



# Trust development and the influence of the individualist/collectivist paradigm.

Matthew H Cramer

29613397

A research project submitted to the Gordon Institute of Business Science, University of Pretoria, in partial fulfilment of the requirements for the degree of Master of Business Administration.

10 November 2010



#### **Abstract:**

This research investigates the role that the individualist/collectivist dimension plays in the selection of the preferred method of building trust. Sixty five middle managers from a primary metal producer were analysed using two surveys. The individuals were classified as either individualists or collectivists and then asked to rate several statements regarding a preferred means of trust. The various means of developing trust were calculative, predictive, intentionality, capability and transference. The data collected should that only with calculative trust development did a clear preference exist between collectivists and individualists. The four remaining trust development processes were equally likely to be used by either group. The data also showed that neither race, nor language nor ethnic group could be used as a predictor of assignment to either cultural dimension. The selection of the sample population and the subsequent influence of organisation specific phenomenon were found to be highly influential on the selection of trust building process.

Keywords:

Trust, culture, individualism

UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

# **Declaration:**

I declare that this research project is my own work. It is submitted in partial fulfilment of the requirements for the degree of Master of Business Administration at the Gordon Institute of Business Science, University of Pretoria. It has not been submitted before for any degree or examination in any other University. I further declare that I have obtained the necessary authorisation and consent to carry out this research.

**Matthew Howard Cramer** 

10 November 2010



I wish to thank my supervisor, Lisa Orleow, for her guidance and patience in helping me through this process. To my colleagues at work go my thanks for their assistance and understanding during the last two years.

Above all I would like to thank my wife and daughter for their continual support, remarkable patience and understanding over many weekends and through long nights.



# **CONTENTS**

Chapter 1: Introduction to Research Problem	1
Organisations and their need to manage change	1
Managing change as a strategic priority	1
Employees as a critical variable in change initiatives	2
Trust as a variable moderating employee performance and commitment to change outcomes	3
Conclusion	8
Cultural influences on the development of trust	g
The benefits of trust	g
The development of trust, and the impact of culture on this process	9
Trust development in a South African context	10
Chapter 2: Literature Review	20
Defining Trust	20
Developing Trust	21
Calculative Trust Building	22
Predictive Trust Building	23
Intentionality Trust Building	24
Capability Trust Building	25
Transference Trust Building	26
Culture	27
National Cultures	27
Hofstede's Cultural Dimensions	30
Chapter 3: Hypotheses	32
Hypothesis 1: Calculative trust building	32
Hypothesis 2: Predictive trust building	33
Hypothesis 3: Intentionality trust building	33
Hypothesis 4: Capability trust building	33
Hypothesis 5: Transference trust building	34
Chapter 4: Research Methodology	35
Unit of Analysis	35
Sample Selection	36
Survey Instruments	38



Statistical Analysis40
Chapter 5: Results43
Data Characterisation43
Dimensional Analysis46
Hofstede's Dimensional Correlations47
Hypothesis Results48
Hypothesis 149
Hypothesis 249
Hypothesis 350
Hypothesis 451
Hypothesis 5
Chapter 6: Discussion of results53
Predictive and Intentionality53
Individualism/Collectivism and Masculinity54
Cultural Dimensions and Race56
Hypothesis 1: Calculative57
Hypothesis 2: Predictive58
Hypothesis 3: Intentionality60
Hypothesis 4: Capability61
Hypothesis 5: Transference64
Conclusion66
Chapter 7: Conclusion 68
Research Limitations71
Recommendations
Works Cited74
Appendix 1: Survey Instruments78
Appendix 2: Results from Survey89
Appendix 3: Respondents Cultural Dimension Scores



# **CHAPTER 1: INTRODUCTION TO RESEARCH PROBLEM**

#### Organisations and their need to manage change

# Managing change as a strategic priority

One could assert that the world of business is both a dynamic and challenging arena, and an arena which demands much in order to remain successful. For organisations to remain profitable, and successful, it could be argued that they need to continue to adapt, in any one of the following areas; either strategically, in opening up new markets, in reducing costs or in changing organisational structure to best take advantage of the changing business landscape. Change is a constant challenge for all businesses as markets develop and consumers' desires and needs evolve. It could be argued, therefore, that the management of change, within a company becomes one of the company's most critical assets in the quest for success.

The recent world financial crisis has seen a paradigm shift in the speed at which companies are required to change. One could argue that many of the extremely large organisations, previously thought to be highly profitable and entrenched as market leaders and pioneers, such as Enron, WorldCom, AIG and Lehman Brothers, have failed to manage the changes within the company and market successfully. Their "failure" suggests that no company is immune to the dramatic shifts in the world markets. All organisations need to be either flexible enough to "roll with the punches", as it were, or large enough to absorb the downturns. When it becomes necessary for growth to be financed by the creation of further debt, very few companies are able to absorb the massive shifts in their key markets. This is, arguably, due to a balance sheet which is



already under severe pressure and the result is, often, a downturn in profitability or a reduction in cash flow. It would appear that change is inevitable and one would argue that only those organisations that manage, or create, this change can be successful.

Times of change within an organisational tend to be unsettling for employees and managers alike, this unease is not helped by the fact that the change is often brought on by times of business difficulty. These business difficulties could include; downsizing, the loss of market viability or a lowering in company profitability. A company's ability to change rapidly can allow for numerous benefits, not the least of which is defined by what is called "the first mover principle". The first mover principle is the advantage gained by a company that is able to make a "move" or change first, before the other competitors in the market follow. Added to this, the time taken between when the first move is made, and when the other firm or firms manage to change, is a distinct competitive advantage (Baye, 2009). Thus, it follows that firms that are able to implement strategic change, or carry out decisions rapidly, benefit greatly and that continued success in the business arena is a direct result of this ability to rapidly, and successfully, change.

#### **Employees as a critical variable in change initiatives**

When faced with large and fundamental changes, to either the markets or their cost base, organisations have, arguably, got several options. The change can be addressed; by the re-organisation of the inherent structure, by the divesting of certain businesses or units, by merging with other organisations or sections, or by exploring or creating new markets. One would argue that if any of these actions are to be successful, however, the organisation at large will have to undergo a change management process





involving assets, finance and employees. Perhaps the most difficult of these to manage are the employees who are involved in the organisation. The term employee here includes the current employees, and contractors, and potential new employees and departments. It could be asserted that one does not have to look very far to find a failed merger in which organisational culture and people were overlooked in favour of systems and technology.

Several factors can affect the success of a strategic change initiative namely; employee support or commitment to change, company competencies, corporate structure, retained skills and the timing of the initiative, to name a few. The change is invariably implemented by the employees of the company, or by hired change agents from one of the various consultant firms. Thus, one would argue that one of the major focus areas for a successful strategic change initiative is the amount of support the initiative enjoys from staff.

# <u>Trust as a variable moderating employee performance and commitment to change outcomes</u>

Trust also plays a key role in employee alignment with strategic change (Gagnon, Jansen, & Micheal, 2008). Strategic commitment is a vital component of successful strategic change (Gagnon *et al.*, 2008). The authors, which have been consulted for this study, established that one of the key requirements for strategic commitment was "perceived company trust" (Gagnon *et al.*, 2008). Employees who perceived that the company was trustworthy were willing to place their trust in the organisation and, thus, engage in the change process that is being undergone at the organisation. This employee strategic change alignment is critical for the implementation of radical



change. The change must be implemented by the employees, and employees who believe that it is the right thing to do, are far more powerful change agents than the employees who do not believe in the new company direction. Unfortunately, prior to the results of the changes being evident, the employees must trust that they are being led correctly and the changes that are being made are the right changes.

Research by Gagnon *et al.* (2008) has shown that perceived company trust is one of the critical factors in ensuring that employee behaviour is successfully aligned with strategic vision. This behaviour, which is aligned to the strategic vision, is a key ingredient in ensuring the success of any strategic initiative. Trust exists in organisations at many levels and, arguably, contains many facets. One would assert that where ever a relationship exists, trust plays a role. By definition any relationship, which involves risk and has an element of ambiguity to it, will necessarily have trust as an integral part of the outcome of the relationship or situation. Within companies and organisations the various kinds of trust relationships appear to be interlinked. These include; individual trust between co-workers, trust for immediate superiors, trust in corporate leaders and trust in the organisation itself.

Interpersonal trust has also been extensively researched and this research has produced many and varying propositions and hypotheses. In their paper on the role of trust in organizational settings Dirks and Ferrin (2001) highlight numerous research papers, which have been published over the last 50 years, and which have found a link between interpersonal trust and various organisational phenomena. Dirks and Ferrin's research confirmed that numerous previous studies have shown that positive relationships exist between the individual's performance and the levels of trust that a



certain individual has, in either the manager or the supervisor that he or she reports to, or the level of trust that the individual might have in an organisation. Earley (1986) showed that significant statistical evidence existed to prove that an individual's trust in his or her direct supervisor mediated the relationship between praise or criticism and job performance. He found that employees who trusted their boss were more likely to turn performance management feedback into job performance changes. receptive to criticism, and being able to adapt one's behaviour and change one's performance, is a valuable skill for any employee and for the company that employs that individual. A level of trust assisted the growth of the relationship between superior and employee, which in turn allowed greater flexibility and an empowering workplace. Oldham (1975) determined that if an individual had trust in his or her leader, that his trust had a positive effect on task performance, while Rich (1997) established that if an individual has trust in his or her direct manager, this resulted in a positive performance in the realm of sales. These two studies support the assertion that organisations with higher levels of trust between employees and their respective supervisors benefit from higher efficiencies, and better employee productivity, in both the operational environments and the sales departments.

Robinson (1996) established in his paper entitled "Trust and the breach of the psychological contract" published in 1996, that trust in an organisation acts as a kind of mediator in the relationship between job performance and psychological contract violation. What Robinson (1996) appears to be saying is that when employees trust the organisation they are less likely to have a drop in job performance, which is associated with a breaking of their "psychological contract" with the company. One



would argue that this is a rather crucial insight into the value of trust within the professional relationships of an organisation. The studies seem to suggest that employees who have a high level of trust in the organisation will overlook small indiscretions relating to any of the clauses of their internal "psychological contract". When a trust relationship of this ideal nature exists then the organisation becomes free to change, significantly, without losing potentially crucial skills. An example of change could include; benefits being changed, and if a trust relationship exists then there should not be an increase in employee turnover. It would appear, therefore, that the link between interpersonal trust and individual performance is relatively well researched. One could also assert, based on the above mentioned studies, that individual and organisational performance is enhanced by higher levels of trust between the various constituents within the organisation. Not only does increased trust provide benefits for the organisation but it also provides benefits for the individual who enjoys a more contented perception of the workplace and he or she feels more part of a successful firm.

In more than 90% of the empirical studies reviewed by Dirks & Ferrin (2001), which examined the consequences of trust on various parameters, the authors, of each of the studies that were reviewed, focussed on the main effects of trust on one or more of the following criteria; the workplace, performance or individual relationships. If one then tries to broadly summarise the outcomes or areas, that a high level of trust was able to influence, these areas may include the following; more positive attitudes, higher levels of cooperation and superior levels of both individual and organisational performance (Dirks & Ferrin, 2001). Other studies have focussed on the hypothesis



that trust creates an environment which would be conducive to these positive outcomes occurring (Dirks & Ferrin, 2001). Thus, two mechanisms are potentially at work within environments with high levels of trust and various authors have presented arguments to support the prevalence of one or the other mechanism. These two mechanisms are; that either trust directly creates certain positive phenomena in organisational settings or that increased trust creates an environment in which these phenomena can flourish. Many of the authors concluded with the suggestion that trust plays a critical role in organisations and very often takes the role of moderator in relationships.

As a further point of interest, however, the effect trust has, seems to be based on the situation. Many found that when trust was high in an organisation, then managers were able to allow their staff greater freedom, to the extent that they may even be able to operate in what could be considered to be an unstructured manner. While in organisations where the levels of trust are low, it was extremely important for managers to provide a strong, unambiguous and rigid structure to mitigate the trust of the lower level employees (Dirks & Ferrin, 2001).

Trust also plays a key role in an employee's willingness to align themselves with strategic change (Gagnon et al., 2008). An employee's commitment to strategic change is of vital importance when it comes to the success of a strategic change initiative (Gagnon et al., 2008). The authors, in the aforementioned study, established that one of the key requirements for strategic commitment was perceived company trust (Gagnon et al., 2008). Employees who perceived that the company was trustworthy were willing to place their trust in the organisation and thus, to engage in

Matthew H Cramer



the change process that an organisation may undergo. This employee strategic change alignment is critical when it comes to the implementation of radical change. A company's employees are an intrinsic part of the implementation of change within a company and employees who believe that it is the "right thing to do" are far more powerful, as change agents, than employees who do not believe in the company's new direction. The unavoidable reality is, however, that prior to the results of the change being evident, the employees must trust that they are being correctly led and that the changes that are being made are in everyone's best interests.

# **Conclusion**

If one attempts to draw a logical conclusion, based on the assertions of the various researchers, one could assert that change is inevitable and that it provides all organisations with a significant challenge. If managers, and corporate boards, wish to remain ahead in a changing environment, they must necessarily take advantage of the first mover principle. Essentially, company leaders must create and implement change, within the organisation, rapidly and successfully. The ability to rapidly implement change provides an organisation with a distinct advantage over their competitors. To be able to rapidly shift the paradigm of an organisation, and that of the stakeholders within an organisation, requires heightened levels of trust between employees, managers and within the greater organisation. This increased trust leads to improved performance and a greater understanding between the various stakeholders. Trust is therefore a crucial component of a successful organisation.

Although multiple studies (Aryee, Budhwar, & Chen, 2002; Butler & Cantrell, 1984; Deluga, 1994; Deutsch, 1960; Dirks & Ferrin, 2001; Early, 1986; Gagnon, Jansen, &



Micheal, 2008; Mayer & Davis, 1999) have shown that trust has a positive effect on performance, they do not provide any details with regard to the means with which managers can create a greater level of trust within their teams, and organisations, or how the trust is developed and built. In order to cultivate an atmosphere of trust within an organisation, which will allow that organisation to respond to the changing environment, managers and leaders need to understand how trust is formed and what factors play a role in establishing trust between parties.

# **Cultural influences on the development of trust**

#### The benefits of trust

The research of Doney, Cannon and Mullen (1998) found that the element of trust was also synonymous with lower transactional costs, and as a result, provided a certain competitive advantage to organisations. They found that two parties that trusted each other took less time to reach consensus, allowed for more freedom when managing each other and were more likely to work together towards a common goal. Doney *et al.* (1998) also make the point that, as businesses become more global, and the markets that these businesses serve become increasingly more diverse, the nationalities and cultures of their staff will also become increasingly more diverse. It could be argued, then, that multinational companies should necessarily have a particular interest in understanding how trust is influenced by culture and diversity.

#### The development of trust, and the impact of culture on this process



Doney et al. (1998) highlight 5 different trust building processes in their study entitled "Understanding the influence of national culture on the development of trust" these are; a calculative process, a predictive process, an intentionality process, a capability process and a transference process. Doney et al. (1998) applied these five trust building processes to the development of trust amongst national cultures and the various dimensions established by Hofstede (1980) in his book "Culture's Consequences". Doney et al. (1998) stated that when trustors and trust targets share a set of values and norms, there is a greater chance of a trusting relationship forming. The research was based on an analysis of national cultures and further research was required to determine which characteristics, within each culture, were actively playing a role in assisting the building of trust. The basis for their argument is that the processes followed, in earning the trust of the trustor, was similar to the path taken by the trustor in determining whether or not a target is trustworthy (Doney et al. 1998). For example; individual A trusts individual B because they share a common way of evaluating a trusting relationship, and share a common means of arriving at the decision that the other individual can be trusted or is trustworthy.

#### Trust development in a South African context

Historically, national cultures have been classified according to the five dimensions of culture established by Geert Hofstede (1980) namely:

- 1. Individualism/Collectivism
- 2. Power Distance
- 3. Masculine/Feminine
- 4. Uncertainty Avoidance

# 5. Long/Short Term Orientation

To these five dimensions of culture Hofstede, and others, have now added two additional dimensions namely indulgence/restraint and monumentalism/self-effacement (Hofstede, Hofstede, Minkov, & Vinken, 2008).

The dimensions suggested by Hofstede (1980) were revolutionary at the time and measured different aspects of the society. The individualist/collectivist dimension is a measure of the ties within a society between individuals. In a highly individualistic society the ties are very loose and individuals are expected to be responsible for the well being of themselves and their immediate family only. A collectivist society integrates individuals from birth into strong, cohesive groups, which continue to protect their members for life, in exchange for loyalty.

