providers of specialist knowledge that help their clients make superior decisions, as providers of experienced project delivery that help their clients execute strategies more effectively, as providers of individual and team skills that make a positive impact in their clients' organisations and ultimately act as a source of objective, practical and effective industry innovations. Industry reports confirm that approximately one-quarter of management consulting activities relate to innovation, whether supporting of research and product development or the facilitation of implementation and integration (Faeco, 2008).

The positive impact and role of management consulting companies could be interpreted by the global growth of the industry. O'Mahoney (Mahoney, 2011) states that despite the relative youth of the management consulting industry in comparison to other professional services, consulting has been one of the most successful of the knowledge industries, with revenues expanding over 10,000 per cent in the last thirty years alone.

Despite the historic praises attributed to management consulting companies and the value they provide to clients, a strong opposing view is beginning to emerge, specifically stating that management consulting companies are becoming less creative and innovative and are therefore, adding less value to their clients (Mahoney, 2011). A study (Sturdy, et al., 2008) suggests that the conventional view of consultants as disseminators of new management ideas to their clients is exaggerated and misrepresents their role in project work. Furthermore, consultants now perform relatively simplistic, operational and standardized roles, acting as "witch-doctors" (David, 2003; Williams, 2004) that simply repackage old content and ideas. More recently, commentators have stated that consulting companies are migrating from the more creative to the less creative end of the scale (Furusten, 2009; Sturdy, et al., 2008; Williams, 2004). Furusten (Furusten, 2009) states that not only are management consulting companies reducing their clients' creative and innovative abilities, they are actually acting as agents of stability, as opposed to change or innovation, by providing clients with standardisation, certainty and risk reducing practices.

The negative impact on the value added by management consulting companies has been supported by empirical evidence. Czerniawska (Czerniawska, 2007) reported findings of a key study that showed clients complete satisfaction at only 36% and that the services received by certain clients were of "poor performance" standards.

The recent negative views of management consulting companies are emerging despite the fact that, historically, management consulting companies played a critical role in management thinking and contribution by being the pioneers of many innovative management ideas, models and tools (Mahoney, 2011). These recent

findings suggest that management consulting companies are diluting their innovation capabilities, shifting strategic focus, not adapting to client and industry requirements and ultimately not innovating within the management consulting industry itself.

2.4 The Creativity and Innovation Organisational Climate Factors

2.4.1 *The Innovative Organisation*

A number of factors define an organisation's creative and innovative abilities. The innovative organisation is inherently a highly cross-functional organisation that creates a constructive tension between competing objectives of development cost, product value, performance, quality and time to market (Bordia, et al., 2005). Product development also impacts every part of the organisation, including operations, strategic planning, sales, customer support, purchasing and finance all being just as important to successful innovation as research and development and engineering (Bordia, et al., 2005). To be effective, however, these activities need to be balanced throughout the organisation, through a company-wide innovation capability and process (Runnalls, et al., 2009). An example can be cited of failed innovation in a particular organisation leading to new products without commercialisation and implementation capabilities (Lawson & Samson, 2001), due to the establishment of innovation divisions without aligning the entire organisations existing mainstream resources, in-house capabilities, production systems and marketing networks.

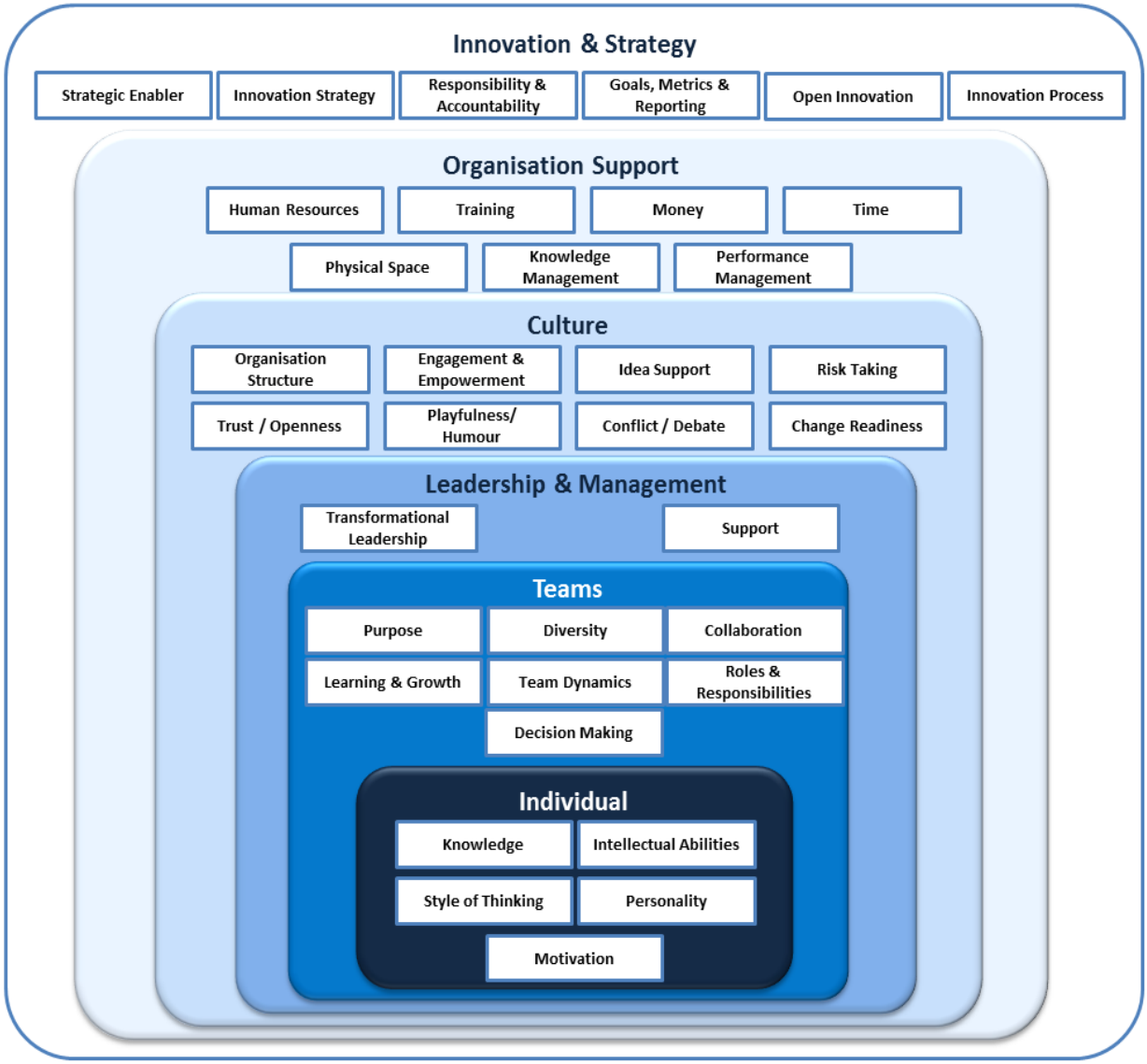
Bessant and Francis (Bessant & Francis, 1999) state that the ideal innovative organisation would create a holistic organisation that aligns all organisation functions towards the common purpose of being innovative and is continuously improving its innovative abilities. Such an organisation plays particular attention to successful functional integration, ensuring that innovation extends beyond technological innovation and research and development (Runnalls, et al., 2009).

A number of scholars have supported the view that creating an innovative organisation is a broad organisational challenge (Amabile, 1996; Ekvall, 1996; Hornsby, Kuratko, & Zahra, 2002), requiring mobilisation of a number of resources, activities and people. Specifically, enabling innovation requires consideration of the development of appropriate leadership styles, workplace cultures, and management techniques (Runnalls, et al., 2009).

In order to achieve a truly integrated innovative organisation, the organisation should focus on building an innovation organisation climate (Amabile, 1996; Christiansen, 2000; Ivancevich, 2007; Johnson, 2010), specifically defined by the combination of people, culture, capabilities, support systems and enablers that creates a climate within the organisation of creativity and innovation. Other scholars (Govindarajan & Trimble, 2010; Johnson, 2010; Liker, 2004; Runnalls, et al., 2009) have stated that it is critical to ensure that innovation is also not restricted to senior executives, or scientists performing complex experiments in laboratories, but rather that innovation is a process, with creative ideas and innovations often emerging from mundane day to day activities that are executed by the entire organisation. The truly innovative organisation, therefore, recognises that every employee has the potential of being creative and innovative in achieving the organisation's objectives, and that all employees contribute within a holistic organisation climate to be creative and innovative (Christiansen, 2000; Ekvall, 1996; Hamel & Green, 2007; Liker, 2004; Vise & Malseed, 2005).

After reviewing the creativity and innovation organisational climate factors compiled in the current available assessment tools, it was concluded that none of the current tools measured an organisation's holistic creative and innovative organisation climate status. The approach was chosen to create a new survey, compiled from the assessment tools reviewed and the general literature available on the subject. Figure 1 Illustrates the general framework compiled.

Figure 1: Creative & Innovative Organisation Climate Framework



2.4.2 *The Creative & Innovative Organisation Climate Framework*

The following section elaborates on each of the creative & innovative organisation climate framework categories.

a. *Individual*

Creativity fundamentally originates within individual minds and is the starting point of innovation (Amabile, 1996). As part of their Investment Theory of Creativity,

Sternberg and Lubart (R. J. Sternberg & Lubart, 1991) has validated six interrelated factors that influence individual creativity, namely knowledge, intellectual abilities, style of thinking, personality, motivation and environment.

Knowledge refers to having sufficient knowledge about a field or expertise to contribute to the progression of that particular field. Amabile (Amabile, 1996) states that expertise is the foundation of all creative work, which includes memory for factual knowledge, technical proficiency and special talents in the target work domain.

Sternberg and Lubart (R. J. Sternberg & Lubart, 1991) define three key intellectual abilities that creative and innovative individuals possess, namely the synthetic skill to see problems in new ways and to escape the bounds of conventional thinking, the analytical skill to recognize which ideas are worth pursuing and the practical contextual skill to know how to persuade others on the value of one's ideas. In addition to the intellectual abilities, they continue to define styles of thinking as the preferred way of using one's skills, stating that a legislative style, defined as a preference for thinking in new and different ways, is particularly important for creative thinking.

Personality defines the particular personality attributes that have been shown to enhance creative thinking abilities. These attributes include, but are not limited to (Lyman, 1989) the willingness and determination to overcome obstacles, enthusiasm, optimism, "fun/playfulness" attitude, entrepreneurial nature, self-starter attitude, being comfortable working under ambiguous conditions and is most creative under conditions of autonomy, self-direction and freedom.

Motivation defines intrinsic, task-focused motivation as essential to creativity and innovation. Research has shown (Amabile, 1996) that it is task motivation that determines what a person will actually do and that motivation takes two forms, namely intrinsic and extrinsic. Intrinsic motivation is driven by enjoyment, curiosity, a deep interest and involvement in the work, or a personal sense of challenge. Extrinsic motivation is driven by the desire to attain a goal that is apart from the work

itself, such as a promised reward or prize. Both forms of motivation are important, however intrinsic motivation has been shown to be more conducive to creative thinking (Amabile, 1996). Taggar (Taggar, 2002) elaborates that intrinsically motivated people become self-motivated to get a job done and to do it well and have a greater disregard for social approval and tangible rewards.

Environment defines the response of the individual with regards to the workplace environment in terms of using the workplace environment to support individual creativity and innovation.

b. *Teams*

Numerous scholars have stated that team-work and collaboration plays a critical role in creative and innovative organisations (Amabile, 1996; Angel, 2006; Hurley, 1995; Kanter, 1988), having particular team characteristics that allow for:

- Diverse combination of skills, cultures and backgrounds based on the team make-up;
- Combination and networking of ideas that originate within individual team members to create new ideas;
- Team members positively challenge each other's ideas and increase its robustness, validity and merit;
- Team members have a shared commitment toward a focused outcome; and
- Sharing and dissemination of knowledge focused at individual and team growth.

In a study, Isaksen and Lauer (Isaksen & Lauer, 2002) found that creative teams have a clear and common purpose, are committed to the success of the team, are supportive, collaborative, openly communicate based on trust and openness, have dissipated decision making power, have clear roles, responsibilities and accountabilities and have high team spirits, enabled through balancing work and social events.

A question that can be asked is whether creativity within teams can be learned and enhanced (Batey & Furnham, 2006). Torrance (Torrance & Torrance, 1973) analysed 142 separate creativity training studies and concluded that training could significantly improve individual creativity and problem solving. In one of the most rigorous analyses to date, Scott, Leritz and Mumford (Scott, Leritz, & Mumford, 2004) found that creativity training programmes produced productivity, performance, attitude to creativity and problem solving improvements. Joo, Song, Lim & Yoon (Joo, Song, Lim, & Yoon, 2012), validated the effects of learning culture and developmental feedback, finding that team creativity was positively correlated and significant with a higher level of learning culture, developmental feedback and team cohesion. The authors recommend that organisations seeking to increase team creativity need an integrated strategy incorporating elements of culture management, effective coaching and team development. Nilniyom (Nilniyom, 2007) validates these findings and states that team learning orientation, which refers to a team's ability and inclination to gain new skills, improve competence and master new situations is critical to increasing creativity.

Creativity and innovation is not only sparked by having productive teams, but also by cross engagement between teams and even departments and business units (Bordia, et al., 2005; Hurley, 1995). The transparency allows for further sharing, collaboration and challenging of ideas and solutions towards the common outcome.

c. *Leadership and Management*

One of the main factors that has repeatedly shown to affect innovation and organisational culture is leadership and management ability and approach (King, 1990; Osborne, 1998; Schein, 1985; Schin & McClombe, 1998). Leaders play a key role in promoting an innovative culture by building capacity for change, being product champions or innovators and creating an organisational structure that promotes and supports innovation – ultimately creating an organisation climate for creativity and innovation (Peters & Waterman, 1982; Ven & Andrew, 1986). In this context, the climate for innovation is a direct result of top managers' personal and positional characteristics (Damanpour & Schnieder, 2006). Furthermore

leadership styles that empower an organisation's staff have been found to positively influence team creativity via team learning behaviour, team creative efficacy and team task complexity which strengthened these relationships (Zhang, Chen, & Kwan, 2010).