Power distance refers to the extent to which less powerful members of society or institutions expect and accept that power is not distributed evenly. A low power distance index, thus, refers to a society where power is expected to be shared and extremely unequal power allocation is not tolerated.

The masculinity index measures the extent to which gender roles are strictly enforced and separated. Typically in a highly masculine society men are expected to be tough, independent and focussed on material success, while women are expected to be modest, tender and concerned with the quality of life, rather than material success. A highly feminine society has less distinction between roles and the social gender roles overlap.

Uncertainty avoidance refers to the extent to which members of society, organisations and institutions, feel threatened by high levels of uncertainty. This uncertainty could include the unknown or ambiguous situations and rules. A culture with a high uncertainty avoidance score is generally very structured and has established and maintained laws, customs and rites.

Thomas and Bendixen (2000) assert that South Africa has no consolidated national culture but rather that the cultural environment is comprised of a plethora of different cultures. Although, typically in South Africa, culture is identified by race Thomas and Bendixen (2000) established that although race does play a role in cultural identity the plethora of cultures found in South Africa share some traits that are culture determining but that are not exclusively connected with one race or language. Thomas and Bendixen (2000) built the argument that the ability to manage cultural diversity is the key to South Africa becoming, and remaining, globally competitive. Historically national cultures have been classified according to the five dimensions of culture established by Geert Hofstede (Hofstede G. , 1980). This is, however, nonsensical in a South African context where it appears that no national culture exists. As a result it is important to identify or connect each South African respondent within a particular culture prior to any analysis. Fortunately, within the South African context the identification of culture is highly dependent on race (Thomas & Bendixen, 2000).

If the process of building trust is based on two individuals sharing similar thought patterns, and we choose to limit our discussion to the five potential means of building trust suggested by Doney *et al.* (1998), then taking into consideration the fact that people seem to be heavily influenced by their national culture (Hofstede, 1980), could



one not feasibly combine the two theories in an attempt to come up with a reasonable estimation of how these factors may influence the manner in which each individual builds trust?

The aim of the following research is to make an attempt at describing the underlying dimensions that are common to cultures and that play a role is promoting the development of trust. The outcome of the study may possibly provide managers, and academics, with a modicum of understanding of the mechanisms that are at work when individuals, from different cultures, meet in a South African business environment and how a trusting relationship can be developed between the two parties. The study should also provide some degree of empirical evidence to support the assertion that the selection of a trust-building process is not related to the colour of one's skin, or the language one speaks, but rather to deeper and more universal cultural dimensions. This will allow managers to identify the characteristics within individuals, and utilise this knowledge as a means of enabling the development of trust within the workplace. Managers could potentially, assign work, responsibilities and plan structural changes, with the knowledge of how each of the individual employees builds trust. This would allow the manager to place individuals appropriately within a structure in a manner so that they could potentially foster trusting relationships. In the case of a new employee joining an established team, the manager, who is theoretically aware of each team members preferred means of trust development, could bring to the fore different aspects of the new employee, to help in speeding up the development of trust. If an existing employee is highly likely to use transference as a trust building mechanism, the manager could emphasise that the manager trusts the



new employee explicitly. Similarly, an employee who basis their decision to trust on the capability process can be enlightened, by the manager, of the new employee's previous achievements, thereby hastening the trust process.

Although Thomas and Bendixen (2000) found that the majority of South African cultures are identified by race and colour, it is important for businesses to also understand all of the cultural differences that are present in South Africa. South Africa's business arena was segregated by race for many years and the current situation seems to be that many of the management class are still white and male (Binedell, 1993). Added to this, one often finds that shared relations between parties remain volatile; "...management and workers see each other and act towards each other as enemies" (Human, 1993). One also notices that divisions exist, even amongst management, along the black-white demographic divide. In a study completed by McFarlin, Coster and Mogale-Pretorius in 1999, it was confirmed that the majority of white managers, who were interviewed, felt that they were unable to understand their black counterparts and often felt like there were "talking past one another" due to cultural differences. It could be asserted that this particular phenomenon is clearly present in the mining and primary metals beneficiation industry. apartheid seem to run deep, in the mining and related industries of South Africa, as they were, arguably, the primary beneficiaries of the low cost labour pool created by the apartheid system. Mining companies have historically been headed up by white males and this remains the status quo at the moment. To address this, and other economic imbalances, the South African government has introduced Black Economic Empowerment laws and have also enacted two other more powerful laws requiring





both the introduction, and preferential advancement, of historically disadvantaged South Africans into management positions. The majority of these historically disadvantaged South Africans are black males. The Mining Charter and the Employment Equity Act both stipulate various targets, that companies are required to meet, to ensure that transformation takes place within the management structure (Republic of South Africa, 1998; Republic of South Africa, 2004). The target for diversity in the workplace differs from sector to sector but the majority of companies are required to ensure that a minimum 40% of management team is made up of historically disadvantaged South Africans and these targets are to be achieved by predetermined dates (Republic of South Africa, 2004). This policy has meant that large numbers of black individuals have been moved into the upper ranks of, traditionally white, management. The clash of management cultures, and management styles, has become an area in need of decisive management on the part of each organisation. Thomas and Bendixen (2000) noted in their research that South Africa's total power distance score was very low and that this was directly linked to the current political climate in the country. The above authors sited various difference legislative decisions that were made as evidence of a climate which is more supportive of a participatory Thomas and Bendixen (2000) listed the Employment Equity Act No. 55 of 1998 (Republic of South Africa, 1998) and Labour Relations Act No 66 of 1995 (Republic of South Africa, 1995) as the most instrumental pieces of legislation in this move towards a participative society.

The social changes in South Africa are also being hastened by the Mining Charter (Republic of South Africa, 2004), which sets industry specific targets for all mining



companies. These targets are aimed at addressing the significant imbalances that were created during the apartheid era. For this reason, the mining industry is often at the forefront of the transformation wave and, due to the aforementioned political sensitivity and historical circumstances, is always in the national spotlight. Recent calls for the nationalisation of all mining companies have further fuelled the fires of controversy. One would argue that, for a manager, the challenge becomes both to understand how individuals build and maintain trust, as a is critical tool within this complex milieu of diversity, and being able to adequately relate to those previously disadvantaged individuals who have now been superimposed upon a previously white dominated industry. This, combined with the segregated past of the country, has naturally led to a continued race-based classification of individuals. The assumption tends to be that all black people are collectivist and all white people are individualists, which is not necessarily the case. It could be asserted that variations do exist within each culture and despite South Africa having a national culture, which is highly individualistic, there will be many individuals within the culture that exhibit the cultural norms of a highly collectivist way of thinking. Thus Triandis, Leung, Villareal and Clack (1985) proposed that on an individual level idiocentrism and allocentrism are synonymous to individualism and collectivism. The abovementioned authors then proposed that although both types of individuals exist in both collectivist and individualist societies an individualist culture will contain more idiocentrics than allocentrics and versa collectivist culture will be made up of more allocentrics than idiocentrics.



The individualist-collectivist dimension appears to be the most significant difference between cultures (Triandis H. C., 2001). It is possibly the most researched of the dimensions and the dominant dimension when featured in reviews and additional work completed after "Cultures Consequences".

One would suggest that if South African's wish to operate, and remain competitive, in an increasingly global marketplace, we need to understand each other as individuals and to develop a sense of trust, on a corporate and a personal level. Understanding how trusting relationships develop, and which aspects of culture play a significant role in developing trust, seem to be of immense interest to academics and managers alike. This research aims to determine whether empirical evidence can be found to support the propositions first put forward by Doney *et al.* (1998) with regards to the individualist/collectivist dimension (as proposed by Hofstede (1980)).

#### Trust in the primary beneficiation industry

The primary beneficiation industry in South Africa has, over the years, cemented it's place in the country's economy and various forms of heavy industry have been established following the diamond rush at Kimberly at the end of the nineteenth century. The establishment of the Witwatersrand goldfields was what, arguably, cemented mining and metal beneficiation as a large scale employer and significant contributor to South Africa's economy. The industries successes have, however, sometimes been overshadowed by the relatively large scale safety concerns that have been prevalent for years. Despite the efforts of numerous public companies, and



organisations such as the Chamber of Mines, serious injuries and fatalities are still relatively common in the sector. The number of fatalities over the last few years has remained on the decline but the figures are still much higher than countries like the United States of America (USA) and Canada. In 2009 the Mine Safety and Health Administration recorded just 34 fatalities (Mine Health and Safety Administration, 2010) in the USA and Canada compared to 138 in South Africa (Watt, 2010).

In environments where multiple teams are working in various dangerous situations, trust arguably becomes an intrinsic part of being able to work safely in the workplace. Communication is made difficult by the high levels of noise and poor visibility. As a result of this, one would suggest, that a strong trusting relationship should necessarily exist, not only within teams, but between supervisors and their front line employees. Working under conditions, and within situations, that pose considerable risks, to both the team and the individual, an employee needs to be able to trust his or her coworkers. One would suggest even more so, if the employee is asked to follow an instruction given by a superior or colleague who is not currently working in the risk area. One would argue that to follow instructions of this kind, there needs to be a high level of trust between the employee issuing the instructions and the employee carrying out the instruction, especially if it is in the high risk area.

Trust therefore plays a major role in the performance and safety of individuals within high risk environments such as the mining and metals beneficiation industries. It could be argued that trust between team members, and the ability of a manager to cultivate this trust rapidly, is crucial in maintaining the safety of all employees within the



organisation. Moreover, one would suggest that understanding how to provide an environment, conducive to trust on all levels, is a key skill for a manager to foster.



# **CHAPTER 2: LITERATURE REVIEW**

# **Defining Trust**

The concept of trust has been defined by numerous authors in multiple research papers. The Oxford Dictionary of Current English defines trust as a "...firm belief in the reliability, truth, or ability of someone or something" (Oxford University, 2006). Two schools of thought emerge when one attempts to define trust from a psychological point of view. The initial school of thought focused on the nature of trustor and suggests that trust is a reflection of that person's beliefs, character and expectations and whether or not he or she finds the target to be trustworthy (Pruitt, 1981). The second school of thought focused on the willingness of the trustor to act upon his or her feelings of trust. As defined by Deutsch (1962) trust can be seen as "...actions that increase one's vulnerability to another". Thus, the focus is on the trustor actually taking action, after having made a decision with regards to the trustworthiness of the other party. Dirks and Ferrin (2001) classified these two different schools of thought as either a "belief-expectation" or "behavioural intention" forms of trust.

Almost all the authors agree that trust can be defined according to the discipline being studied, either sociological or anthropological and that trust almost always comprises of multiple dimensions (Dirks & Ferrin, 2001). The majority of the authors, reviewed in this thesis, seem to define trust as a relationship in which one entity is knowingly placing itself at the "mercy" of the other party. Dirks and Ferrin (2001) define trust as an individual's willingness to make his orherself vulnerable in exchange for a mutually beneficial outcome. Similarly, organisational trust has been explained as the willingness of an employee or employees to be vulnerable to their company's actions (Tan & Lim, 2009). Risk is a key component of trust and without a level of risk, and uncertainty in the situation, there is no need for trust to form or to grow



(Lewis & Weigert, 1985). Societies with high levels of uncertainty avoidance, such as the Japanese (Hofstede G., 2008), are highly structured and require lower levels of interpersonal trust, as individuals act within the rules and norms of society, risking little.

If one attempts to combine the principles expounded by the various authors, it would appear that for trust to exist between two parties, firstly, there must be a situation that entails some form of risk for one of the involved parties. The party, which is faced with the risk, must decide whether or not they will freely place themselves in a situation where they will be exposed and vulnerable. Secondly, the one party must make an evaluation of the trustworthiness of the other party. Trusting is, thus, a conscious decision based on multiple factors which can be manipulated. Both the trustor and the trustee must perform some form of evaluation against a set of criteria, prior to placing themselves in a vulnerable situation. The factors, used to determine the trustworthiness of the other individual, are based on the way in which the trust develops, according to Doney *et al.* (1998). By understating what criteria are used to evaluate the decision, and the relative importance of each criterion, one can establish how the decision is influenced. Do certain individuals have a preference for a trust development process and is this aligned to another individual characteristic?

# **Developing Trust**

Doney *et al.* (1998) proposed five processes by which a trustor comes to select the target of his or her trust. These five processes are; calculative, prediction, intentionality, capability and transference. Each process is aligned with various underlying disciplines and based on certain behavioural assumptions.



#### **Calculative Trust Building**

In calculative trust building the trustor performs either a conscious or sub-conscious calculation of the risks and rewards, associated with awarding their trust to the trustee, and calculate what the risk will be of having that trust broken. The calculative trust process seems to have an economic association and assumes that all individuals wish to make use of the appropriate opportunity to maximise their personal or individual gain. One would suggest that this trust process has a strong correlation with a high individualist score from Hofstede's dimensions, and is characteristic of Western or English cultures (Hofstede G., 1980). The calculative trust process is suggested to have the most applicability in business where the economic value is easily calculated (Doney et al. 1998). The trust is maintained if the costs of deceiving the other party are perceived to be higher than that of merely maintaining the trust. Similarly, the trust will be broken if the profits or benefits of deceiving the other party are greater than they would be if both parties remained within the trust relationship. The calculative nature of this relationship often makes for a slower, even painstaking, development of trust as each party must perform the calculations to compare benefits at each stage of the relationship. Financial relationships allow for the representation of the cost or benefit calculation in Rands and cents. Social costs are more difficult to determine, and calculate, and often come as a hindrance to those who employ this form of trust building. For the trust process to maintain its integrity both parties must be chasing individual profit or benefit. Only by making decisions based on maximising personal or individual gain, can a calculative trust process function lead to a relationship.

# **Predictive Trust Building**

Prediction, as a basis for building trust, relies on the trustor having confidence that he or she is able to predict the actions or behaviour of the trust target (Deutsch, 1960). This school of thought was originally proposed within social psychology circles and it functions within the premise that individual behaviours are consistent and predictable (Doney et al., 1998). The ability to predict the manner in which someone will behave, when faced with a certain situation, is based on past experience the trust target's behaviour in similar situations. Thus, a predictive trust building process is built on previous encounters, or experiences, that have taken place between the trustor and the trust target. The greater the amount of previous interaction between the two parties, the greater the trustor's ability to predict the actions of the trust target. The trustor is, in fact, not evaluating the trust target's behaviour but estimating his or her own ability to predict the trust target's behaviour. Gagnon et al. (2008) suggest that trust has a tendency to increase over time, based on the number of successful trust-based initiatives that have occurred between two parties. Thus, the greater the interaction, and the longer the interaction period between parties, the greater the chance will be, of trust being built in the predictive process. Because prior knowledge of a trust subject is a prerequisite in forming a predictive trust relationship, this means that this process cannot be used to establish instant trust with a previously unknown party. Tan and Lim (2009) found evidence of this when evaluating trust amongst co-workers in a Singaporean insurance company. The perceived integrity or consistency of a co-worker had a significantly positive correlation with the amount of trust that another co-worker felt able to place in him or her. The authors attributed this to the trustor-worker's ability to predict the actions of their coworkers, based on the integrity or consistency of the individual, and the principles to which that individual adhered.

# **Intentionality Trust Building**

The intentionality process is classified as a trust relationship that develops when the trustor evaluates the motivations behind the trust target's actions and builds a trusting relationship based on perceived or shared motivations. This process is also grounded in social psychology and presupposes that the behaviour of individuals is based on a general motivation towards a common goal. Individuals that employ the intentionality process in formulating trust, thus, tend to be more outward looking, focussing on the other party rather than on his or her self. The trustor is, essentially, evaluating the intentions of the other party. If these intentions are perceived to be congruent with the trustor's intentions, then the potential for trust to form is greater. This process requires the trustor to evaluate, not only the intentions of the target, but also the motivation for their actions as well. The intentionality process is favoured when benevolence is perceived to be a characteristic of the trust target (Doney et al. 1998). Trust will, thus, develop if the trustor is convinced that the target genuinely has the trustor's best interests at heart. The intentionality trust forming process is in complete contrast to the calculative process, as intentionality relies heavily on the other party being in the relationship with the greater good of both parties at heart, while the calculative process assumes that the other party will be selfish. Tan and Lim (2009) support his hypothesis and found that in organisations where employees trusted their co-workers, the perceived benevolence of a coworker had a positive effect on the amount of trust that that person would have for their coworker. Tan and Lim (2009) further suggested that if the workers had the welfare and best interests of their co-workers at heart, they were less likely to act maliciously.



# **Capability Trust Building**

The fourth trust building process proposed by Doney et al (1998) is the capability process. This process is governed by the trustor's assessment of the trust target's ability to fulfil his or her promises or obligations. In essence, a trustor evaluates whether or not the person he or she is about to trust can actually complete the task he or she is about to trust that person with. The idea of this process is founded in sociology and operates under the assumption that each person has different capabilities and is, thus, capable of delivering different performances when faced with the same tasks. Tan and Lim's (2009) study on the other hand, found no significant evidence to support the assertion that the ability of co-workers had a positive effect on the amount of trust conferred by fellow workers.

An individual's capabilities can be judged in several ways. The first means of judging the person's capability is to employ prior knowledge of an individual's performance or knowledge of his or her ability gained through shared experiences or documented evidence. This evidence can come in the form of reports, performance appraisals or general observations made while working with someone. Doney *et al* (1998) suggest that another method of assessment has become prevalent in societies where there is a large capability gap. In such societies qualifications or titles tend to be substituted for firsthand knowledge. In South Africa, a country with a relatively small number of formally educated people, the individual very often confers trust based on a title or degree. An example of this mindset would be the opinion that a doctor is someone who can be trusted.



# **Transference Trust Building**

The final process identified by Doney et al (1998) is based on transference of trust. This trust process is built on the ability for a person to transfer trust to a trust target, from another source, because of some or other connection which exists. A typical example might be that of the friend of a friend scenario. In this example; one would trust person A because person A is being trusted by person B whom one already trusts. This transference trust process was first defined by Strub and Priest (1976). They described the process as an extension pattern of gaining trust. Simply put, someone may reassign the trust that he or she has in one entity, to another, based on the relationship between those two parties. The trust can also be reassigned from an individual or institution to another individual. This institutional trust is best exemplified by the trust we may assign to a policeman, due to his office, or the trust placed in professional engineers once he or she has received an accreditation from the Engineering Council of South Africa. We trust the Council, and by transference then, we trust the certified engineer. As a consequence the loss of trust in the council, which may have nothing to do with the individual, will result in the trustor calling into doubt the amount of trust that can be placed in the associated individual. Doney et al. (1998) continue to draw the conclusion that trust transference, as a building process of trust, requires the original source, which is bestowing the trust, to in turn be highly trustworthy. It can be seen that this process of trust formation, therefore, often occurs in societies where the faith, or trust, placed in institutions is very high. Only under these circumstances does the elevated status of these entities or institutions allow them to transfer trust onto previously unknown trust targets.

The five trust building processes identified by Doney *et al.* (1998) should not, however, be seen as operating in mutual exclusivity. It is highly likely, in fact, that all or a combination of many of these processes are utilised before one makes a decision regarding the assignation of trust. Doney *et al.* (1998) emphasise that the process that an individual may chose to employ is



highly dependent on many other underlying assumptions and which of these assumptions the trustor holds to be true. An example may be; if the trustor believes that all individuals are completely driven by self interest, then the trustor is more likely to use a calculative process to develop the trust relationship.

### **Culture**

#### **National Cultures**

The notion of a culture, and the meaning of the term, has been a matter for much debate for many years. There are over 160 different definitions identified by Kroeber and Kluckhohn (1952) in their study written more than sixty years ago. In order to gain a better understanding of culture, and in order to find a means of defining the various aspects of culture, psychologists and researchers have classified multiple dimensions. The dimensions are, in turn, a means of determining an individual's culture or of assigning a culture to an individual or group of individuals. Triandis (1982) found at least thirteen different papers in which a variety of authors presented various dimensions which could be used to classify individuals into specific cultural categories.

However, arguably the most popular publication on the issue of national cultures is the book "Cultures Consequences" by Geert Hofstede (1980). Hofstede studied IBM employees across the world and established four primary cultural dimensions which allowed him to differentiate between cultures. In a later book Hofstede defined culture as "...the collective programming of the mind which distinguishes the members of one group from another" (Hofstede G., 1984). Harry Triandis defines culture in terms of the shared standard operating procedures



such as values, habits and unstated assumptions (Triandis H. C., 2001). This is a psychological definition related to, and based on, common psychological traits. From an anthropological point of view, culture has been defined by Hall and Hall (1990) on the basis of the common system used to create, store, send or process information by a group of individuals.

When Hofstede performed his original study, in the late 1970s, culture carried very little weight in the field of psychology (Triandis H., 2004). The status quo in psychology at the time was to perform cross-cultural studies to confirm that psychological phenomena were not influenced by culture and the majority of the principles, under review, were with regards to a more universal view of the human condition. "Cultures Consequences" (Hofstede G., 1980), and numerous papers that followed it, changed this perception. The original four dimensions that were proposed have been added to, as new studies have expanded the reach of the data collected beyond the operations of IBM. Hofstede added long term orientation to the original dimensions of; individualism, masculinity, power distance and uncertainty avoidance. A further two dimensions have been added based on work performed by Michael Minkov (Minkov, 2007). These two dimensions are indulgence vs. restraint and monumentalism vs. flexumility both of which do not correlate with any of the previous dimensions (Hofstede, Hofstede, Minkov, & Vinken, 2008).

Hofstede, and several other theorists since him, have used the dimensions to not only classify culture but also to investigate the manner in which people interact across cultures. Triandis dedicates a passage in his 2004 paper to the Influence of Hofstede's Dimensions on his work (Triandis H., 2004). He highlights how the dimensions can be used to analyse the psychological processes and organisational behaviours either within a particular culture or across cultures. Hofstede is therefore, arguably, the basis for the greater majority of more modern research into national cultures (Triandis H., 2004).



The original study performed on IBM employees by Hofstede focussed on the various national cultures of each relevant branch. This begs the question as to whether or not the various dimensions are applicable on other levels. In the manual to the Values Survey Model developed by Hofstede et al. (2008) the authors emphasise that the questionnaire, and the results, cannot be used to make comparisons on an individual level or basis. The model was developed for far larger groups. Despite the fact that there may be correlations between the concepts of culture and nationality, Hofstede is careful to differentiate between the two. Thomas and Bendixen (2000) used the 1994 version of the Values Survey Model (VSM) to measure the five dimensions within middle management in South African corporate and business environments. Thomas and Bendixen found that similarities existed between the different ethnic groups, that were examined, and that the model could be applied to those ethnic groups which were found to be similar. The differences in the scores that were achieved, however, were significant if one assesses them from a statistical point of view (Thomas & Bendixen, 2000). The authors followed Hofstede's recommendation and used a minimum of twenty respondents per sub-group, for the survey instrument, in order to glean valid results (Hofstede et al., 2008). It bears mentioning at this point, that the VSM is not recommended as a valid tool for assessing organisational culture, as the principles on which the survey are founded, are based in anthropology not sociology (Hofstede et al., 2008). The instrument, and the dimensions it measures, is thus applicable to regional or local culture as long as a definable culture exists and has sufficient members to have at least twenty respondents.

#### **Hofstede's Cultural Dimensions**

#### **Individualism-Collectivism**

The most studied of Hofstede's cultural dimensions is the individualist-collectivist dimension (Triandis H. C., 2001). This dimension evaluates and classifies a culture according to how closely knit it is. Individualism is seen to be the opposite of collectivism. In a highly individualist country the individual is expected to operate without consideration for others and to be responsible primarily for the survival and happiness of only himself and his direct family (Hofstede *et al.*, 2008). Cultures with high individualism scores are the likes of those found in Australia, Britain, Canada and the United States (Hofstede G., 2008). Collectivist countries are characterised by cultures that include individuals is tightly knit and cohesive groups, which stay together from birth through all the stages of life. The greater majority of South American countries are considered to be highly collectivist (Hofstede G., 2008). In general, research has identified that developed or modernised western countries have high individualist scores and eastern developing countries have low individualist and high collectivist scores (Hofstede G., 1980). Research in this field has continued to produce greater insight into the differences between the various cultures across the world.

South Africa has numerous cultures that have been interwoven and brought together by history and political dispensation (McFarlin, Coster, & Mogale-Pretorius, 1999). The presence of an African management style as proposed by Khoza (1994) as well as by Mbigi and Maree (1995), which relates to the principle of ubuntu, has served to further complicate the cultural influences that must be necessarily understood by a modern South African manager. Ubuntu saw the emergence of a participative leader whose focus is on the welfare of the group. Mbigi and Maree (1995) go on to suggest that the future of African management must include a melding of both western and African leadership styles, and that this should include ubuntu. It



could also be argued that trust, in turn, is one of the most basic principles upon which ubuntu is founded. McFarlin *et al.* (1999) explain that ubuntu is a philosophy of life which is in direct opposed to individualism. McFarlin *et al.* (1999) go on to highlight the importance of trust within the corporate environment by stating that "no company can reach its greatest potential without trust" (McFarlin *et al.*, 1999). The authors go on to argue that the key to being a manager in Africa is cultivating a code of passionate and personal trust within an organisation.

McFarlin *et al.* (1999) developed a table which they used to suggest what the expected cultural values for three South African groups Afrikaner, Anglo and African might be.

Table 1: Cultural variation from McFarlin, Coster and Mogale-Pretorius (1999)

Cultural Dimension	Afrikaner	Anglo	African
Uncertainty Avoidance	High	Low	Very high
Power Distance	High	Moderate	High
Individualism-Collectivism	Individual	Individual	Collectivist
Masculinity-Femininity	Masculine	Masculine	Feminine
Long term vs, short term	Long-term	Long-term	Short-term

This table supports the assertions of Thomas and Bendixen (2000) and gives fuel to the argument that the individualist/collectivist dimension will be useful when it comes to examining trust formation within the South African cultural environment. The findings also support Doney *et al's* (1998) suggestion that the individualist/collectivist dimension is analogous to the masculine-feminine dimension, with individualistic cultures being highly likely to favour a more masculine orientation.

**CHAPTER 3: HYPOTHESES** 

In their paper on the influence of national cultures on trust Doney, Cannon and Mullen (1998)

put forward fifteen different propositions that are still to be tested in further research. The

propositions related to the five trust building processes and took into account three of

The dimensions used by Doney et al. (1998) were Hofstede's (1980) dimensions.

individualist/collectivist, power distance and uncertainty avoidance. The authors grouped

masculinity/femininity with individualism/collectivism as they felt they related to the same

construct. This is confirmed by the findings of McFarlin et al. (1999).

As a result this paper will test, using statistical methods, the first five propositions made by

Doney et al. (1998) that relate to the likely trust building process used by individualist cultures

as compared with collectivist cultures. The individualist/collectivist dimension will be grouped

together with the masculine/feminine dimension, due to the above-mentioned similarities

between the underlying assumptions of the dimensions when related to the development of

trust.

**Hypothesis 1: Calculative trust building** 

When compared with their counterparts in collectivist (feminine) cultures, trustors in

individualist (masculine) cultures, are more likely to form trust through the calculative process.

 $H_{\text{ACalc}}: \mu_{\text{IndCalc}}\text{-}\mu_{\text{CollCalc}} > 0$ 

 $H_{0Calc}$ :  $\mu_{IndCalc}$ - $\mu_{CollCalc} \le 0$ 

Where  $\mu_{\text{IndCalc}}$  is the mean response to calculative questions for respondents classified as

individualists. Similarly  $\mu_{\text{CollCalc}}$  is the mean response for the same questions from collectivist

respondents.

32

© University of Pretoria

**Hypothesis 2: Predictive trust building** 

Relative to counterparts in individualist (masculine) cultures, trustors in collectivist (feminine)

cultures are more likely to form trust through the prediction process.

 $H_{APred}$ :  $\mu_{CollPred}$ - $\mu_{IndPred} > 0$ 

 $H_{OPred}$ :  $\mu_{CollPred}$ - $\mu_{Indpred} \le 0$ 

Where  $\mu_{IndPred}$  is the mean response to predictive questions for respondents classified as

individualists. Similarly  $\mu_{\text{CollPred}}$  is the mean response for the same questions from collectivist

respondents.

**Hypothesis 3: Intentionality trust building** 

Relative to counterparts in individualist (masculine) cultures, trustors in collectivist (feminine)

cultures are more likely to form trust through an intentionality process.

 $H_{AInt}$ :  $\mu_{Collint}$ - $\mu_{Indint} > 0$ 

 $H_{0Int}$ :  $\mu_{Collint}$ - $\mu_{Indint} \le 0$ 

Where  $\mu_{\text{IndInt}}$  is the mean response to intentionality questions for respondents classified as

individualists. Similarly  $\mu_{\text{Collint}}$  is the mean response for the same questions from collectivist

respondents.

Hypothesis 4: Capability trust building

Relative to counterparts in collectivist (feminine) cultures, trustors in individualist (masculine)

cultures are more likely to form trust through a capability process.

 $H_{ACap}$ :  $\mu_{IndCap}$ - $\mu_{CollCap} > 0$ 

 $H_{0Cap}$ :  $\mu_{IndCap}$ - $\mu_{CollCap} \leq 0$ 

33

Where  $\mu_{IndCap}$  is the mean response to capability questions for respondents classified as individualists. Similarly  $\mu_{\text{CollCap}}$  is the mean response for the same questions from collectivist respondents.

**Hypothesis 5: Transference trust building** 

Relative to counterparts in individualist (masculine) cultures, trustors in collectivist (feminine)

cultures are more likely to form trust through a transference process.

 $H_{ATran}$ :  $\mu_{CollTran}$ - $\mu_{Indtran} > 0$ 

 $H_{0Tran}$ :  $\mu_{CollTran}$ - $\mu_{IndTran} \le 0$ 

Where  $\mu_{\text{IndTran}}$  is the mean response to transference questions for respondents classified as individualists. Similarly  $\mu_{\text{CollTran}}$  is the mean response for the same questions from collectivist respondents.

The five hypotheses are taken directly from Doney et al's (1998) propositions without any changes or modifications being made. This paper will, thus, be used as a means of testing the validity of the model proposed by the authors.



## **CHAPTER 4: RESEARCH METHODOLOGY**

The research design is based on quantitative data gathering, and a statistical analysis of this information will be used to provide empirical evidence with regard to the hypothesis suggested. Following the recommendations of Doney *et al.* (1998) a statistical instrument will be used to establish a clear preference between the two cultural dimensions and the preferred means of trust development. Doney *et al.* (1998) developed fifteen propositions based on inductive reasoning following an extensive literature review.

This research was descriptive in nature as no causality was sought or designed for. No causality was expected, or designed for, as the research did not aim to establish why the different respondents selected their preferred trust building process but merely which of the selections was more likely. The research was aimed at establishing whether or not one group of respondents, once they had been classified using one of the cultural dimensions, was more likely to select one particular trust development process when compared with the antipode group. Therefore, the research can be classified as descriptive, because the major purpose of the research was to describe what cultural elements had an influence on the selection of trust building processes, within a specific population (Zikmund, 2003).

#### **Unit of Analysis**

The unit of analysis used in this research was the individual. Each individual respondent was required to complete the entire research instrument which included both sets of questions; those for the cultural classification and those aimed at establishing which trust process was preferred. The research aimed to establish preferences in terms of trust building processes, which are at their core an individual and largely subconscious choice. Each individual will have a unique mixture of choices from the five established processes. The research attempts to



establish the preferred trust building process for national cultures at large, and this could only be done by establishing what the preferred trust selection processes of each of the individuals might be (Doney *et al.*, 1998). As a result, the unit of analysis was the individual.

## **Sample Selection**

In selecting the population, numerous factors were taken into account. The research was aimed at determining the influence of the individualist/collectivist dimension (Hofstede G., 1980) within South Africa cultures and the effect on the development of trust. As a result the population was limited initially to include only South Africans. As it was impractical to survey the entire South African population within the scope of the research period, the sample that was to be selected was further reduced to include only middle managers. Middle managers (represented here by Patterson C-Upper to E-Lower level) were selected due to the increasing diversity of this particular group. Legislation enacted by the South African government; including the Mining Charter (Republic of South Africa, 2004) and the Employment Equity Act (Republic of South Africa, 1998), have ensured that large numbers of previously disadvantaged South Africans are entering this segment of the workforce. Diversity management is, thus, a critical skill for this particular group, as is the understanding of how one might develop a trust relationship. Middle managers within the South African context were also selected because, according to the work of Mbigi and Maree (1995) and the publication written by McFarlin et al. (1999), this is the group most likely to be facing diversity management challenges related to the influx of historically disadvantaged South Africans.