There is significant evidence that individual leadership style is also an important determinant of an organisations climate (Dess & Picken, 2000). In particular, the "transformational leadership" style has been shown to support and promote innovation, which in turn can ensure the long-term survival of an organisation (Ancona & Caldwell, 1987; Damanpour, 1991; Jung, Chow, & Wu, 2003; King, 1990).

Transformational leadership is typically defined using the six factors proposed by Podsakoff, MacKenzie, Moorman, and Fetter (Podsakoff, Mackenzie, Moorman, & Fetter, 1990), namely:

1. Identifying and articulating a vision for the future – aimed at identifying new opportunities and developing, articulating and inspiring others.
2. Providing an appropriate role model – aimed at setting an example for employees to follow that is consistent with the values the leader espouses.
3. Fostering the acceptance of goals – aimed at promoting cooperation among employees and getting them to work together toward a common goal.
4. Setting high performance expectations – aimed at setting expectations for excellence, quality and high performance on the part of employees.
5. Providing individual support – aimed at respecting employees and expressing concern about personal feelings and needs.
6. Providing intellectual stimulation – aimed at challenging employees to re-examine assumptions about their work and to re-think how it can be performed.

d. *Culture*

A significant number of present management tools and techniques have their origins in the industrial revolution where human beings were viewed as machines, devoid of

emotions and the ability to think (Hamel & Green, 2007). Hamel & Green further state that the world has changed, where human beings now play a significant role in the creative and innovative ability of an organisation and hence its competitive advantage.

An organisation's structure and environment can be defined within two opposite poles, namely "organic" and "mechanistic" (Zander, 2004). Mechanistic environments are typically characterised by greater centralisation of management power, have numerous hierarchical layers, have greater bureaucracy and emphasize following rules, procedures and processes. Organic environments are typically characterised by decentralisation of management power, have less hierarchical layers, less bureaucracy, greater operating flexibility, open communication and are less governed by strict rules, procedures and processes (Covin & Selvin, 1991). A number of scholars have stated that an organic organisation environment's typically stimulates greater creativity, innovation and entrepreneurship (Covin & Selvin, 1991; Hornsby, et al., 2002; Lewrick & Raeside, 2012), by enabling an organisation culture that enhances engagement and empowers its staff.

In innovative organisations, employees have to be empowered in a more democratic environment to make a difference and impact (Hamel & Green, 2007; Liker, 2004), where organisations are sensitive to the emotional and spiritual well-being of their employees (Hamel & Green, 2007; Kristensen, 2004) and have staff that are aligned to work that they are passionate about and have associated a higher meaning to (Bains, 2007; Hamel & Green, 2007). Some scholars (Amabile, 1996; Ekvall, 1996; Hornsby, et al., 2002) state that an organisation's democratic work environment enables freedom, trust and openness, playing a key role in enabling an emotionally safe workplace where support, collaboration and partnerships toward goal achievements defines the organisation culture. Nilniyom (Nilniyom, 2007) confirms this by stating that a key factor that contributes to creativity is the "psychologically safe" environment within an organisation, namely that the employees' perception is that the workplace is a safe place for interpersonal risk taking. When people perceive the interpersonal risk as low in a group, they are more willing to ask for help and

speak up even if they are incorrect on an issue. Given a psychologically safe workplace, Ekvall states (Ekvall, 1996) that creative and innovative organisations provide a safe environment that supports an inclination towards playfulness, fun and spontaneity, that enables a working environment that allows for a professional and yet relaxed atmosphere where good-natured jokes and laughter occurs. The work environment (Ekvall, 1996) further enables a culture where individuals can be expressive, ultimately enabling a balanced, energetic, vibrant, socially cohesive and creative organisation culture. Such a workplace often supports a risk taking attitude amongst its employees that also stimulates creativity and innovation.

A number of scholars (Amabile, 1996; Ekvall, 1996; Hornsby, et al., 2002) have confirmed that the ability for an individual to feel comfortable taking risks and exploring new ideas has been shown to be a critical element of the creative work place. Furthermore, the environment has to be an encouraging environment that praises and rewards the results and the attitude of experimenting without fear of reprimand. Leadership and management play a critical role in creating a risk-taking environment through their attitude, encouragement, support and the establishment of a culture where failure is acceptable since it contributes to learning, growth, knowledge enhancement & experimentation (Sarros, et al., 2008).

The psychologically safe, fun, relaxed yet professional, risk taking workplace supports change and flexibility within an organisation, ultimately supporting the development and implementation of new ideas and solutions (Runnalls, et al., 2009). Innovation typically involves changes in an organisation, particularly regarding processes, systems, organisation structure, roles and responsibilities, target customers and markets. The degree to which an organisation can adapt, be flexible and its staff's willingness to change, will determine the effectiveness of the implementation of innovative new ideas and solutions. Research has shown that organisations that have a greater willingness to be adaptable and flexible have greater success at innovation (Bordia, et al., 2005; Linke & Ansgar, 2011; Spanjol & Leona, 2010).

A further culture related characteristic that was found in the literature was that creative and innovative organisations support occurrences and encounters of disagreements between viewpoints, ideas, experiences and knowledge (Isaksen & Lauer, 2002). Isaksen & Lauer (Isaksen & Lauer, 2002) further state that in the debating organisation, numerous voices are heard and staff are keen to put forward ideas for consideration and review, staff are often seen discussing opposing opinions and sharing a diversity of perspective, ultimately impacting the quality of collaboration and robustness of ideas and creativity.

Fundamentally creative and innovative organisations are supportive and encouraging of new ideas. Some organisations are supportive and proactive about new ideas whilst other organisation are the opposite, namely pessimistic and unsupportive of new ideas (Isaksen, Lauer, Ekvall, & Britz, 2001). Isaksen et al. (Isaksen, et al., 2001) further state that support for new ideas within an organisation should happen both vertically, through managers, leaders and subordinates, as well as horizontally, among colleagues, peers and partners. Toyota Motor Company (Liker, 2004) as an example, has designed its entire management system to support, enable and implement new ideas, defining what has become the "lean organisation/culture". Liker provides an example (Liker, 2004) of a "suggestion scheme" and "quality circle" initiatives that facilitate operational teams to develop new continuous improvement initiatives that compete on a global scale for recognition and reward.

e. *Organisation Support*

The human resource functions within organisations play a key role in developing a creative and innovative organisation (Searle & Ball, 2003), primarily by aligning human resource policies and processes to the attainment of a strategic innovative organisation. Searle and Ball (Searle & Ball, 2003) further state that most organisations fail to achieve this link and subsequently fail to improve their creative and innovative abilities.

Human resources are not the only resource requirements for creative and innovative organisations. Organisations need to make funding, time, physical space, knowledge and performance incentives resources available, where their availability and access is known throughout an organisation (Hornsby, et al., 2002).

Funding availability refers to the availability of specific reserves used to fund creative and innovative ideas (Ahmed, 1998). The funding would be budgeted and dedicated toward the enablement and acquisition of new ideas, experimentation and rewarding of creative and innovative achievements. (Ahmed, 1998; Amabile, 1996; Hamel & Green, 2007; Liker, 2004). Examples of spending include experimental projects, suggestion and improvement scheme prizes and attendance at knowledge/capability enhancing activities. Examples include focused training, attending conferences, lectures and networking events.

Numerous studies have found that the availability of free time for the development, incubation and exploration of ideas is a critical factor in the promotion of a creative organisation climate (Amabile, 1996; Ekvall, 1996; Hornsby, et al., 2002; Mahoney, 2011). Google, regarded as one of the world's most innovative companies (Fastcompany.com, 2012), has enforced a company policy that affords all employees 20% free time for creative business endeavours (Vise & Malseed, 2005).

The physical environment can be supportive for enhancing creativity (Amabile, Conti, Coon, Lazenby, & Herron, 1996; George, 2007; Shalley & Gibson, 2004). Research on creative work environments, however, rarely includes elements of the physical work environment (Hunter, Bedell, & Mumford, 2007). Some of the features suggested by scholars for the creative workspace include adequate light, ergonomic furniture, sufficient space and adequate ventilation (Alencar & Bruno-Faria, 1997). Other elements that act as a source of creativity is to have offices with window views and plants within the work environment (Shibata & Suzuki, 2004). Regarding artefacts, the work space should provide inspiring artefacts such as artwork, statues and posters often with quotes and statements that are inspiring and enhancing of the creative mood (Kristensen, 2004).

Functionally, the layout and spacial design should provide a balanced design incorporating open plan offices with minimal corridors, “meditation” spaces for relaxation and private thought, private workspaces for private work, communal workspaces for socializing and sharing, meeting rooms and auditoriums for teamwork and collaboration (Kristensen, 2004).

Creativity often involves the representation of what does not exist, to envision and combine elements and symbolic representations, mainly translated into visual images and pictures. The creative workspace should, therefore, provide significant carefully positioned tools for visual designing, prototyping and brainstorming (Kristensen, 2004). Examples include projectors, whiteboards, flipcharts, modelling bricks and modelling clay.

Regarding knowledge management, creativity and innovation starts as an idea in an individual’s mind that is developed and matured through a process of incubation (Kristensen, 2004). Johnson (Johnson, 2010), has shown that ideas are really networks of ideas that are developed over time through incubation and refinement, usually long before the moment of clarity or the “eureka” moment. During the incubation period, individuals and teams source information in order to further develop and enhance the incubating idea. For this reason, an organisation’s ability to manage, disseminate and allow access to information and knowledge has been shown to positively enhance creativity and innovation in organisations (Kianto, 2011; Ngwenya, 2011; Sung & Choi, 2012). Knowledge management is typically comprised of different forms, often defined as a range of strategies and practices used to identify, create, store, access, distribute, and enable adoption of information, insights and experiences (Mansour, Alhawari, & Talet, 2011). Some of the methods used to disseminate knowledge and information include newsletters, screens and bulletin boards (Kristensen, 2004), including the access to a wide body of knowledge that documents industry trends, latest thinking and research. Examples include books, magazines, newspapers, journals, and research and publication institute reports.

Performance management and incentives has been shown to play a key role in the outcomes achieved by any organisation (Kaplan & Norton, 1996). Kaplan & Norton

(Kaplan & Norton, 1996) state that many organisations, however, fail to develop effective performance management systems that encompass the translation of an organisation's strategy into an organisation wide performance management and measurement framework. An effective and efficient performance management framework has been shown to influence and motivate staff behaviour by the distribution of roles, responsibilities and accountabilities for specific performance linked to an appraisal and reward process (DeNisi, 2011; Hornsby, et al., 2002). Linking reward to performance has been shown to be a creativity motivating factor, specifically when the process is structured around effective goal setting, accountability and performance feedback (Hornsby, et al., 2002). The reward system acts as a motivator and behaviour influencer towards creativity and innovation by providing focused targets and goals, challenging work, recognition for results and allocation of responsibilities (Dul & Ceylan, 2011; Hornsby, et al., 2002).

2.4.3 *Innovation Strategy*

An organisation's purpose and strategy plays a key role in directing the organisation, defining its culture and ultimately the outcomes of its activities (Christiansen, 2000; Jaruzelski, et al., 2011). A global innovation study (Jaruzelski, et al., 2011) found that most companies surveyed agreed that having an organisation's strategy that fundamentally incorporates innovation as a critical success factor is critical to having strategic goals that achieve innovation success, superior product performance and quality.

Christiansen (Christiansen, 2000) states that innovation in strategy is impacted by three factors, namely an organisation's corporate strategy, business unit strategy and the stakeholder responsible for strategy.

In an organisation's corporate strategy, the general level of emphasis given to innovation is critical, where innovation can be prioritised on a organisation's agenda or not. The level of priority given to innovation will impact the number of resources and management attention given to idea generation and innovative projects. It will also, in the longer term, impact staffs interest in pursuing innovative ideas. A key

factor that is central to a creative and innovative organisation strategy is to have a clear vision of the future, a vision that defines the organisation as creative and innovative in meeting customer and stakeholder expectations. At a corporate level, selecting specific partners that add innovative value to an organisation is another factor that corporate strategy should consider.

Regarding an organisation's business unit strategy, innovative organisations typically empower business units with an element of freedom to decide on the type and category of innovation to pursue, and are provided with the relevant resources to support their specific strategy.

Organisations typically place the responsibility for innovation at different levels of the organisation hierarchy. In some organisations, business unit leaders have a wide degree of latitude regarding the emphasis on innovation, whilst in other organisations, the corporate organisation level would emphasize innovation. A key principle, is having a clear strategy for innovation, empowering the relevant stakeholder to take responsibility and accountability for the strategy and enabling effective communication between the different levels in the organisation.

Having strategic goals is a critical element in the execution of an organisation's strategy (Hrebniak, 2005; Jaruzelski, et al., 2011; Kaplan & Norton, 1996). Christiansen (Christiansen, 2000) states that innovative organisations have a simple goal structure, incorporate clear metrics that drive innovation that is aligned to the corporate strategy and that the strategy is clearly communicated to the relevant goal owners at all levels in the organisation.

2.5 Conclusion of Literature Review

The ability for an organisation to be creative and innovative with the ability to reinvent itself has become the cornerstone of success and sustainability in the 21st century (Fojt, 2011; Hamel, 2012; More, 2011).

There are a number of definitions for innovation; however key themes have emerged, namely:

- Creation of something new or different;
- Fundamentally creates added value and/or wealth;
- Enabled through creative thinking; and
- Enabled within an organisation through an innovation process.

Innovation is applicable to all economic sectors, both public and private and has a macro impact on a country's economic situation. Numerous studies have shown that innovativeness within all economic sectors has been a key contributor to economic growth, long term sustainability of an economy and prosperity of a country (Jorgenson, 2011; Mobbs, 2010; N. Rosenberg, 2004).