The population was defined by job grade (mentioned above) to ensure that all respondents had supervisory experience and had the minimum education of a high school level qualification. Thus, all respondents were conversant in English and should have been of a certain level of education. As a result of the time constraints placed on this particular research



project respondents were all employees of a single company, which allowed for ease of access to respondents. The use of a single company, and low geographical spread, is also suggested by Hofstede et al. as a means of reducing any widespread differences that may occur (Hofstede et al., 2008). This also assisted in removing any bias related to organisational influences from the sample. The company selected is a primary metal producer located in South Africa with five different operational units and a corporate head office located in Johannesburg. Four of the business units are located within the Mpumalanga province and the parent company employees in excess of 3000 people across all the operational units and at all levels. The relatively low geographical spread of the operations for the company meant that only a small portion of the total number of South Africans was sampled and it is by no means intended to be a representative sample of the South African population. However, as cultural norms and dimensions have been shown to be largely independent of organisational culture (Hofstede et al., 2008), this sample choice was not seen to be a limitation of the research but it still bears mentioning that this point was considered. One would suggest that the respondents, in the company, could be viewed as representative of the general population due to shared national and ethnic cultures.

Within the company the survey instrument was sent to all the respondents on the company global address list. This list includes those on C-Upper, D-Lower, D-Upper and E-Lower job grading levels within the three industrial business units. The Smelter operations were selected, and the mining operations excluded from this sample, as organisational culture and relationship management cannot be considered to be similar enough to the industrial units. As company policy requires that all personnel at these levels are issued with a computer and an email address, reaching the respondents could not be considered as a restriction. The sample was, therefore, all managerial employees within the company as of August 2010. The sample selection could be classified as a mixture of stratified, cluster and convenience sampling.



### **Survey Instruments**

Each potential respondent was sent two independent questionnaires. The first questionnaire was the Values Survey Module 2008 (VSM08) developed by Hofstede et al. (2008) based on numerous years of research in the area of national cultures. The questionnaire was first published in 1980 by Geert Hofstede (1980). The questionnaire has been upgraded and modified on numerous occasions since then, however, based on empirical results. These changes were made in 1981, 1982 and 1994 (Hofstede et al., 2008). A previous version of the survey model, the VSM94 was used by Thomas and Bendixen (2000) to establish the management implications of ethnicity in South Africa. The questionnaire used for this research consists of twenty-eight questions related to the classification of the individuals according to Hofstede's dimensions and six questions related to demographic data. A final question was added to allow the respondents to be classified on ethnic grounds. As was the case with the Thomas and Bendixen (2000) survey, the survey of this research endeavour also uses home language as a means of identifying cultural affiliation. The original survey was computed to have Cronbach alpha scores of over 0.7 for each of the first four dimensions (Hofstede et al., 2008). The Cronbach alpha measures the internal consistency and reliability of psychometric tests and a score of over 0.7 is generally accepted as sufficient to prove consistency (Cronbach, 1951). The survey model has been trusted as an assessment tool by many and has been used without much alteration since 1980. The questionnaire follows a five point Likert-type scale which allows the calculation of a mean score per question. The calculations are given in the appendix and were conducted according to Hofstede et al.'s recommendations in the manual (Hofstede et al., 2008).

The results of the VSM08 allowed the respondents to be classified as either collectivist or individualist in nature. The authors of the VSM08 caution against using the model to compare individuals, based on their scores, and state that the module should rather be used to measure



large groups as it becomes far more accurate when used to assess large numbers of individuals and when used to compare national or local cultures (Hofstede *et al.*, 2008). The results obtained from the VSM08 in this particular research, although completed by individuals, were not used to compare individuals but were used to assign each individual to a dimension. So, if an individual received a high individualist score, it did not necessarily mean that he or she would be compared to another of a lower score, it simply allowed the high scoring individual to be lumped with other high scoring individuals. The collective results were then used to determine the impact that belonging to one dimension or another might have had on the individual's chosen process for developing trust. However, it bears mentioning at this point that VSM08, and the way in which it is structured, is a potential limitation to this research and may have influenced the conclusions drawn. The VSM08 Manual Hofstede *et al.*, 2008) (something funny here) requires a minimum sample size of twenty respondents per "culture" for the data gleaned to be deemed valid.

The second questionnaire that was distributed to the respondents was related to the five trust building processes, as identified by Doney *et al.* (1998). The questionnaire was also based on a five point Likert-type scale with the respondent assigning a number between one and five to show the level to which they agreed, or disagreed, with a particular written statement. All the statements related to a particular trust building process. The survey instrument was novel and developed as part of this research. The statements were modified directly from the various underlying behavioural assumptions that were suggested in the definitions of the five trust building processes by Doney *et al.* (1998). An ordinal scale was chosen to assign value to the levels of agreement in accordance with the original Likert design (Zikmund, 2003). The Likert scale allowed for ease of administration and manipulation of results and facilitated more succinct statistical analysis (Zikmund, 2003).



## **Statistical Analysis**

Each survey was first dealt with in isolation and was then compared with the other respondents' surveys in an attempt to test the five hypotheses. Hofstede *et al.* (2008) provide formulae for the calculation of the dimensional scores for the Values Survey Module (VSM08). The researcher has then used the numerical average for each respondent to determine an average answer for each question. Because the analysis, in this paper, was based on each individual's response, it was necessary to calculate an average and the exact scores were used for each question per individual. The average scores per question were computed, merely for interest, and have been included in Appendix 3. Only the VSM08 results that applied to the individualist/collectivist and masculine/feminine dimensions were used, despite the fact that all five dimensions were assessed. The formula for each calculation has been given below.

To calculate the individualism index the following formula from Hofstede *et al.* (2008) was used.

$$IDV = 35(Q04 - Q01) + 35(Q09 - Q06) + C(ID)$$

Were the Q04 represents the answer to question 4 and C(ID) is an arbitrary constant designed to ensure final scores are between 0 and 100. The lower the score the more collectivist the society.

The masculinity index, also adapted from Hofstede et al. (2008) was calculated from

$$MAS = 35(Q05 - Q03) + 35(Q08 - Q10) + C(MF)$$

Were Q05 represents the respondents answer to question 5 and C(MF) is another arbitrary constant used to align the scores between 0 and 100. In this case, a low score represents the more feminine end of the scale.



The constants were varied to bring the average response for the sample to 0 for each dimension. Thus, with an adjusted mean at zero, the relative individualism increases and is reflected in an increase in each respondent's score. Similarly, the more negative the result the more collectivist the respondent is deemed to be.

The first questionnaire, thus, resulted in both a mean score for the entire sample, and an individual score for each respondent. The data of both the individualism index and masculinity index were compared to establish if the assumptions made by Doney *et al.*(1998) regarding the similarities was accurate. This was performed using a basic correlation coefficient (Albright, Winston, & Zappe, 2009). When one employs a simple correlation coefficient to compare the data collected by Hofstede (2008) it suggests that the correlation does not exist.

The second survey resulted in five mean scores per person. Each one related to one of the proposed trust building processes (Doney *et al.*, 1998). Thus, each individual respondent now had an individualism index score, masculinity score and five numerical values associated with the trust building processes. Several correlations were then performed to ascertain the level of correlation between the scores achieved on the individualism index and the five trust building processes and then between the masculinity index and five trust building processes. The square of the correlation was then calculated to determine the size of the correlation (Albright *et al.*, 2009). A R<sup>2</sup> value of greater than 0.8 is considered highly correlated.

All respondents were then classified as either individualist or collectivist based on their relative score compared to the mean. A standard T-test was then used to determine the difference of means between the groups on each of the five trust building processes. A confidence interval of 5% was used, as suggested by Albright *et al.* (2009). Thus, the mean score for individualist respondents, to the calculative questions, was then compared to the mean for the collectivist respondents, for the same set of calculative questions. Similar comparisons were performed



for each set of data associated with the five trust building processes, namely; calculative, intentionality, capability, predictive and transference.



## **CHAPTER 5: RESULTS**

#### **Data Characterisation**

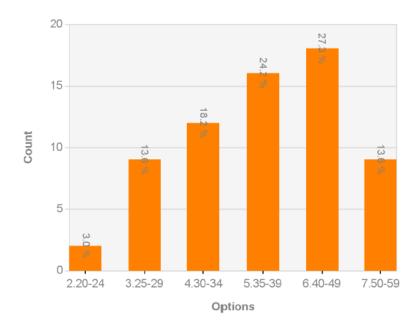
The survey instrument was distributed electronically to the selected population and 65 responses were received. As the total sample represented 108 individuals within the company the response rate was 60%. Of the 65 responses received 81.8% or 54 responses were from male individuals. This is typical of the current demographic distribution within the middle management structures, both in a South African context in general, and the mining/metals sector in particular. The sample is 13% female. Thus, when one considers the ratio of men as to women, there was a slightly higher response rate from female respondents than from male respondents relative to the total number of employees of each sex.

40 - 20 - 1. male 2. female Options

Figure 1: The distribution of respondents by gender

The age of the respondents was well distributed throughout the working age with no segment accounting for more than 28% of the total responses.

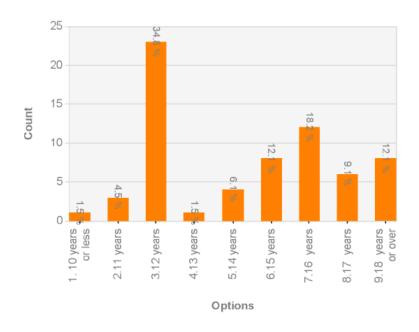
Figure 2: The distribution of respondents by age



Graph 2: Distribution of respondents by age.

Only four respondents had less than 12 years of formal schooling, with the vast majority (34.8%) having 12 years of formal schooling beginning at primary school.

Figure 3: Distribution of education level amongst survey respondents





Only 2 respondents considered themselves non-South Africans; being Polish and Zimbabwean born. Thus 98% of respondents identified themselves as South African nationals or citizens.

Because language was used as a cultural identifier, it was vital to clarify which of the cultural groups had been identified. The vast majority of the respondents were Afrikaans (56%) followed by black South Africans (26%) including Zulu, Sotho, sePedi and Ndebele with white English speakers being the smallest groups (18%).

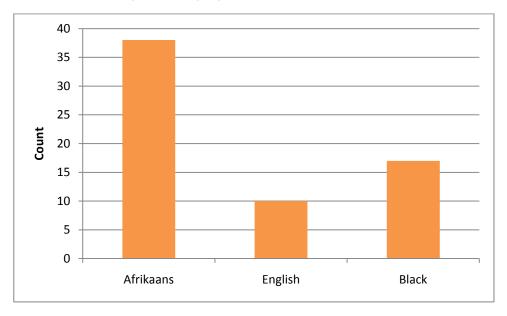


Figure 4: Language distribution of respondents

Using a combination of gender and language, as can be expected, the sample included 48.1% historically disadvantaged South Africans. It is to be noted here, however, that this figure includes white females.

A full graphically representation of the various respondents answers per question can be found in Appendix 2.



## **Dimensional Analysis**

The mean results for each of the three groups, that were identified, have been presented for each of the five dimensions presented by Doney *et al.* (1998). It can be seen that the individualists, on average, responded higher on all of the dimensions than the total sample and as a result the collectivists scored is lower in most dimensions. The differences however are very small.

Figure 5: Mean ratings per trust process and cultural dimension

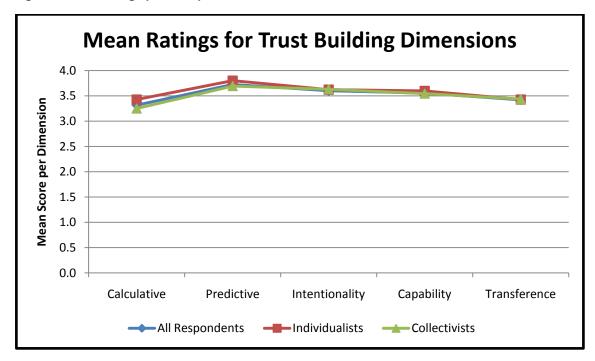


Table 2: Mean ratings per trust process and cultural dimension.

	All	Individualists	Collectivists
	respondents		
Calculative	3.3173	3.4274	3.2500
Predictive	3.7250	3.7984	3.6935
Intentionality	3.6000	3.6210	3.6290
Capability	3.5538	3.5968	3.5444
Transference	3.4212	3.4274	3.4355



### **Hofstede's Dimensional Correlations**

Doney *et al.* (1998) suggest that the individualist/collectivist dimension and the masculinity/femininity dimension are similar enough to be analysed together. A simple correlation between the two sets of data results in a correlation of 0.0859 and an R<sup>2</sup> value of 0.0074. There is, thus, very strong statistical evidence, despite the small sample, that no correlation between individualist/collectivist score and the masculinity/femininity score exists and therefore they cannot be analysed together in this particular study.

A scatter plot between the two sets of data is presented below.

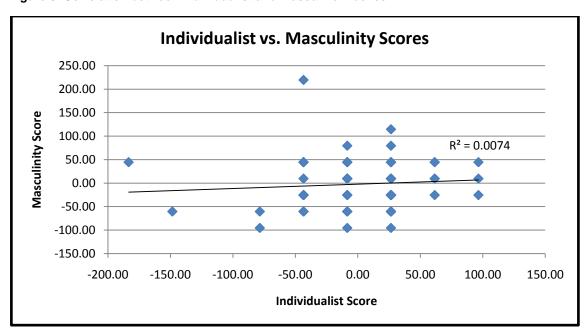


Figure 6: Correlation between individualist and masculine indexes.

The correlations between the individualism index and the five trust building processes were calculated and the results given below.



Table 3: Correlation results between the Individualism index and various trust processes

	Correlation	R <sup>2</sup>
Individualism Index	1	1
Calculative Score	-0.218491844	0.047738686
<b>Predictive Score</b>	-0.170106948	0.028936374
Intentionality Score	-0.118503951	0.014043186
Capability Score	0.013796587	0.000190346
Transference Score	-0.139380552	0.019426938

The correlations between the masculinity index and the five trust building processes were calculated and the results are given below.

Table 4: Correlation results between masculinity index and trust building processes.

	Correlation	R <sup>2</sup>
Masculinity Index	1	1
Calculative Score	-0.238188712	0.056733862
<b>Predictive Score</b>	0.106361933	0.011312861
Intentionality Score	0.138774363	0.019258324
Capability Score	-0.070376137	0.004952801
Transference Score	0.254964424	0.065006858

Both Tables 3 and 4 show that no linear correlation can be drawn between the individual/collectivist score and any of the trust building processes. Similarly no linear correlation exists between the masculinity index and the various trust building processes suggesting that the data is independent and can be analysed independently.

## **Hypothesis Results**

The hypotheses put forward by Doney *et al.* (1998) were tested by performing a statistical T test, assuming unequal variances, to determine if a statistically significant difference was present between the means of the two samples. An alpha value of 0.05 was used on a one sided test corresponding to a 95% confidence interval. The output of the Data Analysis Microsoft Add-in is given below for the five hypotheses.



Hypothesis 1 tested the difference of means between individualist and collectivist answers to questions related to agreement or disagreement with predictive trust building. The result of the test was a one tailed p value of 0.101. The full test output is given below.

Table 5: Results of T-test for calculative means

Calculative	Individualist	Collectivist
Mean	3.427419355	3.216911765
Variance	0.272681452	0.215254568
Observations	31	34
Hypothesized Mean	0	
Difference		
df	60	
t Stat	1.711546063	
P(T<=t) one-tail	0.046072789	
t Critical one-tail	1.670648865	
P(T<=t) two-tail	0.092145578	
t Critical two-tail	2.000297804	

# **Hypothesis 2**

Hypothesis 2 tested the difference of means between individualist and collectivist answers to questions related to agreement or disagreement with predictive trust building. The result of the test was a one tailed p value of 0.101. The full test output is given below.



Table 6: results of T-test for predictive means

Predictive	Collectivist	Individualist
Mean	3.658088235	3.798387097
Variance	0.160330325	0.221538978
Observations	34	31
Hypothesized Mean	0	
Difference		
df	59	
t Stat	-1.28817506	
P(T<=t) one-tail	0.101357114	
t Critical one-tail	1.671093033	
P(T<=t) two-tail	0.202714228	
t Critical two-tail	2.000995361	

Hypothesis 3 tested the difference in means between the answers provided by the different groups, within the sample, to questions related to intentionality as a trust building process. The result of the T-test was a p value of 0.36. The full result is given below.

Table 7: Results of T-test for intentionality means

Intentionality	Collectivist	Individualist
Mean	3.580882353	3.620967742
Variance	0.207274955	0.201545699
Observations	34	31
Hypothesized Mean	0	
Difference		
df	63	
t Stat	-0.35714026	
P(T<=t) one-tail	0.361090186	
t Critical one-tail	1.669402222	
P(T<=t) two-tail	0.722180372	
t Critical two-tail	1.998340522	



The fourth hypothesis tested for a statistically significant difference between the means of the individualist and collectivist respondents, regarding questions related to the process of building trust, based on capabilities. The test result was a p value of 0.25. Full results are given below.