The innovative organisation builds an innovative organisation climate (Christiansen, 2000) and recognises that every employee has the potential of being creative and innovative in achieving the organisation's objectives. (Christiansen, 2000; Ekvall, 1996; Hamel & Green, 2007; Liker, 2004; Vise & Malseed, 2005).

As part of the innovation process, organisations can choose to internally execute creative and innovative functions, or choose to outsource them to external service providers (Hölzl, et al., 2005), such as management consulting companies. As organisations outsource their innovation requirements, a question arises regarding the ability of management consulting companies to have superior creative and innovative organisation climates in comparison to their clients.

There are differing views regarding management consulting companies creative and innovative abilities (Mahoney, 2011), often viewed on a bipolar scale as being "innovative" or "not innovative". One view states that consulting companies are

“innovation factories” developing effective new solutions that positively impact clients and the global economy (Birkinshaw & Mol, 2006; Hargadon & Sutton, 1997). Another view states that management consulting companies are migrating from the more creative to the less creative end of the scale (Furusten, 2009; Sturdy, et al., 2008; Williams, 2004).

In order to identify factors that create the innovative organisation, existing “innovative organisation climate” assessment models were reviewed in combination with contributing literature. The key categories identified were:

- Individual – fundamentally individuals are the original source of creative ideas. Individual knowledge, intellectual abilities, style of thinking, personality and motivation were the key variables that defined creative and innovative individuals.
- Team – individuals work within teams that are diverse, have an open communication and decision making culture, has a learning and growth mind-set, have common goals and is supportive of creative ideas and suggestions.
- Leadership & Management – leadership and management play a key role in leading and directing the organisation, particularly they impact the organisation climate through their personalities, style and strategic vision, which ultimately define an organisation’s innovation climate.
- Culture – the organisation’s culture defines the work environment’s rules, mood and state of mind. Innovative organisation’s culture is generally encouraging, enabling and supportive of creativity and innovation.
- Organisation Support – individuals, teams, leadership & management and an organisation’s culture defines its creative and innovative potential, however, an organisation’s ability to support creativity and innovation through the provision of resources, performance management and training defines the actual creative and innovative outcomes.
- Innovation and Strategy – an organisation is defined by purpose and vision which ultimately should translate into its strategy. Having creativity and innovation as one of the central pillars of an organisation’s existence is critical to sustaining an organisation’s innovation climate.

Regarding innovation in different economic sectors, the literature showed that innovation is applicable to all economic sectors, both public and private with numerous studies having shown that the networked innovation capability within all economic sectors has been the key contributor to economic growth, long term sustainability of an economy and prosperity of a country. Within a South African context, no research was found comparing the creative and innovative organisation climate of management consulting companies in comparison to specific economic sectors and compared to a combined sample of all typical economic industry sectors.

2.5.1 ***Proposition***

The creativity and innovation organisational climate factors are categorised under 6 categories: individual creativity & innovation, team creativity and innovation, leadership and management creativity & innovation, organisation culture, organisation support and organisational innovation strategy.

2.5.2 ***Hypothesis***

Hypotheses are proposed and will be tested in the research. The Hypothesis structure would be constructed based on the outcomes of the exploratory factor analysis. The alternative hypothesis would be structured as follows:

Hypothesis 1

HA - The perceived creative and innovative organisation climate of South African management consulting company's is significantly different from that of their typical clients.

Hypothesis 2

HA - The perceived creative and innovative organisation climate of South African management consulting company's is significantly different from that of the primary sector.

Hypothesis 3

HA - The perceived creative and innovative organisation climate of South African management consulting company's is significantly different from that of the secondary sector.

Hypothesis 4

HA - The perceived creative and innovative organisation climate of South African management consulting company's is significantly different from that of the tertiary sector.

Hypothesis 5

HA - The perceived creative and innovative organisation climate of South African management consulting company's is significantly different from that of the quaternary sector.

3 RESEARCH METHODOLOGY

3.1 Introduction

This chapter describes the methodology to be used to conduct this research. Firstly, the research methodology will be discussed, followed by a review of the research design and research instrument. Issues of data collection and analysis in relation to this study will be provided, followed by a discussion on the validity and reliability of this study.

3.2 Research Methodology / Paradigm

The type of research conducted was based on a quantitative methodology whereby a 7-Point likert scale questionnaire, measuring 54 variables that define a creative and innovative organisation climate was populated by two sample groups. The first sample group included consultants and managers from global and South African management consulting companies. The second sample group included employees working in industries that typically acquire management consulting services.

3.3 Research Design

The two data sets was refined using exploratory factor analysis (Rierveld & Hout, 1993) followed by 2-tailed t-tests (Berenson, Levine, & Krehbiel, 2011), in order to determine whether management consulting companies' creative and innovative organisational climate is significantly different and superior to their typical client industries.

From the literature review, numerous creative and innovative organisational climate variables were identified. By conducting an exploratory factory analysis on the questionnaire results, intercorrelated variables were identified, therefore refining the fundamental factors that define a creative and innovative organisational climate.

On the resulting identified factors, 2-tailed t-tests were executed to determine whether the two data samples were significantly different. Even though this research intended to determine whether management consulting companies have a superior creative and innovative organisational climate in comparison to their typical clients industries, 2-tailed t-tests were selected to provide insight on the opposite scenario, namely where on certain or all factors, typical client industries that use management consultants professional services are more creative and innovative.

3.4 Population and Sample

3.4.1 *Population*

The population for the study was limited to consultants and managers at management consulting companies with offices in Johannesburg, Gauteng. Typical client industries representative population was limited to Wits Business School Masters in Business Administration (MBA) students and Wits Business School Postgraduate Diploma in Management programmes (PDM) students.

3.4.2 *Sample and sampling method*

Sample data was obtained from different sizes of management consulting companies, ranging from medium to large South African and global companies. It was assumed that the data from the different management consulting companies provided a representative sample of the status of the creative and innovative organisation climate of South African management consulting companies in general. Individual contracting consultants were excluded since the research was intending to assess the “climate” within an organisation, defined as an organised group of people with a particular purpose, such as a business or government department (Oxford, 2012).

Since management consulting companies provide professional services to clients in a variety of industries, the “client” sample data was obtained from respondents

working in different economic sectors. Rosenberg (M. Rosenberg, 2007) defines the primary to quaternary economic sectors as follows.

The primary sector of the economy extracts products from the earth and includes the production of basic foods and raw material. The packaging and processing of the raw materials is also considered to be part of this sector. Some of the activities associated with this sector include farming, grazing, hunting and gathering, agriculture, mining, forestry, fishing and quarrying, amongst others.

The secondary sector of the economy manufactures finished goods. Manufacturing, construction and processing is associated with the secondary sector. Some of the activities associated with this sector include textile production, chemical and engineering industries, metal working and smelting, energy utilities, engineering, breweries and bottlers, automobile production, aerospace manufacturing, construction and shipbuilding, amongst others.

The tertiary sector of the economy is the service industry, providing services to the general population and businesses. Some of the activities associated with this sector include retail and wholesale sales, entertainment (movies, television, radio, music, theatre, etc.), restaurants, clerical services, transportation and distribution, tourism, insurance, banking, media, healthcare and law, amongst others.

The quaternary sector of the economy consists of intellectual and thinking services. Some of the activities associated with this sector include scientific research, education, government, consulting, libraries and information technology.

3.5 The Research Instrument

The research instrument comprised a two part questionnaire:

Part 1. To ascertain relevant details from the respondent, namely, whether they are in a management role, their current organisation tenure, and their employer's economic industry sector.

Part 2. 7-Point likert scale, 54 variables questionnaire, measuring the respondent's perception of their employed organisations' creative and innovative organisation climate.

3.6 Procedure for data collection

Management consulting companies in Gauteng, South Africa employee data was obtained by engaging the Chief Executive Officer of the company or division, requesting permission to participate in the research. The survey was administered by distributing an online survey link to staff at various hierarchical levels.

Typical client industries' data was obtained by engaging with the respective programme managers and lecturers to administer a hardcopy survey during all available Part Time Wits Business School MBA classes and the Wits Business School PDM programmes. The assumption was made that the students attending the two programmes work in industries that typically use management consultanting companies' professional services and would, therefore, provide a representative sample view of the creative and innovative organisation climate in their respective organisations.

The respondents' questionnaire was filtered to exclude sample data that do not represent typical management consulting company "clients", specifically self-employed entrepreneurs, small family owned businesses, employees of small business and respondents that are unemployed.

Also excluded from the study were employees in typical client organisations that have a tenure of less than 3 months in their current organisations.

3.7 Data analysis and interpretation

Exploratory Factor Analysis - a statistical method used to bring intercorrelated variables together under more general, underlying variables. The goal of factor analysis is to reduce the dimensionality of the original space and to give an interpretation to the new space, spanned by a reduced number of new dimensions which are intended to underlie the previous dimensions (Rierveld & Hout, 1993). Conducting the exploratory factor analysis on the questionnaires consolidated the creative and innovative organisation climate intercorrelated variables in preparation for t-testing.

2-tailed t-tests - a statistical test in which a given statistical hypothesis, H_0 (the null hypothesis), is rejected when the value of the test statistic is either sufficiently large or sufficiently small. Conducting the 2-tailed t-test determined the significant differences of the intercorrelated variables between the management consulting companies surveyed and their typical client industries.

3.8 Limitations of the study

- The study was limited to management consulting companies and their typical clients industries that are based in Gauteng, therefore not considering variations in results across offices in other South African provinces.
- The study was limited to the respondent's perception of their organisation's climate and will not assess the organisations themselves. Honesty in the response was a critical factor.
- The study assumed a generally homogeneous organisational climate within organisations and will exclude insight and considerations of focused teams and / or departments.

3.9 Validity and reliability

3.9.1 *External validity*

The findings of this study cannot be generalised to a larger global population, however they would be indicative of the general South African context.

Since “client” responses were limited to population of employees attending the Wits Business School, the study will not survey industries that may not have students at the Wits Business School. Due to the typical industry employment variety and diversity of Wits Business School students, the findings can be generalised to represent the overview status of management consulting company organisation creativity and innovation climate in relation to their typical clients’ industries.

3.9.2 *Internal validity*

Internal validity ensures the data collection process is uniform throughout. This study ensured internal validity by ensuring identical questionnaires are populated by the two sample populations.

Due to logistical challenges, the method of collection varied between the two sample populations, with the management consulting companies populating an online survey and the MBA & PDM classes populating a hardcopy version during class breaks. The different collection methods was not anticipated to impact the objectivity of the responses.

3.9.3 *Reliability*

Reliability was tested by administering the research instrument on a selected test sample prior to administration. The test revealed no fundamental concerns or issues.

4 PRESENTATION OF RESULTS

4.1 Introduction

This chapter provides a breakdown of the results obtained from the sampled respondents. Initially, the response rate will be discussed as well as the key respondent demographics, namely tenure in their currently employed organisation and the respondent's role, being management or not.

Using the total combined respondents sample data, exploratory factor analysis was performed to reduce the dimensionality of the original sample questions, or variables, by combining intercorrelated variables into more general, underlying variables. The emergent underlying variables are discussed and interpreted.

On completion of the exploratory factor analysis, 2-tailed t-tests were performed, using the emergent factors as the variables of comparison, to determine the significant differences between the following samples:

1. Combined management consulting companies and the total combined industry.
2. Combined management consulting companies and primary sector.
3. Combined management consulting companies and secondary sector.
4. Combined management consulting companies and tertiary sector.
5. Combined management consulting companies and quaternary sector.

The 2-tailed t-tests results are discussed in the context of comparing management consulting company's creative and innovative abilities in comparison to their typical client industry's, as a combined total industry finding and per economic sector.

4.2 Response Rate

A total of 310 valid questionnaires were successfully selected to be analysed as part of this research. The questionnaires were completed by 2 global management consulting companies, 3 South African based management consulting companies, 2 Wits Business School MBA classes and 4 Wits Business School PDM Classes. Table 2 tabulates the response rates achieved.

Table 2: Response Rate

Category	Sample	N. of Responses
Management Consulting	2 Global multinational management consulting companies	38
	3 Exclusively South African based management consulting companies	43
	Total	**81**
Industry	Primary Sector	31
	Secondary Sector	56
	Tertiary Sector	109
	Quaternary Sector	33
	Total	**229**
	Absolute Total	**310**

Based on the Central Limit Theorem, that states that a sample of 30 or more is large enough for the Central Limit Theorem to be applicable (Aczel, 1989), it is critical to

note that all sampled categories had greater than 30 respondents, making it possible to conduct all intended 2-tailed t-test's.

4.3 Sample Demographics

4.3.1 *Tenure at Current Employer*

All respondents where the tenure of the individual respondent was found to be less than 3 months were excluded from the sample data. The remaining 310 samples had a tenure greater than 3 months, providing a more representative response with regards to their organisations performance in response to the questionnaire variables.

From Table 3, it can be seen that the majority, approx. 85%, of respondents had been working for their current employer for over a 1 year.

Table 3: Sample Response Tenure

Tenure	N. of Respondents	% of Respondents
Less than a year	47	15.16%
1 to 3 years	109	35.16%
3 years +	154	49.67%
Total	**310**	**100%**

4.3.2 *Management Role*

In order to obtain a representative sample of respondents throughout the organisation hierarchy, the differentiation between respondents in management and non-management roles was reviewed. Table 4 tabulates the results.

Table 4: Sample Response Management Roles

Organisational Role	N. of Respondents	As a Percentage
Management	171	55%
Non-Management	139	45%
Total	**310**	**100%**

Based on the percentages, the responses from management and non-management respondents was relatively equal, without any significant bias. The insignificant difference resulted in an improved representation of an organisation creative and innovative organisational climate throughout the organisation's hierarchy.

4.4 Factor Analysis

4.4.1 *Appropriateness of Factor Analysis*

Given that 310 sample responses were obtained, it is concluded that the sample size is sufficiently large to enable a stable identification of underlying factors (Comrey & Lee, 1992).

The appropriateness to proceed with the factor analysis was further supported by the Kaiser-Meyer-Olkin (KMO) measure and Bartlett's test of sphericity.