Table 8: Results of T-test for capability means

Capability	Individualist	Collectivist
Mean	3.596774194	3.514705882
Variance	0.340322581	0.16739082
Observations	31	34
Hypothesized Mean	0	
Difference		
df	53	
t Stat	0.650815245	
P(T<=t) one-tail	0.258988733	
t Critical one-tail	1.674116237	
P(T<=t) two-tail	0.517977465	
t Critical two-tail	2.005745949	



The final hypothesis evaluates the difference of means between the individualists and collectivists when rating the transference based questions. The result of the T-test was a p value of 0.458. The full result output is given below.

Table 9: Results of T-test for transference means

Transference	Collectivist	Individualist
Mean	3.415441176	3.427419355
Variance	0.134205102	0.282056452
Observations	34	31
Hypothesized Mean Difference	0	
df	53	
t Stat	-0.10487099	
P(T<=t) one-tail	0.458437032	
t Critical one-tail	1.674116237	
P(T<=t) two-tail	0.916874063	
t Critical two-tail	2.005745949	



# **CHAPTER 6: DISCUSSION OF RESULTS**

Doney, et al. (1998) proposed that individuals built trust in one or more of five ways. The authors classified the different processes as calculative, predictive, capability, intentionality or transference. The authors also developed fifteen propositions that linked the preferred means of building trust with the individual's national cultural identity, as proposed by Hofstede (1980). This research was aimed at determining if the propositions made by Doney, Canon and Mullen (1999), with regards to the preference of trust building methods by individualists and collectivists, were true as defined by Hofstede (1980). The five propositions made by Doney et al. (1998) suggested that individualists and collectivists were more, or less, likely to form trust through one of the different processes. So one would suggest that, in some cases, collectivists are more likely to build trust than individualists.

## **Predictive and Intentionality**

When putting together the results from the survey, the five potential trust building processes; predictive, intentionality, capability, transference and then calculative, were ranked, from most likely to be used by an individual to least likely to be used by an individual. The Processes that came up most frequently namely; predictive, intentionality and capability, were kept in the top three positions, on the list, regardless of whether the individualists or collectivists were being analysed separately or as part of the group.

Once this was done, some inconsistencies appeared and this, in turn, raised several questions as to the reasons for the respective group or individual's preference. The context, within which the study was performed, is likely to yield potential reasons for these inconsistencies. Firstly, the diverse nature of the group presents a challenge to the trustor. Due to the diverse interests of all of the parties involved in the survey, it is unlikely that the transference process



with have any great influence. Calculative trust building, on the other hand, requires the individual to calculate what the personal benefit will be when entering into the trusting relationship. In a corporate environment it is difficult to calculate what these possible benefits may be as all of the respondents are employees of the same company and should, theoretically be working towards a common goal. Personal benefit is also unlikely to be easily calculated, in financial terms, as the only remuneration in this case is a salary at the end of the month. Calculative trust building is thus unlikely to be preferred by the respondents. The job grade level or level of responsibility of the middle manager respondents would lead one to believe that they should be capable in their role and one would think that questions about the abilities of an individual would play a far less important role. Thus, capability, as a basis for evaluating the trustworthiness of an individual, should not a differentiating factor.

One would suggest that individuals at managerial level are also more likely to be competitive, which suggests that even if the trustors finds the trust target to be capable and able to perform the required duty, there is no guarantee that the trust target intend to do so. By understanding the intentions of the individual, the trustor is less likely to be left vulnerable to the successes of the trust target. Prediction, as a trust building process, only requires prior knowledge of the performance of an individual, and a level of confidence in one's assessment of the individual, before a decision can be made. One would argue that all interactions between two individuals add to the "repertoire" of stored knowledge which one might have of the trust target. This will mean that every interaction, as a result, will increase the trusting individual's ability to predict the behaviour of the trust target. An understanding of an individual's intentions assists in the predictability of their behaviour. One could suggest, therefore, that the predictive process is the logical choice for the most preferred method of trust building, followed by intentionality and capability.

#### **Individualism/Collectivism and Masculinity**



Doney et al. (1998) suggested that their propositions were equally applicable, regardless of whether one is measuring the individualist/collectivist dimension or the masculinity index. As a result, it was understood that one could expect the same results when using either of these indices, it was also suggested that the dimensions were interchangeable when dealing with an individual's preference for one of the trust building processes. Hofstede (2008) suggests that the dimensions show no correlation and that they are independent of one other. It becomes apparent from Hofstede's assertions that we are to believe that the cultures that are classified as highly individualistic, are often also classified as highly masculine. So in order to establish if there is a correlation between the two results were calculated using; a scatter plot, the correlation co-efficient and the covariance between the individuals' scores on both individualism and masculinity index. The results show that no such relationship exists. A correlation of 0.0859 and R<sup>2</sup> value of 0.0074 means that a linear relationship exists in less than 1 % of the sample data that was analysed. This is an extremely weak correlation. For this reason, one would suggest is that, with regards to this particular sample, there is no link between the individualism score and masculinity index. Therefore, the results obtained from this particular survey support the assertions made by Hofstede (2008) and not those made by Doney et al. (1998). The individualist/collectivist and masculine/femine dimensions are thus to be analysed separately.

A correlation analysis was performed to establish whether any relationships exists between the individualist index, or the masculinity index, and the various trust building processes. The results showed that no correlation stronger than 0.25 with a R<sup>2</sup> value of 0.065 was determined. These low values show that no link or linear relationship exists between the selection of various trust building processes and the score achieved for either the individualism index or masculinity index.



### **Cultural Dimensions and Race**

McFarlin *et al.* (1999) suggested that race could be used as a cultural identifier within a South African context, and proposed that white South Africans could be classified as individualistic, while black South Africans could be collectivist (as defined by Hofstede (1980)). Thomas and Bendixen (2000) evaluated several South African middle managers and found that, although white English managers had the highest individualism score the difference between the English, Afrikaans and black respondents differed by less than ten points and that Afrikaans males scored lower than Sotho, Xhosa and Zulu respondents. It would appear that the results can differ greatly, depending on when and where the data was collected. In this study the results were relatively inconclusive. The white English respondents were evenly split between individualism and collectivism. The Afrikaans respondents were also quite evenly spread with sixteen individualists and twenty-two collectivists. The black respondents were also relatively evenly spread with ten individualists and seven collectivists.

This study therefore found there to be no discernable preference by a cultural race groups by which they could be classified according to Hofstede's (1980) dimensions. One would suggest that this may be due to the fact that South Africa is home to a plethora of cultures which are continually colliding with and influencing one another. The results of the survey suggest that the underlying values and dimensions are not race based and remain independent of basic demographics. The influx of western ideas, language and culture has led to the dilution of traditional African societies by introducing several new ideas and cultural pressures. The acceptance of English as the language of business and the uptake of black South Africans into traditional western managed companies has introduced numerous western cultural influences typical of individualist cultures. The South African culture is only just developing and research suggests that it will be a mixture of both western, particularly American, culture and traditional African cultures. The amalgamation of these cultures means that each individual South African



is more likely to have formed an individual culture based on their own experiences and exposure to different models during their lifetime. An individual's culture can no longer be determined by the colour of their skin nor the language they speak as a child.

This study should not, however, be used to draw any conclusions relating to the cultural classification of South African ethnic groups. This study appears to have revealed conclusions which are in contradiction to the work done by McFarlin *et al.* (1999) but support the work of Thomas and Bendixen (2000).

### **Hypothesis 1: Calculative**

The first hypothesis was based on one of the propositions made by Doney *et al.* (1998). The authors suggested that individuals in collectivist cultures would, relative to individuals in individualistic cultures, are more likely to form trust through the calculative process. When faced with the capability questions the individualists had a mean of 3.427 while collectivists had a mean of 3.217. The T-test provided a statistic of 1.711 which related to a probability of 0.046. Thus the mean score received for the individualists was 1.711 standard deviations to the right of the mean for collectivists. As this is below the critical alpha value of 0.05 the null hypothesis is rejected. The statistical evidence, although sufficient, does not provide a strong case for rejection due to the probability value being so close to the alpha value selected. The proposition made by Doney *et al.* (1998) is thus supported by the data collected in this study. There is sufficient statistical evidence that individualists are more likely to form trust via the calculative trust building processes than collectivists.

Many of the pieces of literature addressed in this research further suggest that the calculative process is most likely to be used when the trustor can see, and predict, a positive personal benefit. As an individualist values personal gain highly, it is clear that the use of a calculative



trust building process benefits the individual and allows for personal gain. The sample was based at manager level therefore it is highly likely that despite the split between collectivists and individualists calculated by the VSM08 the respondents should actually be considered individualist and extremely individualist. The corporate environment is likely to reward personal achievement and effort thus enforcing an individualist culture within the organisation. This environment and the power struggles commonplace within it are suggested to require even collectivists to evaluate personal risks and rewards and therefore find calculative trust building as a preferred means of evaluating relationships. Therefore, the data supports the original proposition made by Doney *et al.* (1998) that individualists are more likely, than collectivists, to build trust via the calculative process.

### **Hypothesis 2: Predictive**

The second hypothesis was based on the second proposition made by Doney *et al.* (1998). The authors proposed that, when evaluating the predictive trust building process, those individuals who identify themselves as collectivists were more likely than individualists to form trust using a predictive process. The various pieces of literature which have been studied in this research supports this assertion as the predictive trust building process requires previous encounters between trustor and trust target. The respondents to the survey were asked to rate to what degree they agreed with five statements, which were written in such a way as to suggest that a favourable trusting relationship already been in existence between the trustor and the trust target, and that the respondent could trust someone as a result of this relationship.

The mean rating for the collectivists was calculated at 3.658 while the individualists responded with a mean score of 3.798. If one was to support the suggestions made in literature, the collectivists would have been expected to have a higher score than the individualists for this



trust building process. This was not supported by the data. Again, a student's T-test for unequal variance was performed and the resulting T-statistic was calculated as -1.288. The appropriate probability was determined to be 0.101357. This is well above the required value of 0.05 for a 95% confidence interval. Thus, the null hypothesis cannot be rejected. The statistical evidence collected in this study suggests that neither the individualists nor the collectivists showed any preference for trust development through the predictive process. Therefore, the evidence in is contradiction to the work performed by Doney *et al.* (1998).

The basis for the development of trust via a predictive process is that the trustor has had previous experience of the trust target and is, therefore, able to predict the outcome of establishing a trusting relationship. One would assert that this underlying assumption can, thus, just as easily be made by someone seen as an individualist or someone seen as a collectivist. The literature, that was studied in the formulation of this research, suggests that a member of a highly collectivist society has greater understanding and knowledge of the other members of the group and as a result is able to more accurately predict the behaviour of the trust target.

The level of respondent is again likely to play a role in the very narrow band of answers received. By virtue of achieving management level most of the respondents are comfortable with managing diverse groups of people and the skill to understand and predict a person's behaviour is well developed. This skill combined with self-confidence in his or her own performance is likely to reinforce the individual's belief that they have an ability to predict another person's behaviour correctly. The managers also have repeated interactions with the various individuals on the team, as cross-functional meetings are common place, thereby building a knowledge base and greater understanding of the employee's previous behaviour. The company has recently undergone a Section 189 retrenchment process which has left large numbers of the workforce fragile and filled with uncertainty. It is likely that this has resulted in



the employees falling back into relationships that have been secure, positive and beneficial. It is natural in circumstances like this for the respondents to return to tried and tested friendships and relationships. Surety is critical and of the five trust processes only predictive trust building is evaluated on past factual experiences. The other processes have some level of ambiguity and the potential for disappointment.

## **Hypothesis 3: Intentionality**

The third hypothesis presented in this study is related to the development of trust via the intentionality process. The intentionality process was proposed by Doney *et al.* (1998) and is based on the trustor having a greater understanding of the trust targets motivations and intentions. It is heavily dependent on the belief that the trust target will act in a manner that has the trustor's best interests at heart. This process stands in complete contrast to the calculative process. As has already been established, the evidence does suggest that individualists are more likely than collectivists to form trust through the calculative process, it is expected that the result from these questions would show that the mean response for collectivists would be higher than the individualists. The actual data collected shows that the mean answer for collectivists was 3.58 while individualists scored 3.62 on average. This result is, therefore, in contradiction with the expected outcome.

The T-test for unequal variance resulted in a t value of -0.35 suggesting that the collectivists mean was 0.35 standard deviations lower than the individualists. The p value is thus 0.3611. This value is significantly above the alpha value of 0.01 at a confidence level of 90%. The null hypothesis cannot be rejected, as a result.

The intentionality process is a far deeper and more difficult concept to form in the trustors mind. To be able to predict another individual's intentions requires more than passing



knowledge of the individual and their previous behaviours. An individual's intentions are generally hidden beneath their actions and are not always clear to a third party. For a third party to truly understand the individuals intentions they must look past previous performance and actions and gain a greater understanding of the person as an individual and have a clear understanding of the individuals character. This implies actually knowing the person rather than having witnessed their actions. This subtle difference adds enormous complexity to the selection of intentionality as the preferred trust building process. Secondly intentions do not always translate into actions. Despite the best intentions of an individual it is likely that in some circumstances the individual does not possess the ability to perform the required task. When a trustor, who is from the calculative school of thought, comes to evaluate the trustee's failure, it seems that the he or she will view the trustee as unworthy of trust, regardless of whether or not the trustees' intentions were good.

Intentionality is thus an extremely difficult process to establishing trust which requires an intimate knowledge of the person and their personal beliefs. For these reasons it is unlikely that either collectivists or individualists prefer this method when operating in a corporate environment. It is suggested that this difficulty is a possible reason for the small difference between collectivists and individualists.

# **Hypothesis 4: Capability**

The fourth proposal made by Doney *et al.* (1998) suggested that trustors in individualist societies, rather than those from a collectivist society, are more likely to form trust through the capability process. This was based on the underlying assumption that individuals are judged on their abilities and their ability to deliver on their skills. The decision by the trustor, to trust someone, is based on the trustee's ability to produce results according to his or her skill.



It is, therefore, critical for the trustor have an understanding of the skills present and have some prior knowledge, which has shown that the trust target is, in fact, capable of producing the desired result.

The results obtained from the study show that collectivists had a mean answer of 3.51 while individualists responded with an average of 3.59. Although the individualists seem to be more likely to form trust through the capability process, the statistical analysis is unable to reject the null hypothesis. The determined T-statistic was 0.65 with a p value of 0.2589. This is significantly higher than the critical value of 0.1. The null hypothesis therefore cannot be rejected. There is not enough evidence, collected in this study, to provide for a 90% confident answer that the two parties responded differently, when asked the same questions that related to building trust through the capability process.

The respondents to the survey were all professionals in middle management jobs. It is likely that this has resulted in a skewing of the data as all the respondents are adjudged by their colleagues to be at the very least capable of performing their jobs.

Secondly it is likely that the specialist nature of the work required within the industry suggests that the ability to perform the required task is valued equally highly by both collectivists and individualists. The highly repetitive and high risk nature of the work also favours the development of trust based on previous successful interventions. When faced with a situation, generally a plant stoppage, the natural and logical course of action is to question whether this has occurred before. If this question is asked, anyone who has solved a similar situation before is automatically trusted to be able to solve it again. The technology used at the plant is not novel and has existed for several decades in its current form. Therefore prior historical success is valued much more than ingenuity and intention.



The combination of valued experience and basic capabilities suggests that despite differing views and values both collectivists and individualists, in a corporate environment such as the sample here, are equally likely to value an individual's capability when building trust. Hence the scores received in this research are very similar.



## **Hypothesis 5: Transference**

The last proposition made by Doney *et al.* (1998) stated that collectivists are more likely to form trust through the transference process than individualists are. For trust to be established through the transference process a group or body, held in high esteem or already trusted, must confer trust to an unknown trust target. The collectivist societies are known to have high levels of power distance (Hofstede G. , 1980) and, thus organisational bodies and councils are highly respected. It follows logic, therefore, that collectivist societies would be more likely to allow an external group to evaluate the trustworthiness of an individual and to assign trust. The individual is part of the group and thus does not dissent from the decision. Essentially the individual's personal evaluation is overruled by the group consensus.

The data collected in this study shows almost no difference between the answers of the two groups, to transference related questions. The mean score for individualists was 3.427 while the collectivists had a mean score of 3.415. It is noted here, that the individualists have, once again, scored higher on the scale than the collectivists. The statistical calculations from a standard T-test with unequal variances resulted in a T statistic of -0.10 and a p-value of 0.458. This is extremely high and well above the critical value of 0.1. The null hypothesis, therefore, cannot be rejected. One would conclude, therefore, that both individualists and collectivists are equally likely to use transference as a trust building process.

It should be noted though that the sample contained slightly more individualists than collectivists. This is likely to influence the final calculations. Secondly the positions held by the respondents are in middle management. At this level within the company two factors must be considered when looking at the results obtained. Firstly each individual has an individual performance based contract which results in a cash bonus. This is likely to focus all the respondents towards personal gain and an individualistic outlook. In comparison the levels



below this, general semi-skilled labour, are incentivised through a large bonus scheme calculated on company performance. The managers are measured on individual performance. This means that at middle manager level capability, intention, calculative and predictive processes are far easier to evaluate than transference. There is essentially no institution or body representing the manager's that can confer the trust. Only individual recommendations apply.

The second factor to be considered is the company recruiting policy. The company has extremely strict recruiting policies and minimum requirements. This means that all the individuals sampled have, at minimum, a National Qualification equivalent to N6. The selection process however highly favours the interview process rather than the psychometric testing. This is again evidence that the individuals sampled prefer to experience the candidates themselves rather than trust the institution performing the assessments.

The organisational structure and culture also play a significant role. The organisation from which the sample was taken has a very flat organisational structure with only four levels of supervision. The senior most post on site is the general manager who reports directly to the company chief executive officer. The site management also encourage challenging ideas and thoughts as well as an open door policy. The results of both the design and the structure are a low power distance rating. The individuals within the organisation are encouraged to challenge authority, procedures and the institution that is the company. As a result of the continual challenging of the upper structures the perceived power of the company is reduced. This weakened authority combined with the lack of other large institutional organisations means that there is essentially no trusted body to confer trust.

The individualists and collectivists are, as a result, not likely to favour transference as they have no reference body which the hold in high esteem or trust explicitly.



### **Conclusion**

The results obtained in the research support Doney *et al.* (1998) with respect to the calculative process but no discernable difference was obtained with regard to the other four processes. The data suggests that individualists and collectivists do not show any clear preference when it comes to building trust via any one of the trust building processes, namely; predictability, intentionality, capability or transference.

It could be suggested that the primary reason for the differences between the propositions put forward by Doney *et al.* (1998), and the results obtained in this research, are related to the sample population selection. The population was made up of middle managers, within a particular industry and organisation. It could be argued that the organisational culture and industry culture has had a profound effect on the manner in which employees of the specific company build trust. Hofstede *et al.* (2008) cautioned against using the VSM08 across organisations precisely because it cannot be used to compare the organisational cultures of one or more companies but should rather be used for the assessment of national cultures.

The fact that the sample is small and from a very select industry, and setting, limits the applicability of the research. A total of sixty-six responses were received, which also can be seen as a limitation to the applicability of the findings, and makes it difficult for one to be able to make definitive assertions based on the statistical evidence. It is noted, however, that sixty-six responses are sufficient in number to draw some conclusions and that the statistical tests are, arguably, applicable as a result.

At a higher level, the South African cultural landscape has become more and more integrated and traditional cultures, as separate entities, less and less distinct. The data obtained



suggested that the old cultural lines and boundaries are slowly being erased and replaced with a new South African culture, which is yet to be defined.

29613397

**CHAPTER 7: CONCLUSION** 

The research performed in this paper was aimed at determining the influence that the

individualist/collectivist dimension (Hofstede G., 1980) had upon the development of trust

within a South African cultural environment. The sample consisted of those at management

level in a medium sized primary metal producer, which is located in Limpopo province. The

research evaluated the preferences of individualists and collectivists with regard to the five

suggested trust building processes, namely; calculative, predictive, intentionality, capability

and transference (Doney et al., 1998).

The initial results immediately discounted one of Doney et al.'s (1998) propositions that the

individualist/collectivist dimension is highly correlated to the masculine/feminine index. The

data collected in this research did not support this suggestion.

The survey's that were returned provided evidence that race, language and South African

cultural affiliation are not linked to the individualist/collectivist paradigm. Thus, the work

performed by McFarlin et al. (1999) in Table 2 is not supported at the individual level. One

would suggest, that this is most likely as a result of a concentration of idiocentrics in

management roles.

The results obtained from the data analysis suggested that, despite the size and limited nature

of the sample, there was sufficient evidence to reject the null hypothesis for hypothesis one,

but that there was insufficient evidence to make any conclusions regarding hypotheses two

through five. The data collected, therefore, suggests that, within the sample, individualists are

more likely than collectivists to select a calculative means of building trust. When evaluating

the preferences of individualists and collectivists, with reference to the other four proposed

means of building trust, no discernable difference in selection of trust building process, or



preference for a certain trust building process, could be found. It is proposed that this lack of evidence is not as a result of the fundamental assumption on which individualism and collectivism is based, but rather as a result of the limited scope of this research and also perhaps due to the common traits that are possibly shared by all respondents.

The respondents to this survey were all managers within one company. They, thus, shared a common remuneration package, common organisational culture and similar character traits. This has resulted in the actual variance between respondents being moderated by their common workplace and shared experiences. Of particular note, in this instance, was also the company's geographic location and the effect that the recent global recession and resulting retrenchments may have had on the feelings of these individuals. These factors may have severely affected the relationships on site and may also have allowed for the abnormal development and maintenance of trust relationships.

Assessment that was done on the calculative process of trust building yielded sufficient evidence to draw some conclusions. This could be due to the alignment between the organisational culture and the underlying behavioural assumptions of the calculative trust building process, that each individual is motivated by personal gain. It could be suggested that the company structure is such that individualists are rewarded within the organisation, and can find value and personal gain in trusting. Those who were classified as collectivists, alternatively, did not rate calculative trust building process as highly due to their apparent preference for a group solution and mutual benefit for all parties involved.

The predictive trust building process was selected as a means of trust building by both individualists and collectivists with the same frequency and a possible explanation for this could be that during times of uncertainty and dynamic change, these elements both arguably typify the current economic environment, security within a trust relationship is far more likely when one is using past experiences to evaluate an individual's trustworthiness. Therefore, by



falling back on their knowledge of previous encounters, predictive trust building seems to works equally well for both collectivists and individualists.

Assessment of the intentionality process data revealed that neither of the cultural dimensions showed sufficient preference for, or against, the intentionality trust building process. If one is trying to evaluate an individual, or organisations, intentions a deep and thorough understanding of that entity is required. It would appear that both collectivists and individualists, who have gleaned this in depth knowledge, are able to trust the third party. On the other hand, however, without this knowledge participants from both groups are equally unlikely to form trust through the intentionality process.

A key assumption, that an individual may have when building trust through the capability process, is that everyone has different abilities and different levels of being able to deliver on those abilities. One would suggest that the possible differences that could have occurred between individuals, and which would have influenced their response, has been removed to a certain extent within the sample, as various corporate guidelines are used when it comes to selecting only those who are able to perform their tasks satisfactorily. One would suggest, therefore, that the evaluation that the respondents may have made; that most individuals are capable, is based on their interactions with other individuals chosen for their ability to deliver, which negates this as a differentiator when evaluating whether or not they employ the capability trust process.

Preference for the transference trust building process could also not clear be defined when analysing the results of the research. Both collectivists and individualists tended to rate the transference questions similarly. It is likely that this is due to the large variance and diverse group without their being any reference to a common trusted body or institution. Without this "common ground", which arguably needed to be a party outside of the company structure, it is far less likely for the transference trust building process to play a role.



For both managers and co-workers alike it becomes clear that, to build trust rapidly, a deeper understanding of the individual and their cultural alignment is necessary. The use of race, background, language or traditional culture as an identifier of this culture is, however, not recommended. It would appear that too much variation occurs along what are perceived to be the traditional cultural lines of division, and the presence of allocentric and idiocentric individuals, is likely to influence and askew the conclusions. One would suggest that only an understanding of the individual, and his or her personal character, is sufficient evidence if a rapid trusting relationship is to be established.

#### **Research Limitations**

The sample selection introduced some limitations to the research. The research was aimed at determining the preferred means of trust development, and the influence of the individual/collectivist dimension, on this selection amongst South African middle managers. The sample taken was restricted to one company and one industry. Although trust is crucial in the industry, and due to legislative requirements a forced mixing of cultures was occurring, it was clear that the results in another company, or different industry, may be different. The cultures present, however, are expected to be representative of South Africa with the exception of South Africans of Indian descent. The sample is, thus, unlikely to represent the general population within South Africa due to the focussed research.

Response rates were expected to be low due to the non-personal method of data collection, however, to reduce the effects of non-response bias, the data was analysed to ensure that an even spread between both job grading and cultural dimension was achieved. Any survey conducted is likely to be influenced by some form of response bias. This is of particular concern when dealing with trust and cultures, two potentially sensitive parameters. Zikmund (2003) highlights five forms of response bias common to research. They are acquiescence,



extremity, interviewer, auspices and social desirability bias. Acquiescence bias was unlikely to be of concern in this particular case as the research did not ask respondents to agree or disagree, but rather, to make a choice between alternatives of equal value<sup>1</sup>. Thus, respondents cannot identify with the "correct" answer and so must make a choice based on actual preferences. In the same way, social desirability bias was not a concern, as no social status is attached to the selection of trust building process. Concerns surrounding interviewer and auspices bias' are present as the majority of respondents are likely to be familiar with the author and his position within company structures. Although the survey was not administered directly, the authors name and contact details were available on the survey. Attempts were made to negate this by omitting the author's title on the research and ensuring that a clear disclaimer was placed on the survey which related to the reason for the research. The auspices bias was further reduced by ensuring that the survey carried the University of Pretoria, and the Gordon Institute of Business Science, branding and not the company branding, as well as a clear description of the reason for the research and the anonymity associated with responding to the survey.

### **Recommendations**

One would suggest that the findings of the research can, to some degree, provide managers and academics with an understanding of the selection processes that are at work when a trusting relationship is being developed. It is also, arguably, clear from the results that were obtained, that the organisational culture, in which the individual is immersed, also plays a significant role in altering their choice of trust building process. In the case of this research

\_

<sup>&</sup>lt;sup>1</sup> Although it bears mentioning, here, that the terms "agree" or "disagree" were used in the survey but were used as an indication of whether or not a candidate felt a certain way, not whether or not they shared an opinion



sample, the organisational culture seems to be shifted heavily towards the rewarding an attitude which favours personal gain. The culture seems to be designed to reward self-interest, which in turn, is the underlying assumption for calculative trust building. As a result, this is the only hypothesis that gleaned any discernable difference in response from the respondents.

One would propose that further research should, thus, be largely aimed at understanding the alignment between culture and the underlying behavioural assumption, as put forward by Doney *et al.* (1998). This research could then be used to establish what relationship exists between cultural affiliation and trust building process selection. One would suggest that large volumes of work still need to be conducted, in this field, if we are to understand the role, and influence, of the organisational culture on the selection of trust building processes. This research did not extend as far as evaluating this phenomenon, but it became evident that organisational culture did, indeed, have an influence on the results obtained.

Further research, in this field, could also expand the sample population, as this was one of the major limiting factors to this research. The small selection of employees, from just one company, limits the applicability of the research and makes comparisons or conclusions, regarding the influence of organisational culture, tenuous at best. It is suggested that more research could be conducted, across multiple organisations within the same national culture, to determine the size of the moderation that organisational culture plays on the individual's trust building process.

The second survey instrument, developed in this research, should also be revised and tested through the application of the survey to a wider audience. It is likely that the instrument can be improved, through a qualitative analysis of whether or not candidates understand the statements. It could be suggested that the field of business would benefit from further investigation into the underlying assumptions developed by Doney *et al.* (1998) and the



identifying whether or not there is of behaviour present amongst employees of companies that is consistent with these assumptions.

#### **WORKS CITED**

Adonisi, M. (1993). African management - the career in community. In P. Christie, L. R, & L. Mbigi, *African management: philosophies, concepts and applications* (pp. 309-314). Randburg: Knowledge Resources.

Albright, C., Winston, W., & Zappe, C. (2009). *Data analysis and decision making*. Mason: South-Western.

Aryee, S., Budhwar, P., & Chen, Z. (2002). Trust as a mediator of the relationship between organizational justice and work outcomes: Test of a social exchange model. *Journal of Organizational Behaviour*, 23, 267-285.

Baye, M. R. (2009). Managerial economics and business strategy. Singapore: McGraw-Hill.

Binedell, N. (1993). Vision and reality - business in the new South African environment. In P. Christie, R. Lessem, & L. Mbigi, *African Management: philosophies, concepts and applications* (pp. 3-12). Randburg: Knowledge Resources.

Butler, J., & Cantrell, R. (1984). A behavioural decision theory based approach to modelling dyadic trust in supervisors and subordinates. *Psychological Reports*, 19-28.

Cox, T. J. (1993). *Cultural diversity in organizations: theory, research and practice.* San Francisco: Berret-Koehler.

Cronbach, L. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika* , 297-334.

Deluga, R. (1994). Supervisor trust building, leader-member exchange and organizational citizenship behaviour. *Journal of Occupational and Organizational Psychology*, 315-326.

Deutsch, M. (1962). Cooperation and trust: some theoretical notes. *Nebraska Symposium on Motivation* (pp. 275-319). Lincoln: University of Nebraska Press.

Deutsch, M. (1960). The effect of motivational orientation on trust and suspicion. *Human Relations*, 123-139.

Dirks, K. J., & Ferrin, D. L. (2001). Trust in leadership: meta-analytic findings and implications for research and practice. *Journal of Applied Psychology*, 611-628.

Dirks, K. T., & Ferrin, D. L. (2001). The role of trust in organizational settings. *Organizational Science*, 450-467.



Doney, P. M., Cannon, J. P., & Mullen, M. R. (1998). Understanding the influence of national culture on the development of trust. *Academy of Management Review*, 601-620.

Early, P. (1986). Trust, perceived importance of praise and criticism, and work performance: An examination of feedback in the United States and England. *Journal of Management*, 457-473.

Eaton, L., & Louw, J. (2000). Culture and self in South Africa: Individualism-collectivism predictions. *The Journal of Social Psychology*, 210-217.

Gagnon, M. A., Jansen, K. J., & Micheal, J. H. (2008). Employee alignment with strategic change: A study of strategy-supportive behaviour among blue-collar employees. *Journal of Managerial Issues*, 425-443.

Hall, E., & Hall, M. (1990). Understanding cultural differences. Yarmouth: Intercultural Press.

Hatch, M. J. (1997). *Organizational theory: modern symbolic and post modern perspectives.*New York: Oxford University Press.

Hofstede, G. (1997). Cultures and organizations: Software of the mind. New York: McGraw-Hill.

Hofstede, G. (1980). Culture's consequences. Beverly Hills: Sage Publications.

Hofstede, G. (1984). *Culture's consequences: International diferences in work related values.* Beverly Hills: Sage.

Hofstede, G. (2008, July 1). *Hofstede Dimensions Data Matrix*. Retrieved July 11, 2010, from Geert Hofstede:

http://www.geerthofstede.nl/media/651/6%20dimensions%20for%20website.xls

Hofstede, G., Hofstede, G., Minkov, M., & Vinken, H. (2008, January). *Geert Hofstede VSM 08*. Retrieved July 11, 2010, from Geert Hofstede:

http://www.geerthofstede.nl/media/229/manualvsm08.doc

Human, P. (1993). A population ecology persepective. In P. Christie, L. R, & L. Mbigi, *African Management: philosopies, concepts and applications* (pp. 205-221). Randburg: Knowledge Resources.

Khoza, R. (1994). The need for an Afrocentric approach to management. In P. Christie, R. Lessem, & L. Mbigi, *African Management* (pp. 117-124). Johannesburg: Knowledge Resources.

Kroeber, F., & Kluckhohn, F. (1952). Culture: A critical review of concepts and definitions. *Papers of the Peabody Museum of American Archaeology and Ethnology*, 1-223.

Kuhn, M., & McPartland, T. (1954). An empirical investigation of self-attitudes. *American Sociological Review*, 68-76.

Lewis, D., & Weigert, A. (1985). Trust as a social reality. Social Forces, 967-985.

Mayer, R., & Davis, J. (1999). The effect of the performance appraisal system on trust for management: A field quasi-experiment. *Journal of Applied Psychology*, 123-136.

Mayer, R., & Gavin, M. (2005). Trust for management and performance: Who minds the shop while the employees watch the boss? *Academy of Management Journal*, 874-888.

Mayer, R., Davis, J., & Schoorman, F. (1995). An integrative model of organizational trust. *Academy of Management Review*, 709-734.