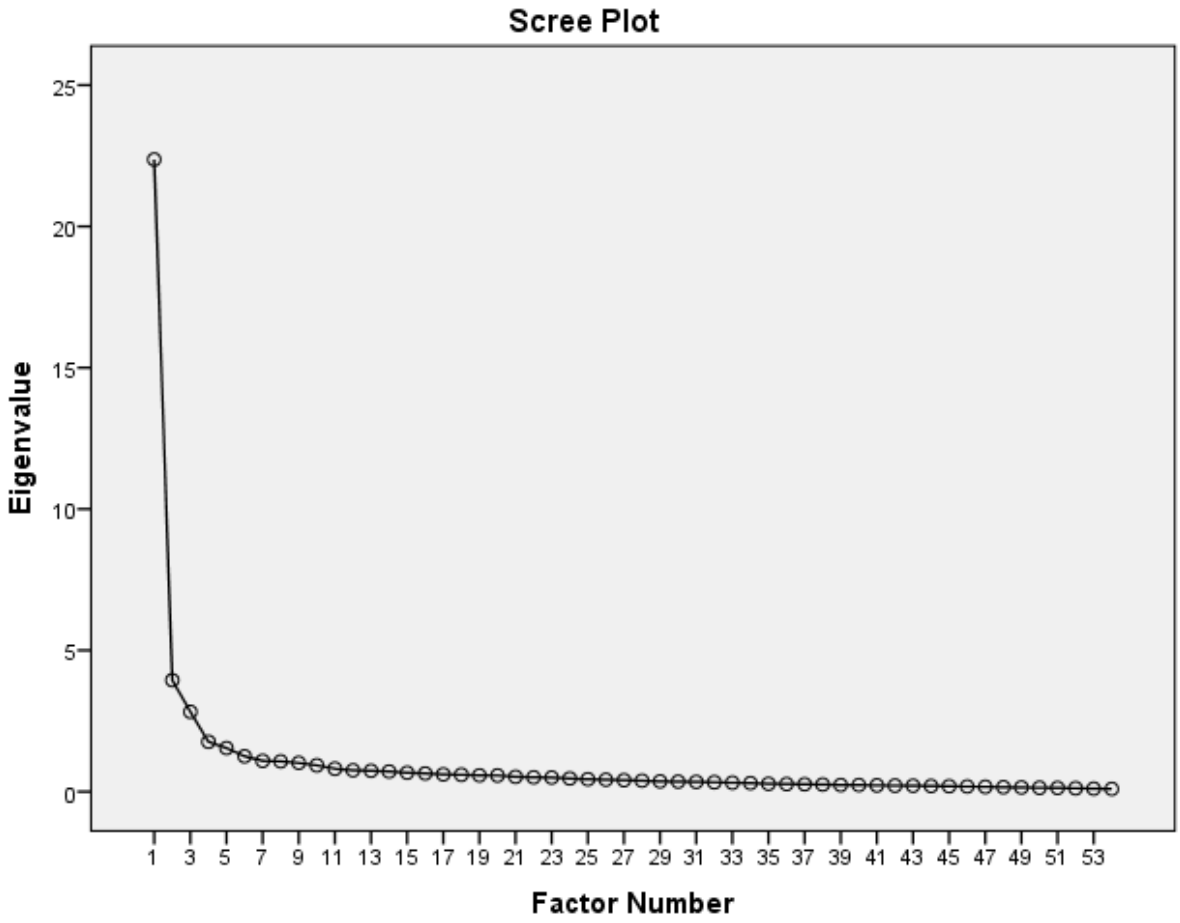
Kaiser-Meyer-Olkin measures the sampling adequacy for comparing the magnitudes of the observed correlation coefficients to the magnitudes of the partial correlation coefficients (Dziuban & Shirkey, 1974). A Kaiser-Meyer-Olkin value above 0.5 supports the use of factor analysis. The factor analysis KMO measure was found to be high at 0.955, significantly higher than the 0.5 cut-off point.

Bartlett's test of sphericity tests the null hypothesis that the variables in the population correlation matrix are uncorrelated (Dziuban & Shirkey, 1974). The observed significance level was 0.000, which was small enough to reject the hypothesis and conclude that the strength of the relationship among variables were sufficiently strong, further supporting the use of factor analysis on the sample data.

4.4.2 *Number of Factors*

The SPSS scree plot plotted the extracted eigenvalues and indicated stable factors between 3 and 6, where it can be seen that the curve stabilises and starts to plateau.

Figure 2: Factor Analysis Scree Plot



Extracting for specific factors 3, 4, 5 and 6, Principal Axis Factoring was used to extract the total variance explained, followed by a Varimax with Kaiser Normalization, Rotated Factor Matrix that suppressed coefficients with an absolute value below 0.4. Table 5 summarises the outcomes.

Table 5: Factor Loadings

Extraction for Specific Factor (Number of Factors)	Extraction Sums of Squared Loadings (Cumulative %)	Number of variables loading each factor, suppressing coefficients below 0.4					
		Factor					
		1	2	3	4	5	6
3	51.225 %	20	15	16			
4	53.907 %	14	14	7	9		
5	56.070 %	9	12	13	10	7	
6	57.688 %	5	8	14	8	7	0

As the number of factors extracted increases, the cumulative % of extracted sum of squared loadings increases, indicating an increasing total amount of variability being accounted for by the factor scales. The expected 6 Factor extraction accounted for the highest cumulative % variance, however, the sixth factor in the extraction had no factor loadings above the exclusion point of 0.4.

The 5 factor extraction provided only approximately 1.6% less cumulative % variance explained and had sufficient variable factor loadings on all 5 factors, enabling adequate interpretation of the factors. A 5 factor extraction was, therefore, selected to proceed with.

4.4.3 *Factor Interpretation*

From the rotated factor matrix, APPENDIX G, where each of the 54 variables are listed in terms of their loading onto each of the 5 factors, the 5 factors that define a creative and innovative organisation climate can be interpreted and defined as follows:

a. *Factor 1 – Strategy and Resources*

The key variables that loaded factor 1 were focused on strategy and resources, specifying the degree to which the organisation has identified the importance of being creative and innovative, the degree to which it is part of the organisations

strategy and processes and the degree to which it is measured. Having prioritised the importance of creativity and innovation as part of the organisation's strategy, the provision of resources to enable an organisation's strategy constituted the pending variables loading factor 1. Resources specifically include time, knowledge & information, funding and intelligence resource requirements.

Overall factor 1 defines the priority and inclusion of creativity and innovation as part of an organisation's strategy and the degree to which resources are provided to support the enablement of the strategy.

b. ***Factor 2 – Human Contribution***

The key variables that loaded factor 2 are interpreted as the contribution of people to an organisation's ability to be creative and innovative.

Two key areas regarding human contribution emerged, namely the contribution by individuals and those of teams. From the 54 questionnaire variables, all the questions pertaining to individual employee attributes that contribute to greater creativity and innovation were found to load factor 2. The key themes that contributed to creative and innovative individuals were that they are ambitious, challenge driven, internally motivated towards the work they do, they have the required knowledge and skill of relevant subject matter and they have an entrepreneurial attitude that is inclined to persistence, risk taking and creative thinking.

Factor 2 was also loaded by variables relating to diversity team of skills, expertise and culture and teams with a common purpose and direction.

A single leadership and management variable loaded factor 2, interpreted as the propensity for leaders and managers to encourage creative and novel thinking within individuals and teams.

Overall factor 2 defines the human contribution to creativity and innovation within an organisation, where individuals' skill, instinct and attitudes are inclined to creativity

and innovation that is enhanced and shared within teams that have diverse skills, a common purpose and are working within a innovation encouraged work environment.

c. *Factor 3 – Organisation Culture*

The key variables that loaded factor 3 were specific to an organisation's culture and work environment. The themes that are contained in the factor are specific to an organisation's structure, processes, the experiences of staff within the organisation and the general experience of working in the organisation.

The structure and process variables include an organisations hierarchical structure, related power dispersion and the bureaucracy within the organisation. These variables are typically included in the definition of an organisation culture.

The other variables that loaded factor 3 were regarding staffs' intangible culture parameters within the organisation, specifically related to trusting relationships, work autonomy, employee empowerment, change propensity, degree of optimism, "fun" propensity and support for creativity, innovation and risk taking.

Overall, factor 3 defines an organisation's culture as defined by its structure, processes and the human interactions and experiences that define the organisation's culture.

d. *Factor 4 –Leadership and Management*

The key variables that loaded factor 4 were specific to leadership and management, where the work environment, culture and expectations are created by leaders and managers that influence and support staff to be more creative and innovative.

All key variables related to being a transformational leader were found to load factor 4, where leaders and managers support collaboration, common direction and act as role models with an inner ambition and motivation to be creative and innovative.

Other variables that loaded factor 4 were specific to the environment or context created by leaders and managers on staff and the organisation in general. These include the creation of an environment of trust, where staff's feelings, opinions and decisions are respected and acknowledged. Furthermore leaders and managers pay attention to individual growth by providing challenging work, ensuring clear roles and responsibilities are allocated and that high standards and expectations are set.

Overall, factor 4 defines the ability of leaders and managers to be creative and innovative as a personal preference and the actions and behaviours they take to respect, trust and support staff to high performance, collaboration, a common direction, a meaningful future and ultimately the encouragement to think and be inclined to creativity and innovation.

e. *Factor 5 – Physical Enablers*

The key variables that loaded factor 5, were specific to an organisation's physical and tangible contributors to creativity and innovation.

The physical enablers were specific to the physical environment and layout within an organisation itself, specifically referring to an environment that has a variety of work spaces, is ergonomic, encourages engagement and collaboration, has a combination of modelling tools and promotes a creative attitude. A combination of these variables would typically define a work environment that staff operate within and would therefore provide a creative and innovative work environment.

Having a knowledge management system was also a loading variable, and although not necessarily a physical enabler, it can be interpreted as a physical enabler since a knowledge management system, typically a technology solution in the present context, is a replacement for a historic hardcopy information management solution, having a knowledge management system can therefore be interpreted as having a "physical library", with tangible knowledge and information.

Overall, factor 5 defines an organisation's tangible physical work environment parameters specific to the encouragement of creativity and innovation by being

ergonomic, inspiring, having specific tools and encouraging networking and collaboration.

4.5 2-tailed t-tests

4.5.1 *Updated Hypothesis Tests*

Given that the exploratory factor analysis found 5 stable factors, the hypothesis statements were updated to include the testing of differences per factor per category.

Management consulting compared to the typical combined industry

Hypothesis 1.1

H_A - The perceived creative and innovative Strategy and Resources of South African management consulting companies is significantly different from their typical combined client industries.

Hypothesis 1.2

H_A - The perceived creative and innovative Human Contribution of South African management consulting companies is significantly different from their typical combined client industries.

Hypothesis 1.3

H_A - The perceived creative and innovative Organisation Culture of South African management consulting companies is significantly different from their typical combined client industries.

Hypothesis 1.4

H_A - The perceived creative and innovative Leadership and Management of South African management consulting companies is significantly different from their typical client combined industries.

Hypothesis 1.5

H_A - The perceived creative and innovative Physical Enablers of South African management consulting companies is significantly different from their typical client industries.

Management consulting compared to the primary sector

Hypothesis 2.1

H_A - The perceived creative and innovative Strategy and Resources of South African management consulting companies is significantly different from that of the primary sector.

Hypothesis 2.2

H_A - The perceived creative and innovative Human Contribution of South African management consulting companies is significantly different from that of the primary sector.

Hypothesis 2.3

H_A - The perceived creative and innovative Organisation Culture of South African management consulting companies is significantly different from that of the primary sector.

Hypothesis 2.4

H_A - The perceived creative and innovative Leadership and Management of South African management consulting companies is significantly different from that of the primary sector.

Hypothesis 2.5

H_A - The perceived creative and innovative Physical Enablers of South African management consulting companies is significantly different from that of the primary sector.

Management consulting compared to the secondary sector

Hypothesis 3.1

H_A - The perceived creative and innovative Strategy and Resources of South African management consulting companies is significantly different from that of the secondary sector.

Hypothesis 3.2

H_A - The perceived creative and innovative Human Contribution of South African management consulting companies is significantly different from that of the secondary sector.

Hypothesis 3.3

H_A - The perceived creative and innovative Organisation Culture of South African management consulting companies is significantly different from that of the secondary sector.

Hypothesis 3.4

H_A - The perceived creative and innovative Leadership and Management of South African management consulting companies is significantly different from that of the secondary sector.

Hypothesis 3.5

H_A - The perceived creative and innovative Physical Enablers of South African management consulting companies is significantly different from that of the secondary sector.

Management consulting compared to the tertiary sector

Hypothesis 4.1

H_A - The perceived creative and innovative Strategy and Resources of South African management consulting companies is significantly different from that of the tertiary sector.

Hypothesis 4.2

H_A - The perceived creative and innovative Human Contribution of South African management consulting companies is significantly different from that of the tertiary sector.

Hypothesis 4.3

H_A - The perceived creative and innovative Organisation Culture of South African management consulting companies is significantly different from that of the tertiary sector.

Hypothesis 4.4

H_A - The perceived creative and innovative Leadership and Management of South African management consulting companies is significantly different from that of the tertiary sector.

Hypothesis 4.5

H_A - The perceived creative and innovative Physical Enablers of South African management consulting companies is significantly different from the tertiary sector.

Management consulting compared to the quaternary sector

Hypothesis 5.1

H_A - The perceived creative and innovative Strategy and Resources of South African management consulting companies is significantly different from that of the quaternary sector.

Hypothesis 5.2

H_A - The perceived creative and innovative Human Contribution of South African management consulting companies is significantly different from that of the quaternary sector.

Hypothesis 5.3

H_A - The perceived creative and innovative Organisation Culture of South African management consulting companies is significantly different from that of the quaternary sector.

Hypothesis 5.4

H_A - The perceived creative and innovative Leadership and Management of South African management consulting companies is significantly different from that of the quaternary sector.

Hypothesis 5.5

H_A - The perceived creative and innovative Physical Enablers of South African management consulting companies is significantly different from that of the quaternary sector.