Mbigi, L., & Maree, J. (1995). *Ubuntu: The spirit of African transformation management.* Johannesburg: Knowledge Resources.

McFarlin, D., Coster, E., & Mogale-Pretorius, C. (1999). South African management development in the twenty-first century Moving toward an Africanized model. *The Journal of Management Development*, 63-73.

Mine Health and Safety Administration. (2010, 11 07). *Comparison of Year-to-Date Fatalities and Total Fatalities*. Retrieved 11 07, 2010, from Mine Health and Safety Administration Homepage: http://www.msha.gov/stats/daily/d2010bar.pdf

Minkov, M. (2007). What makes us different and similar: A new interpretation of the World Values Survey and other cross-cultural data. Sofia: Klasika I Stil.

Morrison, A. M. (1992). *The new leaders: guidelines on leadership diversity in America.* San Francisco: Jossey-Bass.

Oldham, G. (1975). The impact of supervisory characteristics on goal acceptance. *Academy of Management Journal*, 461-475.

Oxford University. (2006). *Oxford Dictionary of Current English*. New York: Oxford University Press.

Pruitt, D. (1981). Negotiation behaviour. New York: Academic Press.

Republic of South Africa. (2004). Broad based socio-economic empowerment charter for the mining and minerals industry. *Government Gazette No 26661*. Pretoria: Government Printer.

Republic of South Africa. (1998). Employment Equity Act No. 55. *Government Gazette No.* 19370 . Pretoria: Government Printer.

Republic of South Africa. (1995). Labour Relations Act No 66. *Government Gazette No. 16861*. Pretoria: Government Printer.

Rich, G. (1997). The sales manager as a role model: Effects on trust, job satisfaction and performance of sales people. *Academy of Marketing Science*, 319-328.

Robinson, S. (1996). Trust and the breach of the phsycological contract. *Administrative Science Quarterly*, 574-599.

Schutte, A. (1993). Philosophy for Africa. Cape Town: UCT Press.

Senghor, L. (1965). On african socialism. New York: Stanford.



Strub, P., & Priest, T. (1976). Two patterns of establishing trust: The marijuana user. *Sociological Focus*, 399-411.

Tan, H., & Lim, A. (2009). Trust in coworkers and trust in organizations. *The Journal of Psychology*, 45-66.

Tan, H., & Tan, C. (2000). Towards the differentiation of trust in supervisor and trust in organization. *Genetic, Social, and General Psychology Monographs.*, 241-260.

Thomas, A., & Bendixen, M. (2000). The management implications of ethnicity in South Africa. *The Journal of International Business Studies*, 507-519.

Thomas, D. A., & Ely, R. J. (1996). Making differences matter: A paradigm for managing diversity. *Harvard Business Review, September-October*, 79-90.

Triandis, H. C. (2001). Individualism-collectivism and personality. *Journal of Personality*, 907-924.

Triandis, H. C. (2001). Individualism-Collectivism and Personality. *Journal of Personality* , 907-924.

Triandis, H. (1982). Dimensions of cultural variation as parameters of organizational theories. *International Studies of Management and Organization*, 139-169.

Triandis, H. (2004). The many dimensions of culture. *Academy of Management Executive*, 88-93.

Triandis, H., Leung, K., Villareal, M., & Clack, F. (1985). Allocentric vs. idiocentric tendencies: Convergent and discriminant validation. *Journal of Research in Personality*, 395-415.

Watt, M. (2010, October 22). Utterly Unacceptable. Creamer Media's Mining Weekly, p. 13.

Wikipedia. (2010, September 23). *Walkman*. Retrieved September 23, 2010, from Wikipedia: http://en.wikipedia.org/wiki/Walkman

Zikmund, W. (2003). Business Research Methods. Mason: South-Western.



# **APPENDIX 1: SURVEY INSTRUMENTS**

As part of a Masters of Business Administration I am doing research into the preferred means of building trust and the influence of the collectivist/individualist dimension. To that end, you are asked to complete two surveys. In the survey's you will be asked to select your level of agreement or disagreement with several statements. The questions relate to your ideal job, how important certain aspects are to you in your personal life and how you develop trust. The surveys are designed to help us understand how to improve trusting relationships between different cultures. The surveys should take no more than 20 minutes of your time and require no preparation. Your participation is completely voluntary and you are free to withdraw without penalty at any time. All information captured in the survey will be kept strictly confidential. None of the personal choices or answers provided will be provided to your employer nor will our details be stored at any time. By completing the survey, you indicate that you voluntarily participate in this research. If you have any concerns or questions, please feel free to contact me or my supervisor. Our details are provided below:

Researcher: Supervisor:

Matthew Cramer Lisa Orleow

matthewhcramer@gmail.com lisaorleow@iburst.co.za

083 633 0992 0118073534



### Section 1:

Please think of an ideal job, disregarding your present job, if you have one. In choosing an ideal job, how important would it be to you to:

- 1 = of utmost importance
- 2 = very important
- 3 = of moderate importance
- 4 = of little importance
- 5 = of very little or no importance
- 01. have sufficient time for your

09. have a job respected by your

personal or home life	1	2	3	4	5
02. have a boss (direct superior)					
you can respect	1	2	3	4	5
03. get recognition for good performance	1	2	3	4	5
04. have security of employment	1	2	3	4	5
05. have pleasant people to work with	1	2	3	4	5
06. do work that is interesting	1	2	3	4	5
07. be consulted by your boss					
in decisions involving your work	1	2	3	4	5
08. live in a desirable area	1	2	3	4	5

79

family and friends	1	2	3	4	5
10. have chances for promotion	1	2	3	4	5
In your private life, how important is each of the follo	owing	to you	ı: (ple	ase ci	rcle one answer in
each line across):					
11. keeping time free for fun	1	2	3	4	5
12. moderation: having few desires	1	2	3	4	5
13. being generous to other people	1	2	3	4	5
14. modesty: looking small, not big	1	2	3	4	5
15. If there is something expensive you really want to	buy b	ut you	ı do n	ot hav	ve enough
money, what do you do?					
1. always save before buying					
2. usually save first					
3. sometimes save, sometimes borro	w to bu	λλ			
4. usually borrow and pay off later					
5. always buy now, pay off later					
16. How often do you feel nervous or tense?					
1. always					
2. usually					
3. sometimes					

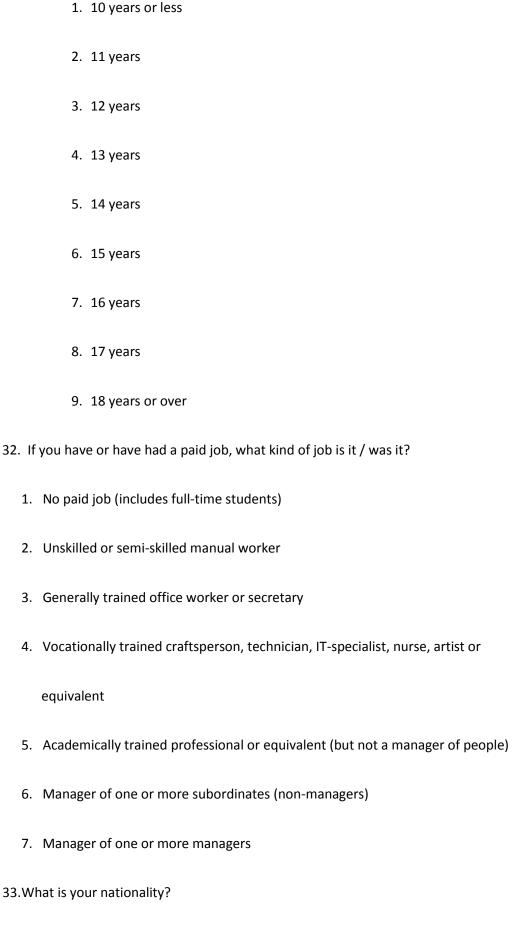
4. seldom

	5. never
17. Are you a ha	appy person?
	1. always
	2. usually
	3. sometimes
	4. seldom
	5. never
18. Are you the	same person at work (or at school if you're a student) and at home?
	1. quite the same
	2. mostly the same
	3. don't know
	4. mostly different
	5. quite different
19. Do other pe	ople or circumstances ever prevent you from doing what you really want to?
	1. yes, always
	2. yes, usually
	3. sometimes
	4. no, seldom
	5. no, never

20. All in all, how would you describe your state of health these days?
1. very good
2. good
3. fair
4. poor
5. very poor
21. How important is religion in your life?
1. of utmost importance
2. very important
3. of moderate importance
4. of little importance
5. of no importance
22. How proud are you to be a citizen of your country?
1. not proud at all
2. not very proud
3. somewhat proud
4. fairly proud
5. very proud
23. How often, in your experience, are subordinates afraid to contradict their boss (or students
their teacher?)
1. never

	2. seldom					
	3. sometimes					
	4. usually					
	5. always					
To what extent	do you agree or disagree with ea	ch of	the fo	llowin	ıg sta	tements? (please circle
one answer in e	each line across):					
	1 = strongly agree					
	2 = agree					
	3 = undecided					
	4 = disagree					
	5 = strongly disagree					
24. One ca	n be a good manager without hav	/ing a	precis	se ans	wer to	o every question that a
subordina	te may raise about his or her work					
		1	2	3	4	5
25. Persist	ent efforts are the surest way to re	esults				
		1	2	3	4	5
26. An org	ganization structure in which cert	ain su	ıbordi	nates	have	two bosses should be
avoided at	all cost	1	2	3	4	5

	27.	А соі	mpan	y's or	organ	ization's	rules	should	not	be b	roken	ı - not	even	when	the
	emp	oloyee	thin	ks brea	king tl	ne rule w	ould b	e in the	orga	nizati	on's k	est inte	erest		
								1	2	3	4	5			
	28. '	We sh	ould	honou	r our h	eroes fr	om the	e past							
								1	2	3	4	5			
										3	7	3			
Som	ie inf	ormat	tion a	bout y	oursel	f (for sta	tistical	purpos	es):						
	29.	Are y	ou:												
			1.	male											
			2.	female	!										
	30.	How	old a	re you	?										
			1.	Under	20										
			2.	20-24											
			3.	25-29											
			4.	30-34											
			5.	35-39											
			6.	40-49											
			7.	50-59											
			8.	60 or c	ver										
	31.	How	many	years	of for	mal sch	ool ed	ucation	(or t	heir e	equiva	alent) d	id you	ı comp	lete
	(sta	rting v	with p	orimary	schoo	ol)?									





- 34. What was your nationality at birth (if different)?
- 35. What is your home language?

#### Section 2:

In the following questions please state the extent to which you agree with the statement by selecting a number between 5 (strongly disagree) to 1 (strongly agree). Do not over think the questions. Read the question and go with the answer that seems right to you.

- 5 = Strongly disagree
- 4 = Disagree
- 3 = Neutral
- 2 = Agree
- 1 = Strongly agree
- 1. I trust people when I can see the benefits for me.
- 2. I trust people only after I have worked with them for some time.
- 3. I trust people who want the same things as I do
- 4. A person's past performances are a vital part of my decision to trust them.
- 5. I am likely to trust someone if others speak highly of him or her.
- 6. Children are easier to trust than adults because their behaviour is predictable.
- 7. I prefer to work for someone who consistently applies company policy.
- 8. I would only use a contractor after evaluating their performance on previous projects.
- 9. I would be likely to trust a builder that my close friend used to build his house for my own renovations.
- 10. I would trust my sister's mechanic if he has done a competent job on her car.
- 11. I believe that a business partner will look after the property that we jointly own.
- 12. Trust requires a common goal.
- 13. If someone acts consistently then I find it easier to trust them.
- 14. If someone acts with selfless kindness, I am likely to support them or their organisation.



- 15. I am more likely to trust the diagnosis of a specialist doctor than a general practitioner.
- 16. I find it easier to trust people when I know what their motivations are.
- 17. Before trusting someone, it is important for me to know them.
- 18. I cannot trust someone is who clearly selfish.
- 19. I am more likely to invest money in a company that has performed well in the past.
- 20. If a family member recommended a paediatrician, I would be likely to take my children there.
- 21. It is easier to trust someone who graduated from a famous university.
- 22. I trust that a Real Estate Agent will try to get the highest price when selling my house.
- 23. I believe that the CEO of a company will try to make the right decisions when it comes to the future of the company.
- 24. I base the amount of trust I have in someone on their ability to perform.
- 25. Before trusting someone to work on my home I would ask my friends who they would recommend.
- 26. A person who works for a non-profit organisation can be trusted to act fairly.
- 27. A best friend can be counted on to support you when you need him/her, every time.
- 28. I find it difficult to trust someone who wants to give me something for nothing.
- 29. The more I know about someone's achievements the more likely I am to trust them.
- 30. I find it easy to trust someone who is charitable.
- 31. I believe that a lawyer will give me advice that ensures that I do not break the law.
- 32. A person's competence can be used to determine how much I trust them.
- 33. An Engineer with a professional engineer's accreditation can be trusted to sign off on a structure.
- 34. I believe that most people have good intentions.
- 35. I find that I am able to trust people who have the same goals as I do.
- 36. I find it difficult trust someone I have just met
- 37. I believe that a person's previous actions are an indication of how they will behave in the future.
- 38. What people are motivated by determines how much I trust them



- 39. The company that someone keeps is often a good indication of whether or not I can trust them.
- 40. I am more likely to trust someone with a formal qualification than someone without one.

Thank you for your assistance.

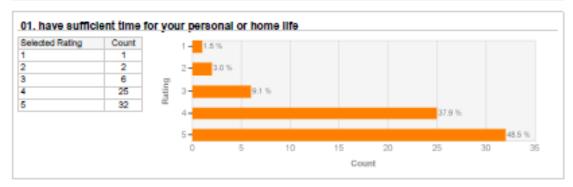


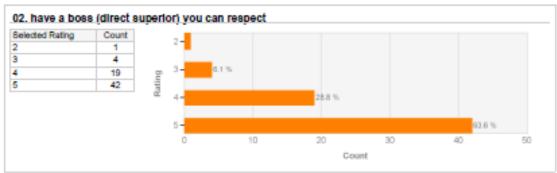
# **APPENDIX 2: RESULTS FROM SURVEY**

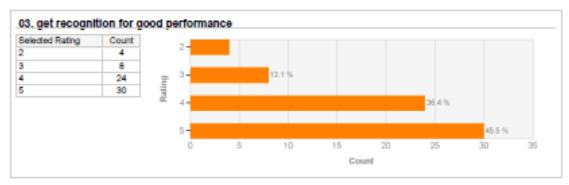
## Building trust and the influence of the collectivist/individualist dimension. Interim Results

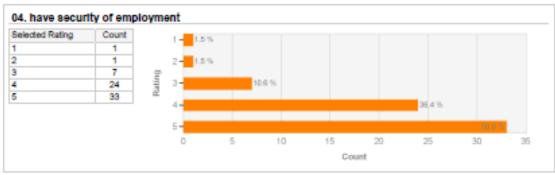
Number of completed Surveys: 66

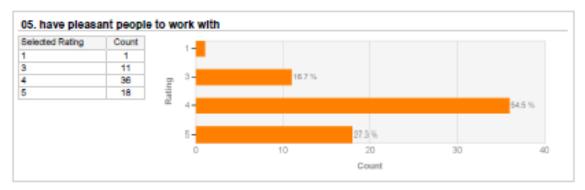
Section 1: Please think of an ideal job, disregarding your present job, if you have one. In choosing an ideal job, how important would it be to you to: 1 = of very little importance, 2 = of little importance, 3 = of moderate importance, 4 = very important, 5 = of utmost importance