4.5.2 *Hypothesis Test 1: Management Consulting Compared to the Total Combined Industry*

2-tailed t-tests were conducted to determine the significant difference in means of the 5 factors for the 2 samples of data, namely management consulting companies and the total combined industry. Table 6 tabulates the outcomes.

Table 6: Management Consulting Companies compared to the Total Combined Industry

Factor	T-test: Significant Difference of Means	Reject the Null Hypothesis	Highest Factor Score	Comment
Factor 1: Strategy & Resources	Insufficient evidence	No	Neither	At the α=0.05 level of significance, there is not enough evidence to conclude that the mean of the two samples is significantly different.
Factor 2: Human Contribution	Yes	Yes	Management Consulting Companies	Significant difference between management consulting companies and Industry in general where consulting companies are rated to have individuals and teams with a greater propensity to be creative and innovative.
Factor 3: Organisation Culture	Yes	Yes	Management Consulting Companies	Significant difference between management consulting companies and Industry in general where consulting companies are rated to have an organisation culture that is inclined to creating a more creative and innovative culture.
Factor 4: Leadership and Management	Yes	Yes	Management Consulting Companies	Significant difference between management consulting companies and Industry in general where consulting companies are rated to have leadership and management that believe, support and enable a more creative and innovative organisation climate and works force.
Factor 5: Physical Enablers	Insufficient evidence	No	Neither	At the α=0.05 level of significance, there is not enough evidence to conclude that the mean of the two samples is significantly different.

4.5.3 *Hypothesis Test 2: Management Consulting Compared to the Primary Sector*

2-tailed t-tests were conducted to determine the significant difference in means of the 5 factors for the 2 samples of data, namely management consulting companies and the primary sector. Table 7 tabulates the outcomes.

Table 7: Management Consulting Companies compared to the Primary Sector

Factor	T-test: Significant Difference of Means	Reject the Null Hypothesis	Highest Factor Score	Comment
Factor 1: Strategy & Resources	Yes	Yes	Management Consulting Companies	Significant difference between management consulting companies and the Primary Sector, where consulting companies are rated to have a greater propensity for creativity and innovation in the organisation's strategy and the allocation of resources to enable the strategy.
Factor 2: Human Contribution	Insufficient Evidence	No	Neither	At the α=0.05 level of significance, there is not enough evidence to conclude that the mean of the two samples is significantly different.
Factor 3: Organisation Culture	Yes	Yes	Management Consulting Companies	Significant difference between management consulting companies and the Primary Sector where consulting companies are rated to have an organisation culture that is inclined to creating a more creative and innovative culture.
Factor 4: Leadership and Management	Insufficient Evidence	No	Neither	At the α=0.05 level of significance, there is not enough evidence to conclude that the mean of the two samples is significantly different.
Factor 5: Physical Enablers	Insufficient Evidence	No	Neither	At the α=0.05 level of significance, there is not enough evidence to conclude that the mean of the two samples is significantly different.

4.5.4 *Hypothesis Test 3: Management Consulting Compared to the Secondary Sector*

2-tailed t-tests were conducted to determine the significant difference in means of the 5 factors for the 2 samples of data, namely management consulting companies and the secondary sector. Table 8 tabulates the outcomes.

Table 8: Management Consulting Companies compared to the Secondary Sector

Factor	T-test: Significant Difference of Means	Reject the Null Hypothesis	Highest Factor Score	Comment
Factor 1: Strategy & Resources	Insufficient evidence	No	Neither	At the α=0.05 level of significance, there is not enough evidence to conclude that the mean of the two samples is significantly different.
Factor 2: Human Contribution	Yes	Yes	Management Consulting Companies	Significant difference between management consulting companies and the Secondary sector where consulting companies are rated to have individuals and teams with a greater potential and propensity to be creative and innovative.
Factor 3: Organisation Culture	Yes	Yes	Management Consulting Companies	Significant difference between management consulting companies and the Secondary sector where consulting companies are rated to have an organisation culture that is inclined to creating a more creative and innovative culture.
Factor 4: Leadership and Management	Yes	Yes	Management Consulting Companies	Significant difference between management consulting companies and the Secondary sector where consulting companies are rated to have leadership and management that believe, support and enable a more creative and innovative organisation climate and works force.
Factor 5: Physical Enablers	Insufficient evidence	No	Neither	At the α=0.05 level of significance, there is not enough evidence to conclude that the mean of the two samples is significantly different.

4.5.5 *Hypothesis Test 4: Management Consulting Compared to the Tertiary Sector*

2-tailed t-tests were conducted to determine the significant difference in means of the 5 factors for the 2 samples of data, namely management consulting companies and the tertiary sector. Table 9 tabulates the outcomes.

Table 9: Management Consulting Companies compared to the Tertiary Sector

Factor	T-test: Significant Difference of Means	Reject the Null Hypothesis	Highest Factor Score	Comment
Factor 1: Strategy & Resources	Insufficient evidence	No	Neither	At the α=0.05 level of significance, there is not enough evidence to conclude that the mean of the two samples is significantly different.
Factor 2: Human Contribution	Yes	Yes	Management Consulting Companies	Significant difference between management consulting companies and the Tertiary sector where consulting companies are rated to have individuals and teams with a greater potential and propensity to be creative and innovative.
Factor 3: Organisation Culture	Yes	Yes	Management Consulting Companies	Significant difference between management consulting companies and the Tertiary sector where consulting companies are rated to have an organisation culture that is inclined to creating a more creative and innovative culture.
Factor 4: Leadership and Management	Yes	Yes	Management Consulting Companies	Significant difference between management consulting companies and the Tertiary sector in general where consulting companies are rated to have leadership and management that believe, support and enable a more creative and innovative organisation climate and works force.
Factor 5: Physical Enablers	Insufficient evidence	No	Neither	At the α=0.05 level of significance, there is not enough evidence to conclude that the mean of the two samples is significantly different.

4.5.6 *Hypothesis Test 5: Management Consulting Compared to the Quaternary Sector*

2-tailed t-tests were conducted to determine the significant difference in means of the 5 factors for the 2 samples of data, management consulting companies and the quaternary sector. Table 10 tabulates the outcomes.

Table 10: Management Consulting Companies compared to the Quaternary Sector

Factor	T-test: Significant Difference of Means	Reject the Null Hypothesis	Highest Factor Score	Comment
Factor 1: Strategy & Resources	Insufficient evidence	No	Neither	At the α=0.05 level of significance, there is not enough evidence to conclude that the mean of the two samples is significantly different.
Factor 2: Human Contribution	Insufficient evidence	No	Neither	At the α=0.05 level of significance, there is not enough evidence to conclude that the mean of the two samples is significantly different.
Factor 3: Organisation Culture	Insufficient evidence	No	Neither	At the α=0.05 level of significance, there is not enough evidence to conclude that the mean of the two samples is significantly different.
Factor 4: Leadership and Management	Insufficient evidence	No	Neither	At the α=0.05 level of significance, there is not enough evidence to conclude that the mean of the two samples is significantly different.
Factor 5: Physical Enablers	Insufficient evidence	No	Neither	At the α=0.05 level of significance, there is not enough evidence to conclude that the mean of the two samples is significantly different.

5 INTERPRETATION OF RESULTS

5.1 Factor Analysis Outcomes

5.1.1 *Factor Categorisation*

The exploratory factor analysis outputs were not significantly different from the emergent literature review factors.

- Teams & Individual factors from the literature review emerged as a combined factor.
- The Leadership and Management factor remained constant.
- The Organisation Culture factor remained constant.
- The Organisation Support factor from the literature lost some of its variables specifically associated with the provision of resources. The remaining variables related to physical enablers, therefore the factor was termed Physical Enablers.
- The Innovation & Strategy factor from the literature absorbed the resources provision variables from the Organisation Support factor to create a new factor, namely Strategy & Resources.

Table 11: Factor Analysis Outcomes Comparison

Literature Review Factors	**Related Exploratory Factor Analysis Outputs**
Innovation & Strategy	Strategy & Resources
Organisation Support	Physical Enablers
Culture	Organisation Culture
Leadership & Management	Leadership and Management
Teams Individual	Human Contribution

Reviewing the 5 factors that emerged from the factor analysis, 2 key categories emerged, namely Direct and Indirect factors. The two key themes that loaded factor 1, were with regards to an organisation's strategy and process to improve, prioritise and measure creativity and innovation, including the provision of resources, such as time, funds, information and knowledge to enable the strategy. These two key themes can be considered static since they can be developed and implemented at a certain point during an organisation's operating cycle, and then not necessarily reviewed or engaged during normal daily operations. Similarly, Physical Enablers can be considered static, since the provision of an ergonomic workplace, modelling tools, inspiring artefacts and an office layout is typically designed, implemented and utilised during daily operations, with renovations occurring only rarely.

Factor 1, Strategy and Resources and Factor 5, Physical Enablers can, therefore be classified as Indirect since they provide passive and general support to the organisation in the form of direction, resources and a specific physical workplace.

However, Factor's 2, 3 and 4, namely Human Contribution, Organisation Culture and Leadership and Management can be considered Direct factors, referring specifically to the human dimension within an organisation that is actively and directly engaged with the organisation's work and operations. Ultimately, creativity and innovation begins as ideas within the minds of individuals (Amabile, 1996) that are communicated within teams that operate within a particular culture that governs the relationships between individuals and the leadership and management that support creativity and innovation. Factor's 2,3 and 4 can be considered the daily source of creativity and innovation and can therefore be classified as direct creativity and innovation contributors since individuals, team, leadership and management are variables that are addressing and dealing directly with an organisation's work requirements and challenges.

Furthermore, an organisation that has a strategy with adequate resources and a physical environment that enables creativity and innovation does not necessarily imply that the organisation's work and outcomes will be creative and innovative (Amabile, 1996; Robert J. Sternberg, 1985; Taggar, 2002). Having a strategy,

resources and physical enablers, acts as a support function that enhances the culture, capabilities and creativity within the organisation. Having staff, an organisation culture, leaders and managers that are inherently inclined towards being creative and innovative should ultimately deliver work and outcomes that are inherently creative and innovative, although limited due to the potential limiting factors of not having an organisation strategy, resources and physical enablers that are creativity and innovation enhancing.

5.2 2-tailed t-tests Outcomes

The exploratory factor analysis extracted 5 stable factors after which 2-tailed t-tests were conducted to determine the significant differences between management consulting companies and the total combined industry and the four defined economic sectors. Table 12 summarises the results.

Table 12: 2-tailed t-test Summary Outcomes

T-test Management Consulting compared to:	**Significant difference in creativity and innovation organisation climate between management consulting companies and their typical clients**				
	Factor 1: Strategy & Resources	Factor 2: Human Contribution	Factor 3: Organisation Culture	Factor 4: Management & Leadership	Factor 5: Physical Enablers
Total Combined Industry	No significant difference	Significant Difference-Consulting Rated Higher	Significant Difference-Consulting Rated Higher	Significant Difference-Consulting Rated Higher	No significant difference
Primary Sector	Significant Difference-Consulting Rated Higher	No significant difference	Significant Difference-Consulting Rated Higher	No significant difference	No significant difference
Secondary Sector	No significant difference	Significant Difference-Consulting Rated Higher	Significant Difference-Consulting Rated Higher	Significant Difference-Consulting Rated Higher	No significant difference
Tertiary Sector	No significant difference	Significant Difference-Consulting Rated Higher	Significant Difference-Consulting Rated Higher	Significant Difference-Consulting Rated Higher	No significant difference
Quaternary Sector	No significant difference	No significant difference	No significant difference	No significant difference	No significant difference

5.2.1 *Management Consulting Companies vs Total Combined Industry*

From Table 12, it can be seen that management consulting companies were significantly different and had greater factor scores in comparison to the total combined industry on factors 2, 3 and 4, specifically the Direct creative and innovative contributing factors. Management consulting companies were not significantly different to the total industry on the Indirect factors, namely Strategy & Resources and Physical Enablers.

The statistical findings were supported by conducting 2-tailed t-tests on each of the 54 original questionnaire variables, resulting in a majority 41 out of 54 or 76% of variables where management consulting companies were significantly different and superior to the total combined industry. In contrast, the total combined industry was significantly different and had greater means on only 6 variables and the remaining 7 variables had insufficient evidence to reject the Null Hypothesis. The variables where management consulting companies were not significantly different to the total combined industry or where there was insufficient evidence to reject the null hypothesis were mainly variables regarding the integration of creativity and innovation into an organisation's strategy and organisation support variables with a specific focus on physical enablers.

Regarding the outsourcing of innovation as a business strategy, based on the literature review, two principle scenarios have emerged to use as a basis for interpretation. The first scenario is where an organisation justifies outsourcing of innovation for Transactional Cost Economics or Resource Based View reasons, where the organisation has outsourced their innovation requirements due to the lower cost of outsourcing or where the organisation has defined being creative and innovative as a non-core function to the organisation, respectively. In both cases the organisation would have chosen to eliminate specific internal creative and innovative functions and abilities. The second scenario is where an organisation has outsourced some of its innovation requirements for absorption reasons, to absorb knowledge from management consulting companies, for substitution reasons, using external service providers' market-ready components, for complementarity reasons,

to utilize and supplement an organisation's core functions with management consulting companies resources and capacity and for benchmarking reasons, to utilize management consulting companies knowledge of competitors and related industries for benchmarking purposes. In the second scenario, the organisation would have chosen to maintain internal creative and innovative functions whilst supplementing and enhancing the organisation's innovation ability by hiring management consulting companies.

The difference between scenario one and two is significant, resulting in varied interpretations of the results. Scenario one would support the finding that states that the total industry has chosen to eliminate its internal ability to be creative and innovative and hence the inferior performance on the Direct factors. On the contrary, scenario two suggests that the total combined industry has been inferior in executing and enabling its internal creative and innovative functions, apparent by the inferior performance on the Direct factors.

Scenario two is most applicable since there was no significant difference in the Strategy and Resources factor, indicating that both management consulting companies and the total combined industry have equally prioritised being creative and innovative as key to their organisation's strategy and provided the enabling processes and resources to enable their strategies. Similarly, no significant differences were found in the Physical Enablers factor, suggesting both management consulting companies and the total combined industry have created a physical working environment that enhances creativity and innovation. These results imply that the total combined industry has not chosen scenario one, but rather, the total combined industry has also chosen to be internally creative and innovative but has been less successful in the execution and enablement of its Direct factors in support of a creative and innovative organisation climate.

The reduced creativity and innovation ability of the total industry could result in an overall negative performance. As organisations outsource their innovation requirements, they can fall into a trap where they become reliant on management consulting companies to continuously provide creative and innovative input into their

organisations. A number of scholars have stated that such a reliance would, in the longer term, reduce an organisation's ability to be creative and innovative (Bengtsson, Haartman, & Dabhilkar, 2009; Kotabe, 1998; Sturdy, et al., 2008) to such an extent that it could impact an organisation's ability to execute even basic operational functions. This situation could explain some of the research that has shown that management consulting companies are increasingly performing basic and standardised roles and losing their ability to be sources of creative and innovative solutions (Sturdy, et al., 2008).

The increased reliance on management consulting companies has advantages and disadvantages for both clients and external service provider.

For clients, the advantages are that they benefit from the capabilities, resources and knowledge from management consulting companies, whilst the disadvantages are that they reduce their ability to be internally creative and innovative in the long term, becoming reliant on external consultants and ultimately reducing the effectiveness and efficiency on the organisation's internal productivity and performance.

For management consulting companies, the advantages are that their professional services are increasingly required and should result in improved financial performance, whilst the disadvantages are that they could lose their ability to be creative and innovative due to the changes in services requested from clients, shifting from creative and innovative to operational and standard.

The findings suggest an unsustainable long term situation that would ultimately negatively impact the country's economic potential. This position is justified by the reduced creativity and innovation abilities of the total combined industry and the resultant potential reliance on management consulting companies, whose services will be increasingly procured as clients' internal creativity and innovation abilities potentially reduce. The resulting impact would be a reduction in South Africa's innovativeness, a trend that has already been validated by research (Insead, 2012a) that shows a decline in South Africa's innovativeness ranking between 2007 to 2012, from 34th position to 54th position respectively.

The inferior creative and innovation abilities of the total combined industry suggests that the industry will remain inferior to management consulting companies, at least on the Direct factors identified. The ultimate result could be a continued limited potential to be creative and innovative in the total combined industry in general, justified by the inferior performance of the total combined industry on Direct factor 4, namely Leadership and Management.

The literature review stated that leadership and management play a key role as the initiator of a creative an innovative organisation (Damanpour & Schnieder, 2006). Reviewing the six factors that define the transformational leadership style, which has been shown to support and promote innovation in organisations (Ancona & Caldwell, 1987; Damanpour, 1991; Jung, et al., 2003; King, 1990), it can be interpreted as directly influencing an organisation's culture and people, by defining a future vision, being a role model, setting of high standards, supporting and encouraging intellectual stimulation and creativity. Since the total industries factor 4 performance, namely Leadership and Management, was inferior to management consulting companies, it can be concluded that, in general, the total combined industries potential to significantly improve its creativity and innovation abilities is limited.

The situation, however, presents a great opportunity for a competitive industry to make significant changes in its competitive position. By improving an organisations creative and innovative climate, the organisation can potentially dramatically improve its performance and provide a significant competitive advantage improvement through a more effective and efficient integration of external and internal creative and innovative abilities.

Overall, management consulting companies were not significantly different in the Indirect factors but were significantly different and superior on the Direct factors that are related directly to having a creative and innovative organisation climate. This outcome supports the view that, in general, management consulting companies have a greater ability to be creative and innovative in comparison to their clients, furthermore justifying, in a South African context, organisations "outsourcing" of

creativity and innovation to management consulting companies on the basis of superior creative and innovative abilities.

5.2.2 *Management Consulting Companies vs Individual Sectors*

Interpreting the findings from the comparison between management consulting companies and each individual economic sector, a variety of results were found.

Management consulting companies were found to be significantly different and superior to the primary sector respondents on one of the Indirect factors, namely Strategy and Resources and on one of the Direct factors, namely Organisation Culture. On all the other factors, management consulting companies were not significantly different to the primary sector. From this outcome, it cannot be concluded that management consulting companies have a substantial advantage over the primary sector in terms of having a superior ability to be more creative and innovative.

Comparing management consulting companies to the secondary and tertiary sectors resulted in the exact outcome as described in the comparison between management consulting companies and the total combined industry, namely that management consulting companies were significantly different and superior to the secondary and tertiary sectors on the Direct factors, suggesting a greater ability to delivery creative and innovative outcomes.

The quaternary sector is the economic sector primarily focused on research & intellectual activities and has key functions of providing intellectual and professional services within the industries in which they operate. Since the quaternary sector of the economy is also the sector where management consulting companies reside, the expectation would be that management consulting companies would not be significantly different to the quaternary sector respondents. As expected, there were no significant differences between management consulting companies and the quaternary sector industry respondents on all 5 factors.

6 CONCLUSION AND FUTURE RESEARCH

6.1 Summary of Findings

Conducting the exploratory factor analysis on the total 310 respondents revealed 5 factors that was categorised under Direct and Indirect contributing factors to a creative and innovative organisation climate:

Indirect Factors - defined as factors that are passive and supportive within an organisation and are not directly contributing to the act of being creative on a daily basis. The 2 emergent factors that are categorised as Indirect are:

- Factor 1: Strategy & Resources - defines the priority and inclusion of creativity and innovation as part of an organisation's strategy and the degree to which resources are provided to support the strategy.
- Factor 5: Physical Enablers - defines an organisation's tangible physical work environment parameters specific to the encouragement of creativity and innovation by being ergonomic, inspiring, having specific tools and encouraging of networking and collaboration.

Direct Factors - defined as factors that are active within an organisation, typically within the people, culture and leadership dimensions, and which contribute directly through effort and thought to delivering work on a daily basis. The 3 emergent factors that are categorised as Direct are:

- Factor 2: Human Contribution - defines the human contribution to creativity and innovation within an organisation, where individuals skill, inclination and attitudes are inclined to creativity and innovation, where creativity and innovation is enhanced through sharing within teams that have diverse skills, a common purpose and are working within a creativity encouraged work environment.

- Factor 3: Organisation Culture - explains an organisation's culture as defined by its structure, processes, human interactions and experiences that identifies the organisation's working environment.
- Factor 4: Leadership and Management - defines the ability of leaders and manages to be creative and innovative as a personal preference and the actions and behaviours they take to respect, trust and support staff and others to high performance, collaboration, common direction, a meaningful future and ultimately the encouragement to think creatively.

The 2-tailed t-tests concluded that management consulting companies did not have a unanimous superior creative and innovative organisation climate in comparison to each economic sector. Comparing management consulting companies to the primary sector resulted in inconclusive findings. In comparison to the secondary and tertiary sector, management consulting companies had a superior performance only on the Direct factors and in comparison to the quaternary sector, no significant differences were found. This finding suggests that the value obtained by clients in different economic sectors will vary where the secondary and tertiary sector clients would benefit the most from outsourcing, due to the superior performance of management consulting companies on the Direct factors. Primary sector clients would obtain limited benefits, due to the superior performance of management consulting companies on a Direct and an Indirect factor. Quaternary sector clients would benefit the least, since no significant creative and innovative organisation climate differences were found.

The 2-tailed t-test outcomes comparing the significant differences between management consulting companies and the total combined industry sectors revealed that there was no significant difference between the two samples on Indirect factors, indicating that management consulting companies and the total combined industry have both prioritised creativity and innovation as part of the organisation's strategy, have both provided resources to enable such a strategy and have both implemented physical enablers in the form of work environment, tools, ergonomics and layout that enhance the organisation's creativity and innovation potential. A concluding finding,

however, was that management consulting companies, in comparison to the total combined industry, was significantly different and superior on all the Direct factors. This critical outcome suggests that in general, management consulting companies have staff, an organisation culture, leadership and management that are fundamentally more creative, enabling and supportive of a creative and innovative organisation.

Management consulting company's superior performance on the Direct factors and equal performance on the Indirect factors supports the view that South African management consulting companies have an overall superior creative and innovative organisation climate in comparison to their typical combined clients industries. This outcome suggests that it is, therefore, justified for clients to outsource their creative and innovative requirements to management consulting companies.

6.2 Management Implications

For management consulting companies:

The processes used to select human resources; training and development, the dimensions that define the organisation's culture and the type of management and leadership within management consulting companies contribute to enhancing the organisation's creativity and innovation potential and should, at least, be maintained.

Where management consulting companies have the potential for improvement is specifically in Factor 1 and 5, namely the improvement of the role creativity and innovation plays in the organisation's strategy and processes and resources allocated to the enablement of the strategy and the improvement of the organisation's physical enablers to specifically enhance its creativity and innovation ability.

For the Total industry:

It is justified to outsource creative and innovative functions to management consulting companies justified by their superior ability to be creative and innovative,

specifically with regards to Direct contributing factors. Organisations should, however, be aware of the negative impact of such outsourcing on the long term creative and innovative abilities of the organisation. An ideal scenario, as suggested by the literature, would be to build an organisation that is capable of internalising, interpreting and including numerous sources of innovation, including internal and external sources.

The significant differences between industry and management consulting companies were specific to the Direct factors, suggesting that industry organisations that intend to improve their creativity and innovative ability should focus on improving the Human Contribution, Organisation Culture and Leadership and Management factors.

General:

The findings suggest an unsustainable long term situation that would ultimately negatively impact the country's economic potential. This position is justified by the reduced creativity and innovation abilities of the total industry and the resultant reliance on management consulting companies, whose services will be increasingly procured as clients' internal creativity and innovation abilities reduce. The inferior creative and innovation abilities of the total industry suggest that the industry will remain inferior to management consulting companies, at least on the Direct factors identified. The ultimate result could be a limited potential to be innovative in the total industry in general, justified by the inferior performance of the Total industry on Direct factor 4, namely Leadership and Management.

6.3 Future research

The results showed that the total combined industry has prioritised creativity and innovation as critical to their strategy, however the resultant impact of enabling the organisations' Direct factors has not been as successful as management consulting companies, raising the question to the reasons thereof. Further research would provide insight into the activities and projects organisations, both management

consulting companies and total industry are implementing in order to improve their creative and innovative organisation climate.

Research Statement: To compare the different activities and projects management consulting companies and their typical clients industry are implementing to improve their creativity and innovation organisational climate.

This research sampled respondents from a particular province of South Africa, however, the country's numerous provinces present a large variety of workplace demographic differences, including race, religion, culture and language. In a South African context, increasing creativity and innovation would require an understanding of the driving factors for creativity and innovation amongst the different demographic categories. This outcome would inform management and leadership on the differing approaches to increasing their organisations' creativity and innovation capability dependant on the organisations demographic construct. The outcomes could support the development of a customised South African framework for organisational creativity and innovation.

Research Statement: To identify the influence of gender, race, religion, geographic region and cultural background has on an organisation/s creative and innovative organisation climate.

Reviewing an organisations hierarchy, management plays a key role in establishing and influencing an organisations creative and innovative organisation climate. A question emerges regarding an organisation journey toward increasing its creativity and innovation potential, namely, if influencing management alone would directly influence the entire organisation over a period of time. Certain organisations may encourage creativity and innovation at the management level, assuming this encouragement would enhance the entire organisations' creative and innovative potential, specifically at an operational level. Future research could compare the differences, within an organisation or a number of organisations, between management and non-management perceptions of their organisations' creativity and innovation potential. The outcomes would inform management and leadership on the

impact and risks of solely focusing on enhancing creativity and innovation on particular levels of an organisation's hierarchy.

Research Statement: To identify the different perceptions of an organisation's creative and innovative organisation climate between Leaders and Managers and the non-management staff.

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8 APPENDICES

APPENDIX A – Original Questionnaire

Part 1 – Categorisation

Demographic	**Response**
Are you in a Management Role (Yes / No)	
Tenure in current Organisation (Length of Time)	
My Organisation's Industry Sector (Please Specify the Industry Sector in the relevant Block)	
Primary - Extraction (Mining, Forestry, Agriculture…)	
Secondary - Manufacturing (Manufacturing, Engineering, Construction, Utilities…)	
Tertiary - Services (Financial Services, media, healthcare, entertainment, tourism…)	
Quaternary – Intellectual Activities (Government, libraries, scientific research, education, consulting…)	

Part 2 – Organisation Climate Factors Questionnaire

#	**Variable**	**Strongly Disagree**	**Disagree**	**Somewhat Disagree**	**Neither Agree or Disagree**	**Somewhat Agree**	**Agree**	**Strongly Agree**
1	Individuals in my organisation have significant expertise in their respective profession's							
2	Individuals in my organisation have the analytic skill to recognize which ideas are worth pursuing and which are not							
3	Individuals in my organisation have the practical skill to know how to persuade others on the value of their ideas.							
4	Individuals in my organisation have the ability and inclination to think in unconventional, original & creative ways							
5	Individuals in my organisation are never satisfied with the status quo. They constantly challenge norms and standards							
6	Individuals in my organisation have an entrepreneurial & risk- taking attitude							
7	Individuals in my organisation have a persistent and determined attitude							
8	Individuals in my organisation are comfortable working under ambiguous work conditions							
9	Individuals in my organisation are self-motivated through a passion for the work they do							
10	Individuals in my organisation are challenge driven							
11	Teams in my organisation are committed to a common team purpose and direction							
12	Teams in my organisation are usually diverse in skills, expertise and culture							
13	Teams in my organisation provide clear roles, responsibilities and accountabilities for team members							
14	Teams in my organisation value all team members views and opinions in decision making							
15	Leaders and Managers in my organisation are highly focused on inspiring the organisation toward a clear & well-articulated Future Vision							
16	Leaders and Managers in my organisation are role models that set an example that is consistent with the leader/s values							
17	Leaders and Managers in my organisation promote strong cooperation among employees, working toward a common goal							
18	Leaders and Managers in my organisation set high expectations for excellence, quality and performance							

19	Leaders and Managers in my organisation respect employees and express concern about their feelings and needs	
20	Leaders and Managers in my organisation challenge employees to re-examine assumptions about their work and to "push the envelope", re-thinking how work can be done	
21	Leaders and Managers in my organisation are ambitious & motivated to enable a creative and innovative organisation	
22	My organisation has a relatively flat organisation structure with few hierarchical levels	
23	My organisation has a decentralised, power dispersed structure	
24	My organisation minimises bureaucracy, procedures and processes to follow	
25	My organisation supports a trust based, open communication culture throughout all hierarchical levels	
26	My organisation empowers staff with sufficient freedom and autonomy in their work	
27	My organisation pays attention to aligning people's passion and interests to the work they do	
28	My organisation provides challenging and meaningful work that is linked to a higher purpose	
29	My organisation is empowering and supportive of new ideas, solutions and concepts	
30	My organisation praises and encourages staff to take calculated risks with new ideas and projects	
31	My organisation does not frown upon failure, but views it as an opportunity to learn and improve	
32	My organisation promotes a balance between work and fun - enabling an energetic and socially engaged environment	
33	My organisation's culture is enthusiastic, positive and optimistic	
34	My organisation encourage cross-team and cross-department collaboration, networking and sharing	
35	My organisation has a culture where ideas are challenged, with debates occurring in a positive and constructive manner	
36	My organisation holds employees responsible and accountable for the work they do	
37	My organisation is highly flexible and adaptable to change at all hierarchal levels	
38	My organisation promotes individual growth through work opportunities, training and constructive coaching	
39	My organisation provides sufficient funding specifically for development of creative and innovative ideas. Examples include experimental projects, focused training and the attendance of conferences/lectures.	
40	My organisation affords sufficient Free Time to explore, incubate & experiment with new ideas.	
41	My organisation's physical space has adequate lighting, ergonomic furniture, sufficient space and is well ventilated	
42	My organisation's workspaces have significant number of windows, plants, natural light and materials	
43	My organisation is scattered with artefacts and posters with messages that are inspiring and "creativity" enhancing	
44	My organisation has a balanced combination of private contemplation spaces, private work spaces, team workspaces & communal social spaces	
45	My organisation provides sufficient visual design and brainstorming tools in all work spaces - e.g White Boards, Flipcharts, Projectors, Modelling Bricks & Clay	
46	My organisation's physical space encourages socializing, cross team and cross department engagement and networking	
47	My organisation has an effective and easily accessible Knowledge Management System for storage and retrieval of organisational knowledge and information.	
48	My organisation encourages staff to make use of organisational knowledge, “Leading” thinking and global information sources e,g journals, magazines, research reports, books & newspapers	
49	My organisation has an organisation wide performance management system that incentivizes “creativity and innovation”	
50	My organisation prioritises “creativity and innovation” as a critical strategic enabler to achieve its Vision	
51	My organisation has a strategy to improve “creativity and innovation” in the organisation	
52	My organisation has “creativity and innovation” metrics & targets that are tracked	
53	My organisation specifically gets input from external sources in order to improve its competitive position and innovation capability. E.g sources like customers, users, suppliers, advisors and researchers	
54	My organisation has an effective innovation process - that supports the generation of creative ideas, their storage, incubation, experimentation and finally implementation	

APPENDIX B – 5 Factor Kaiser-Meyer-Olkin and Bartlett's Test

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.955
Bartlett's Test of Sphericity	Approx. Chi-Square	12791.810
	df	1431
	Sig.	.000

APPENDIX C – Factor Analysis: Total Variance Explained, 3 Factor Solution

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	22.368	41.423	41.423	21.917	40.587	40.587
2	3.944	7.304	48.727	3.453	6.395	46.982
3	2.824	5.230	53.957	2.307	4.273	51.255
4	1.766	3.270	57.227			

APPENDIX D – Factor Analysis: Total Variance Explained, 4 Factor Solution

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	22.368	41.423	41.423	21.942	40.634	40.634
2	3.944	7.304	48.727	3.497	6.476	47.110
3	2.824	5.230	53.957	2.327	4.309	51.418
4	1.766	3.270	57.227	1.344	2.489	53.907
5	1.542	2.856	60.083			

APPENDIX E – Factor Analysis: Total Variance Explained, 5 Factor Solution

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	22.368	41.423	41.423	21.959	40.665	40.665
2	3.944	7.304	48.727	3.520	6.518	47.184
3	2.824	5.230	53.957	2.355	4.361	51.544
4	1.766	3.270	57.227	1.373	2.543	54.087
5	1.542	2.856	60.083	1.071	1.983	56.070
6	1.252	2.319	62.402			

APPENDIX F – Factor Analysis: Total Variance Explained, 6 Factor Solution

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	22.368	41.423	41.423	21.974	40.692	40.692
2	3.944	7.304	48.727	3.536	6.548	47.240
3	2.824	5.230	53.957	2.369	4.387	51.627
4	1.766	3.270	57.227	1.390	2.574	54.201
5	1.542	2.856	60.083	1.091	2.021	56.222
6	1.252	2.319	62.402	.792	1.466	57.688
7	1.090	2.018	64.420			

APPENDIX G – Rotated Factor Matrix

Rotated Factor Matrix[a]

	Factor				
	1	2	3	4	5
My organisation has a strategy to improve “creativity and innovation” in the organisation	.798				
My organisation prioritises “creativity and innovation” as a critical strategic enabler to achieve its Vision	.796				
My organisation has “creativity and innovation” metrics & targets that are tracked	.794				
My organisation has an effective innovation process - that supports the generation of creative ideas, their storage, incubation, experimentation and finally implementation	.792				
My organisation has an organisation wide performance management system that incentivizes “creativity and innovation”	.650				
My organisation specifically gets input from external sources in order to improve its competitive position and innovation capability. E.g sources like customers, users, suppliers, advisors and researchers	.565				
My organisation affords sufficient Free Time to explore, incubate & experiment with new ideas.	.510				
My organisation encourages staff to make use of organisational knowledge, “Leading” thinking and global information sources e.g. journals, magazines, research reports, books & newspapers	.492				.406
My organisation provides sufficient funding specifically for development of creative and innovative ideas. Examples include experimental projects, focused training and the attendance of conferences/lectures.	.444				
Individuals in my organisation are challenge driven		.702			
Individuals in my organisation are self-motivated through a passion for the work they do		.677			
Individuals in my organisation have the practical skill to know how to persuade others on the value of their ideas.		.677			
Individuals in my organisation have the ability and inclination to think in unconventional, original & creative ways		.676			
Individuals in my organisation have the analytic skill to recognize which ideas are worth pursuing and which are not		.672			
Individuals in my organisation have significant expertise in their respective profession's		.670			

Individuals in my organisation have a persistent and determined attitude		.610		
Individuals in my organisation are never satisfied with the status quo. They constantly challenge norms and standards		.608		
Teams in my organisation are usually diverse in skills, expertise and culture		.519		
Teams in my organisation are committed to a common team purpose and direction		.501		
Individuals in my organisation have an entrepreneurial & risk- taking attitude		.482	.401	
Leaders and Managers in my organisation challenge employees to re-examine assumptions about their work and to "push the envelope", re-thinking how work can be done		.453		.433
Individuals in my organisation are comfortable working under ambiguous work conditions				
My organisation minimises bureaucracy, procedures and processes to follow			.741	
My organisation has a relatively flat organisation structure with few hierarchical levels			.638	
My organisation has a decentralised, power dispersed structure			.602	
My organisation supports a trust based, open communication culture throughout all hierarchical levels			.600	.458
My organisation empowers staff with sufficient freedom and autonomy in their work			.593	.463
My organisation does not frown upon failure, but views it as an opportunity to learn and improve			.530	
My organisation promotes a balance between work and fun - enabling an energetic and socially engaged environment	.432		.514	
My organisation pays attention to aligning people's passion and interests to the work they do			.509	.455
My organisation has a culture where ideas are challenged, with debates occurring in a positive and constructive manner			.496	
My organisation is highly flexible and adaptable to change at all hierarchal levels			.469	
My organisation's culture is enthusiastic, positive and optimistic			.469	.427
My organisation praises and encourages staff to take calculated risks with new ideas and projects	.435		.468	
My organisation is empowering and supportive of new ideas, solutions and concepts	.430		.458	
Leaders and Managers in my organisation promote strong cooperation among employees, working toward a common goal				.665
Leaders and Managers in my organisation are role models that set an example that is consistent with the leader/s values				.660
Leaders and Managers in my organisation respect employees and express concern about their feelings and needs			.449	.591
Leaders and Managers in my organisation are highly focused on inspiring the organisation toward a clear & well articulated Future Vision				.566
My organisation promotes individual growth through work opportunities, training and constructive coaching				.502
Leaders and Managers in my organisation set high expectations for excellence, quality and performance		.413		.494
Teams in my organisation value all team members views and opinions in decision making				.486
Leaders and Managers in my organisation are ambitious & motivated to enable a creative and innovative organisation	.413	.416		.470
Teams in my organisation provide clear roles, responsibilities and accountabilities for team members		.411		.445
My organisation provides challenging and meaningful work that is linked to a higher purpose			.415	.443

My organisation encourage cross-team and cross-department collaboration, networking and sharing		
My organisation holds employees responsible and accountable for the work they do		
My organisation's workspaces have significant number of windows, plants, natural light and materials		.688
My organisation has a balanced combination of private contemplation spaces, private work spaces, team workspaces & communal social spaces		.685
My organisation's physical space has adequate lighting, ergonomic furniture, sufficient space and is well ventilated		.665
My organisation provides sufficient visual design and brainstorming tools in all work spaces - e.g White Boards, Flipcharts, Projectors, Modelling Bricks & Clay		.657
My organisation is scattered with artefacts and posters with messages that are inspiring and "creativity" enhancing		.610
My organisation has an effective and easily accessible Knowledge Management System for storage and retrieval of organisational knowledge and information.	.422	.477
My organisation's physical space encourages socializing, cross team and cross department engagement and networking		.427

Extraction Method: Principal Axis Factoring.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 8 iterations.

APPENDIX H – 2-tailed t-test Group Statistics and Independent Sample Test

Management consulting companies compared to the Total Industry

Group Statistics

	Dummy Variable	N	Mean	Std. Deviation	Std. Error Mean
Strategy and Resources	>= 6	229	.0154374	.97300214	.06429779
	< 6	81	-.0436441	.87362599	.09706955
Human Contribution	>= 6	229	-.1205910	.96171038	.06355161
	< 6	81	.3409301	.76224165	.08469352
Organisation Culture	>= 6	229	-.1547133	.93157988	.06156053
	< 6	81	.4373993	.71025569	.07891730
Leadership and Management	>= 6	229	-.1075952	.92524764	.06114209
	< 6	81	.3041888	.74322549	.08258061
Physical Enablers	>= 6	229	.0015337	.89618947	.05922187
	< 6	81	-.0043361	.92554893	.10283877

Independent Samples Test

		Levene's Test for Equality of Variances		T-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Strategy and Resources	Equal variances assumed	1.515	.219	.482	308	.630	.05908149	.12257923	-.18211716	.30028014
	Equal variances not assumed			.507	155.124	.613	.05908149	.11643326	-.17091783	.28908081
Human Contribution	Equal variances assumed	12.383	.000	-3.906	308	.000	-.46152111	.11817122	-.69404614	-.22899608
	Equal variances not assumed			-4.359	175.886	.000	-.46152111	.10588578	-.67049128	-.25255094
Organisation Culture	Equal variances assumed	7.610	.006	-5.208	308	.000	-.59211253	.11369431	-.81582838	-.36839669
	Equal variances not assumed			-5.916	183.183	.000	-.59211253	.10008816	-.78958635	-.39463872
Leadership and Management	Equal variances assumed	6.510	.011	-3.613	308	.000	-.41178401	.11396909	-.63604053	-.18752748
	Equal variances not assumed			-4.008	173.460	.000	-.41178401	.10275170	-.61458858	-.20897943
Physical Enablers	Equal variances assumed	.311	.577	.050	308	.960	.00586988	.11685420	-.22406367	.23580343
	Equal variances not assumed			.049	136.588	.961	.00586988	.11867199	-.22880214	.24054189

Management consulting companies compared to the Primary Sector

Group Statistics

	Dummy Variable	N	Mean	Std. Deviation	Std. Error Mean
Strategy and Resources	1	81	-.0436441	.87362599	.09706955
	6	31	.3354645	.82419809	.14803035
Human Contribution	1	81	.3409301	.76224165	.08469352
	6	31	.0298495	.97923893	.17587650
Organisation Culture	1	81	.4373993	.71025569	.07891730
	6	31	-.5773637	.95935472	.17230519
Leadership and Management	1	81	.3041888	.74322549	.08258061
	6	31	.0687254	.83670085	.15027591
Physical Enablers	1	81	-.0043361	.92554893	.10283877
	6	31	.1182477	.72198479	.12967230

Independent Samples Test

		Levene's Test for Equality of Variances		T-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Strategy and Resources	Equal variances assumed	.146	.703	110	.039	-.37910861	.18171879	-.73923260	-.01898462	-.01898462
	Equal variances not assumed			57.369	.036	-.37910861	.17701831	-.73353227	-.02468495	-.02468495
Human Contribution	Equal variances assumed	4.967	.028	110	.078	.31108061	.17467772	-.03508963	.65725086	.65725086
	Equal variances not assumed			44.627	.118	.31108061	.19520639	-.08217602	.70433724	.70433724
Organisation Culture	Equal variances assumed	7.999	.006	110	.000	1.01476300	.16601267	.68576486	1.34376114	1.34376114
	Equal variances not assumed			43.194	.000	1.01476300	.18951786	.63261336	1.39691264	1.39691264
Leadership and Management	Equal variances assumed	.774	.381	110	.150	.23546344	.16258821	-.08674824	.55767511	.55767511
	Equal variances not assumed			49.173	.176	.23546344	.17147130	-.10909038	.58001726	.58001726
Physical Enablers	Equal variances assumed	3.969	.049	110	.508	-.12258384	.18474204	-.48869920	.24353151	.24353151
	Equal variances not assumed			69.321	.461	-.12258384	.16550141	-.45272282	.20755513	.20755513

Management consulting companies compared to the Secondary Sector

Group Statistics

	Dummy Variable	N	Mean	Std. Deviation	Std. Error Mean
Strategy and Resources	1	81	-.0436441	.87362599	.09706955
	7	56	-.0228170	.94725474	.12658224
Human Contribution	1	81	.3409301	.76224165	.08469352
	7	56	-.3848997	.99133358	.13247252
Organisation Culture	1	81	.4373993	.71025569	.07891730
	7	56	-.2543324	.77956335	.10417353
Leadership and Management	1	81	.3041888	.74322549	.08258061
	7	56	-.2583476	1.01184865	.13521396
Physical Enablers	1	81	-.0043361	.92554893	.10283877
	7	56	.0454299	.82723039	.11054331

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Strategy and Resources	Equal variances assumed	.396	.530	135	135	.895	-.02082711	.15716606	-.33165322	.28999899
	Equal variances not assumed			112.063	112.063	.896	-.02082711	.15951665	-.33688695	.29523273
Human Contribution	Equal variances assumed	9.028	.003	135	135	.000	.72582983	.14997146	.42923242	1.02242724
	Equal variances not assumed			97.905	97.905	.000	.72582983	.15723219	.41380389	1.03785577
Organisation Culture	Equal variances assumed	1.339	.249	135	135	.000	.69173163	.12847863	.43764043	.94582283
	Equal variances not assumed			111.089	111.089	.000	.69173163	.13069072	.43276151	.95070175
Leadership and Management	Equal variances assumed	8.060	.005	135	135	.000	.56253645	.14994908	.26598331	.85908958
	Equal variances not assumed			94.631	94.631	.001	.56253645	.15843728	.24798284	.87709005
Physical Enablers	Equal variances assumed	1.246	.266	135	135	.747	-.04976600	.15411835	-.35456467	.25503267
	Equal variances not assumed			126.339	126.339	.742	-.04976600	.15098224	-.34854765	.24901565

Management consulting companies compared to the Tertiary Sector

Group Statistics

	Dummy Variable	N	Mean	Std. Deviation	Std. Error Mean
Strategy and Resources	1	81	-.0436441	.87362599	.09706955
	8	109	.0457721	.97867161	.09373974
Human Contribution	1	81	.3409301	.76224165	.08469352
	8	109	-.0841904	.92423260	.08852543
Organisation Culture	1	81	.4373993	.71025569	.07891730
	8	109	-.0527129	.93280474	.08934649
Leadership and Management	1	81	.3041888	.74322549	.08258061
	8	109	-.0967954	.87034410	.08336385
Physical Enablers	1	81	-.0043361	.92554893	.10283877
	8	109	-.0498933	.86942630	.08327594

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Strategy and Resources	Equal variances assumed	1.705	.193	-.652	188	.515	-.08941613	.13722241	-.36010966	.18127741
	Equal variances not assumed			-.663	181.720	.508	-.08941613	.13494309	-.35567293	.17684068
Human Contribution	Equal variances assumed	5.914	.016	3.373	188	.001	.42512052	.12601884	.17652785	.67371319
	Equal variances not assumed			3.470	185.915	.001	.42512052	.12251426	.18342366	.66681738
Organisation Culture	Equal variances assumed	3.449	.065	3.952	188	.000	.49011216	.12400222	.24549760	.73472671
	Equal variances not assumed			4.111	187.876	.000	.49011216	.11920879	.25495242	.72527190
Leadership and Management	Equal variances assumed	2.668	.104	3.339	188	.001	.40098422	.12009597	.16407538	.63789306
	Equal variances not assumed			3.417	184.332	.001	.40098422	.11734176	.16947867	.63248977
Physical Enablers	Equal variances assumed	.631	.428	.347	188	.729	.04555721	.13110879	-.21307621	.30419064
	Equal variances not assumed			.344	166.336	.731	.04555721	.13232798	-.21570168	.30681611

Management consulting companies compared to the Quaternary Sector

Group Statistics

	Dummy Variable	N	Mean	Std. Deviation	Std. Error Mean
Strategy and Resources	1	81	-.0436441	.87362599	.09706955
	9	33	-.3204738	1.05478177	.18361394
Human Contribution	1	81	.3409301	.76224165	.08469352
	9	33	.0663778	.96647147	.16824109
Organisation Culture	1	81	.4373993	.71025569	.07891730
	9	33	.0744623	1.02923331	.17916652
Leadership and Management	1	81	.3041888	.74322549	.08258061
	9	33	-.0530793	1.02647381	.17868615
Physical Enablers	1	81	-.0043361	.92554893	.10283877
	9	33	-.0127318	1.21683429	.21182366

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Strategy and Resources	Equal variances assumed	2.046	.155	1.443	112	.152	.27682976	.19185230	-.10330097	.65696050
	Equal variances not assumed			1.333	50.799	.189	.27682976	.20769347	-.14017228	.69383181
Human Contribution	Equal variances assumed	5.201	.024	1.610	112	.110	.27455234	.17053305	-.06333704	.61244171
	Equal variances not assumed			1.458	49.015	.151	.27455234	.18835619	-.10396074	.65306542
Organisation Culture	Equal variances assumed	9.089	.003	2.158	112	.033	.36293698	.16815421	.02976097	.69611300
	Equal variances not assumed			1.854	44.945	.070	.36293698	.19577687	-.03139128	.75726524
Leadership and Management	Equal variances assumed	7.245	.008	2.074	112	.040	.35726818	.17223980	.01599709	.69853927
	Equal variances not assumed			1.815	46.285	.076	.35726818	.19684588	-.03889624	.75343260
Physical Enablers	Equal variances assumed	7.048	.009	.040	112	.968	.00839566	.21009243	-.40787555	.42466688
	Equal variances not assumed			.036	47.801	.972	.00839566	.23546778	-.46509509	.48188641

APPENDIX I – 2-tailed t-tests on individual 54 questionnaire variables

	Overall		Consulting (n=81)		Industry (n=229)							
Variable	μ	σ	μ	σ	μ	σ	μc - μi	sp	t	p	Reject the Null Hypothesis	Highest Mean
1	0.67	0.87	0.64	0.73	0.76	0.92	-0.13	0.87	-8.63	0.0000	Yes	Total Industry
2	0.45	0.77	0.65	0.66	0.46	0.79	0.18	0.76	14.54	0.0000	Yes	Management Consulting Companies
3	0.30	0.76	0.61	0.63	0.29	0.76	0.32	0.73	26.17	0.0000	Yes	Management Consulting Companies
4	0.28	0.87	0.54	0.90	0.28	0.83	0.26	0.85	18.51	0.0000	Yes	Management Consulting Companies
5	0.06	0.97	0.25	0.84	0.07	0.99	0.18	0.96	11.31	0.0000	Yes	Management Consulting Companies
6	-0.20	0.89	0.18	0.65	-0.23	0.92	0.41	0.86	28.37	0.0000	Yes	Management Consulting Companies
7	0.37	0.81	0.69	0.64	0.34	0.81	0.35	0.77	26.88	0.0000	Yes	Management Consulting Companies
8	0.10	1.04	0.63	0.94	0.01	0.99	0.62	0.98	38.23	0.0000	Yes	Management Consulting Companies
9	0.27	0.89	0.57	0.86	0.25	0.88	0.32	0.87	21.80	0.0000	Yes	Management Consulting Companies
10	0.39	0.94	0.82	0.85	0.31	0.91	0.51	0.90	33.94	0.0000	Yes	Management Consulting Companies
11	0.25	0.78	0.47	0.74	0.26	0.77	0.21	0.76	16.57	0.0000	Yes	Management Consulting Companies
12	0.40	0.98	0.78	0.84	0.33	0.98	0.45	0.94	28.78	0.0000	Yes	Management Consulting Companies
13	0.05	0.81	0.11	0.69	0.12	0.84	-0.01	0.81	-0.96	0.3386	No	Insufficient Evidence to Reject the Null Hypothesis
14	-0.11	0.82	0.29	0.76	-0.14	0.78	0.43	0.78	33.36	0.0000	Yes	Management Consulting Companies
15	-0.03	0.91	0.30	0.73	-0.04	0.93	0.34	0.88	23.22	0.0000	Yes	Management Consulting Companies
16	-0.08	0.95	0.30	0.80	-0.13	0.94	0.43	0.91	28.37	0.0000	Yes	Management Consulting Companies
17	0.08	0.90	0.49	0.84	0.03	0.86	0.46	0.85	32.06	0.0000	Yes	Management Consulting Companies
18	0.57	0.92	0.89	0.89	0.53	0.90	0.36	0.90	24.07	0.0000	Yes	Management Consulting Companies
19	-0.07	0.91	0.31	0.87	-0.11	0.87	0.42	0.87	28.84	0.0000	Yes	Management Consulting Companies
20	0.08	0.86	0.54	0.79	0.02	0.81	0.52	0.81	38.84	0.0000	Yes	Management Consulting Companies
21	0.09	0.86	0.41	0.84	0.06	0.83	0.35	0.83	25.35	0.0000	Yes	Management Consulting Companies
22	-0.19	1.31	0.08	0.99	-0.20	1.42	0.28	1.32	12.52	0.0000	Yes	Management Consulting Companies
23	-0.34	1.03	-0.07	0.87	-0.36	1.07	0.29	1.02	16.91	0.0000	Yes	Management Consulting Companies
24	-0.48	0.97	-0.11	0.83	-0.52	0.98	0.41	0.94	26.00	0.0000	Yes	Management Consulting Companies
25	-0.04	1.04	0.45	0.87	-0.12	1.03	0.57	0.99	34.47	0.0000	Yes	Management Consulting Companies
26	0.05	0.97	0.52	0.77	-0.02	0.96	0.54	0.91	35.12	0.0000	Yes	Management Consulting Companies
27	-0.33	0.90	-0.07	0.88	-0.33	0.88	0.27	0.88	18.01	0.0000	Yes	Management Consulting Companies
28	0.02	0.94	0.31	0.76	0.02	0.97	0.28	0.92	18.47	0.0000	Yes	Management Consulting Companies
29	0.12	0.85	0.41	0.75	0.11	0.85	0.30	0.83	21.48	0.0000	Yes	Management Consulting Companies
30	-0.13	0.85	0.12	0.75	-0.13	0.85	0.25	0.82	18.08	0.0000	Yes	Management Consulting Companies
31	-0.38	0.84	-0.15	0.83	-0.36	0.81	0.21	0.82	15.61	0.0000	Yes	Management Consulting Companies
32	-0.12	0.98	0.29	1.00	-0.17	0.92	0.45	0.94	29.01	0.0000	Yes	Management Consulting Companies
33	0.05	0.95	0.60	0.78	-0.06	0.90	0.66	0.87	45.03	0.0000	Yes	Management Consulting Companies
34	0.07	1.02	0.41	0.91	0.04	1.02	0.36	1.00	21.83	0.0000	Yes	Management Consulting Companies
35	-0.06	0.89	0.37	0.80	-0.11	0.87	0.48	0.85	33.64	0.0000	Yes	Management Consulting Companies
36	0.49	0.92	0.70	0.85	0.51	0.92	0.19	0.90	12.55	0.0000	Yes	Management Consulting Companies
37	-0.23	0.91	0.17	0.70	-0.28	0.93	0.45	0.88	30.81	0.0000	Yes	Management Consulting Companies
38	0.06	1.06	0.50	0.86	0.00	1.07	0.50	1.02	29.61	0.0000	Yes	Management Consulting Companies
39	-0.19	1.05	-0.11	0.83	-0.13	1.12	0.02	1.05	0.86	0.3886	No	Insufficient Evidence to Reject the Null Hypothesis
40	-0.65	0.91	-0.58	0.72	-0.58	0.96	0.00	0.91	-0.15	0.8777	No	Insufficient Evidence to Reject the Null Hypothesis
41	0.22	1.16	0.06	1.18	0.36	1.13	-0.30	1.14	-15.74	0.0000	Yes	Total Industry
42	0.34	1.03	0.37	0.93	0.42	1.06	-0.04	1.02	-2.45	0.0148	Yes	Total Industry
43	-0.26	1.11	-0.34	1.16	-0.14	1.08	-0.20	1.10	-10.78	0.0000	Yes	Total Industry
44	-0.24	1.06	-0.18	1.03	-0.16	1.06	-0.02	1.05	-0.85	0.3950	No	Insufficient Evidence to Reject the Null Hypothesis
45	0.05	1.11	0.25	0.98	0.06	1.12	0.18	1.08	10.05	0.0000	Yes	Management Consulting Companies
46	0.09	1.01	0.45	0.90	0.06	1.01	0.39	0.98	23.93	0.0000	Yes	Management Consulting Companies
47	-0.11	1.17	0.11	1.16	-0.09	1.15	0.20	1.15	10.23	0.0000	Yes	Management Consulting Companies
48	-0.04	1.17	0.39	1.12	-0.09	1.14	0.48	1.13	25.37	0.0000	Yes	Management Consulting Companies
49	-0.28	0.98	-0.22	0.91	-0.21	0.99	-0.01	0.97	-0.65	0.5131	No	Insufficient Evidence to Reject the Null Hypothesis
50	-0.27	0.95	-0.10	0.84	-0.24	0.98	0.13	0.94	8.35	0.0000	Yes	Management Consulting Companies
51	-0.30	0.95	-0.21	0.80	-0.23	1.00	0.02	0.95	0.97	0.3321	No	Insufficient Evidence to Reject the Null Hypothesis
52	-0.48	0.96	-0.45	0.78	-0.39	1.02	-0.06	0.96	-3.92	0.0001	Yes	Total Industry
53	-0.02	0.97	-0.09	0.88	0.11	0.99	-0.20	0.96	-12.46	0.0000	Yes	Total Industry
54	-0.36	0.98	-0.27	0.91	-0.29	1.00	0.03	0.98	1.72	0.0864	No	Insufficient Evidence to Reject the Null Hypothesis