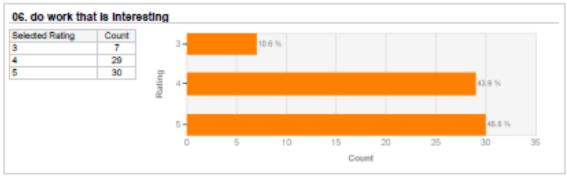


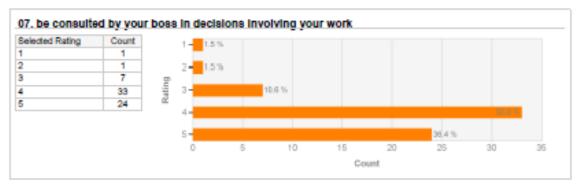


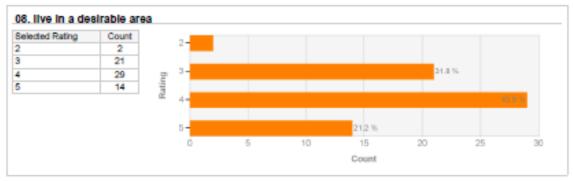


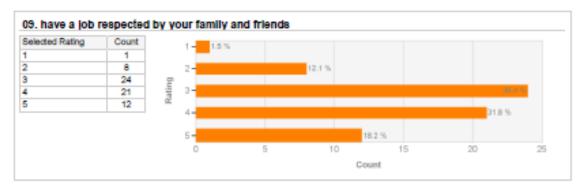


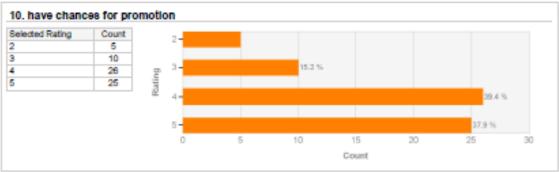




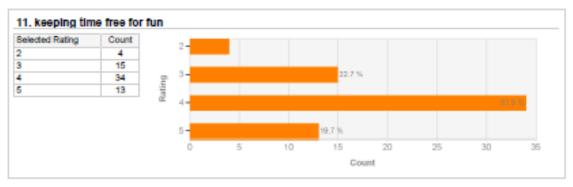


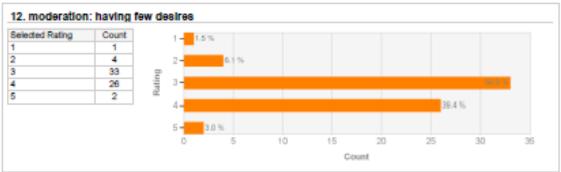


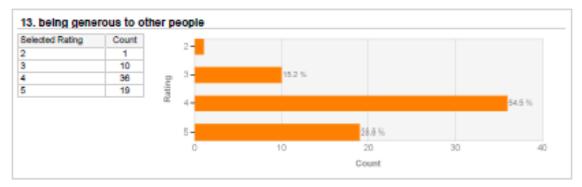


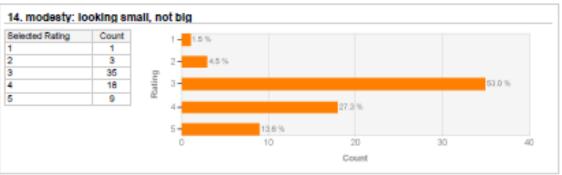


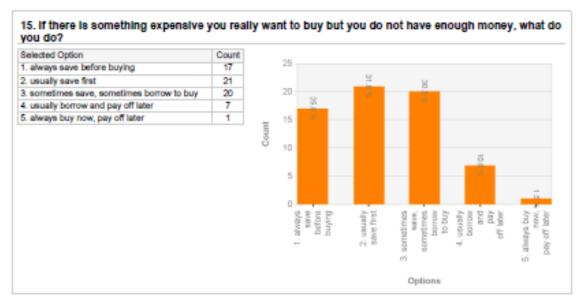
# In your private life, how important is each of the following to you:



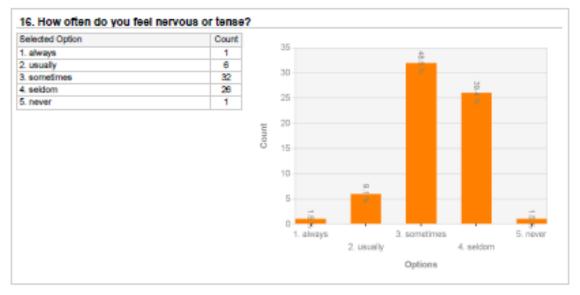


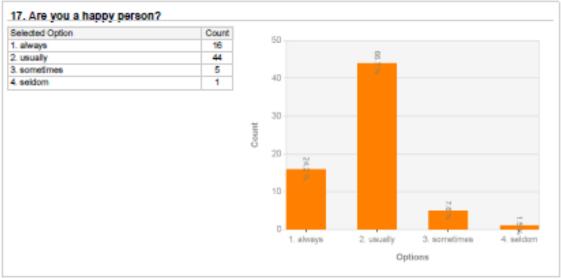


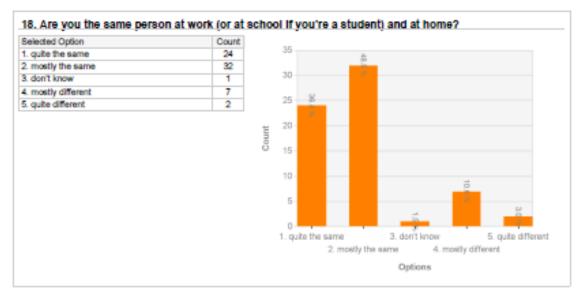




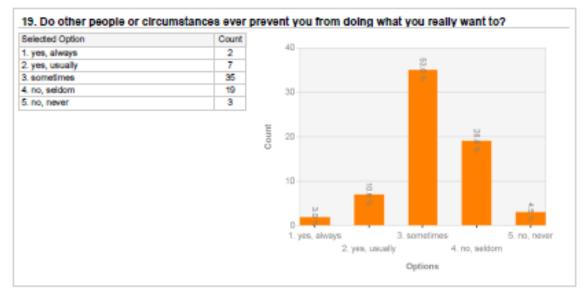


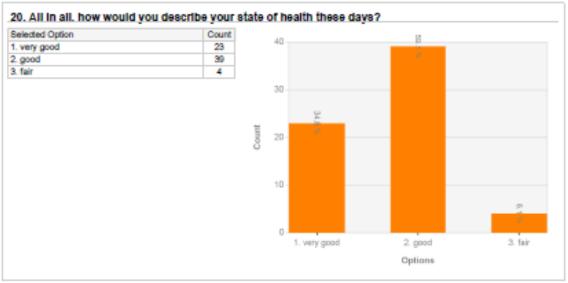


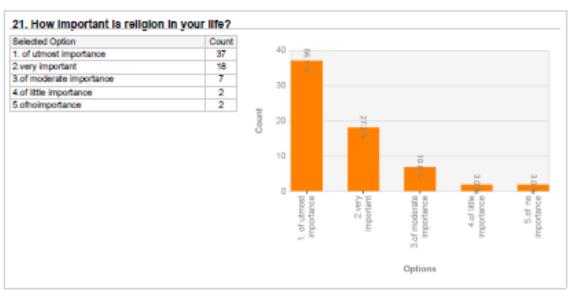


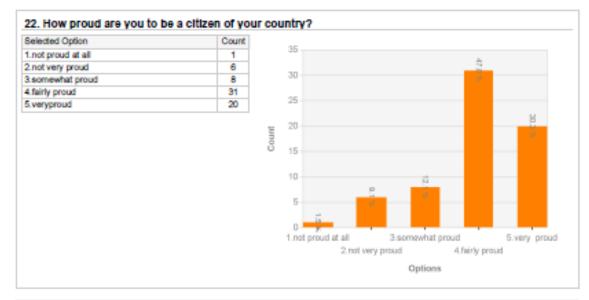


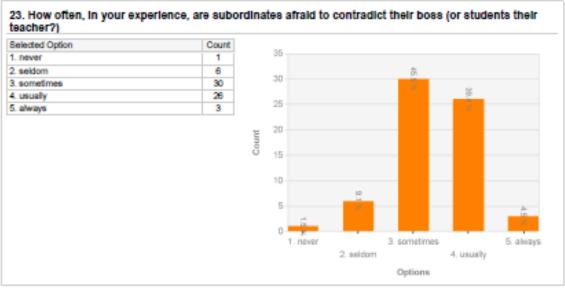




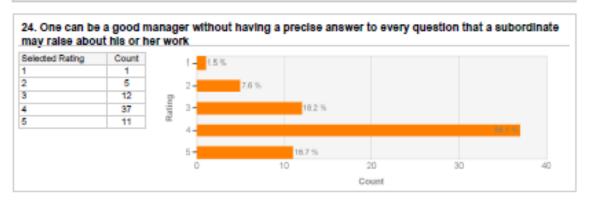


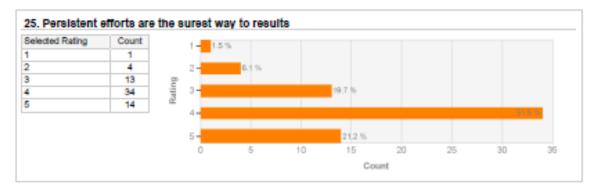


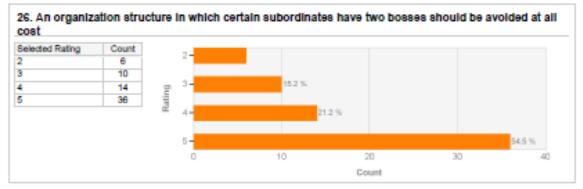


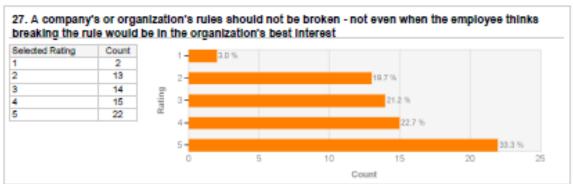


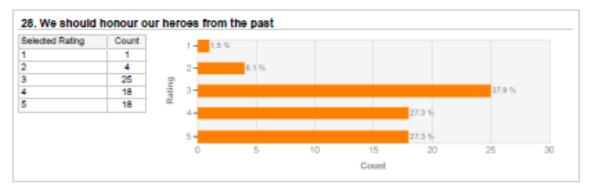
### To what extent do you agree or disagree with each of the following statements?



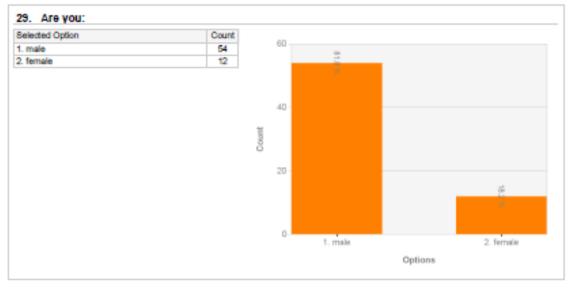


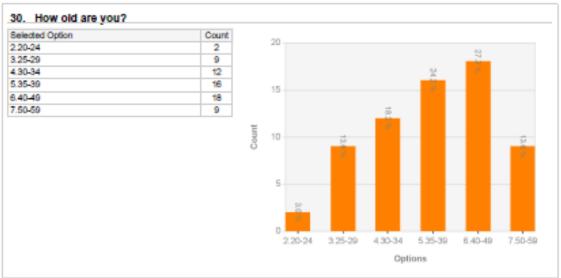




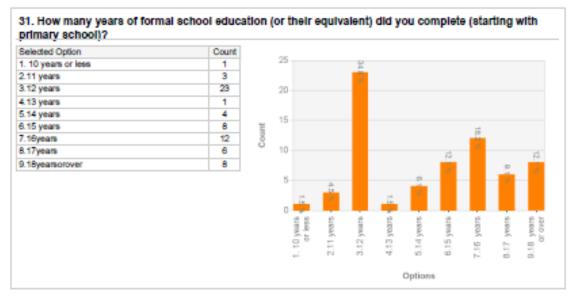


Some information about yourself (for statistical purposes):









ated Option	Count
. No paid job (includes full-time stud	ients) 1
<ol><li>Unskilled or semi-skilled manual w</li></ol>	orker 6
3.Generally trained office worker or se	cretary 2
<ul> <li>Vocationally trained craftsperson, echnician, IT-specialist, nurse, artist o quivalent</li> </ul>	
<ol><li>Academically trained professional equivalent (but not a manager of peop</li></ol>	vie)
Manager of one or more subordina anagers)	ates (non- 18
. Manager of one or more manager	9 4

Comments:	66
User Name	Comment
Anonymous Ref.1	South African
Anonymous	South African
Anonymous	South African
Anonymous	Polish
Anonymous	South African
Anonymous	South Arfrican
Anonymous	RSA
Anonymous	South African
Anonymous	South African
Anonymous	South African
Anonymous	RSA
Anonymous	SOUTH AFRICAN
Anonymous	South-Africa
Anonymous	South Africa
Anonymous	South African
Anonymous	S.African
Anonymous	South African



Anonymous	R8A
Anonymous	South African
Anonymous	SA CITIZEN
Anonymous	South African
Anonymous	White South African
Anonymous	SA
Anonymous	South African - Swazi
Anonymous	South African
Anonymous	African / black
Anonymous	South African
Anonymous	South African Indian
Anonymous	South African
Anonymous	South african
Anonymous	SA SA
Anonymous	8A
	South-african
Anonymous Anonymous	PEDI
	1
Anonymous	RSA Zimbabwean
Anonymous	
Anonymous	SA South African / british
Anonymous	South African
Anonymous	
Anonymous	RSA
Anonymous	R8A
Anonymous	South African
Anonymous	R8A
Anonymous	8A
Anonymous	South African
Anonymous	South African
Anonymous	RSA citizen
Anonymous	South African
Anonymous	South African
Anonymous	SA
Anonymous	RSA
Anonymous	RSA
Anonymous	South african
Anonymous	south african
Anonymous	R8A
Anonymous	8A
Anonymous	8A
Anonymous	South African
	8.A.

34. What was	your nationality at birth (if different)?	
Comments:	66	
User Name	Comment	
Anonymous Ref.1	South African	
Anonymous	United States	
Anonymous	South African	
Anonymous	Polish	
Anonymous	South African	
Anonymous	South African	
Anonymous	RSA	
Anonymous	South African	
Anonymous	South African	
Anonymous	South African	
Anonymous	Namibian	
Anonymous	SOUTH AFRICAN	
Anonymous	South-Africa	



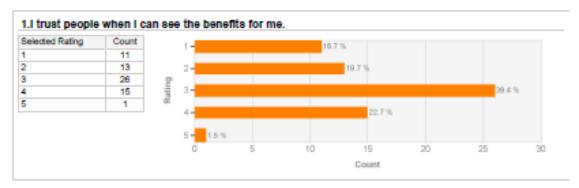
Anonymous	South Africa
Anonymous	N/A
Anonymous	8A
Anonymous	Same
	RSA
Anonymous	South Afroan
Anonymous	
Anonymous	N/A
Anonymous	South African
Anonymous	As above
Anonymous	SA
Anonymous	South African
Anonymous	South African
Anonymous	Africa
Anonymous	South African
Anonymous	South African Indian
Anonymous	South African
Anonymous	South-african
Anonymous	SA SA
Anonymous	SA SA
Anonymous	South african
Anonymous	ZULU
Anonymous	RSA
Anonymous	Zimbabawan
Anonymous	8A
Anonymous	British
Anonymous	South Africa
Anonymous	NA
Anonymous	RSA
Anonymous	South African
Anonymous	Soth African
	RSA
Anonymous	RSA SA
Anonymous	——————————————————————————————————————
Anonymous	South African
Anonymous	South African
Anonymous	RSA citizen
Anonymous	South African
Anonymous	South African
Anonymous	8A
Anonymous	RSA
Anonymous	RSA
Anonymous	South African
Anonymous	south african
Anonymous	RSA
Anonymous	NA NA
Anonymous	Same
Anonymous	South African
Anonymous	south african
Anonymous	South African
Anonymous	N/A
	8.A

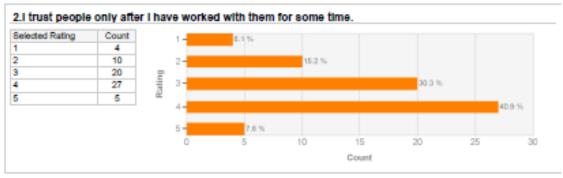
JO. WHAT IS YO	our home language?	
Comments:	66	
User Name	Comment	
Anonymous Ref.1	Afrikaans	
Anonymous	English	
Anonymous	Zulu	
Anonymous	English	
Anonymous	Afrikaans	

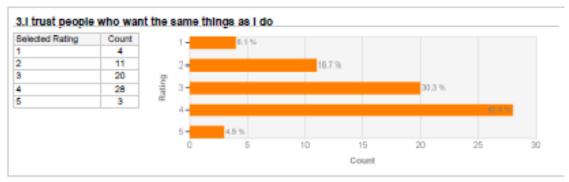


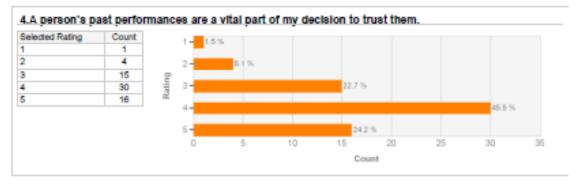
Anonymous	Ndebele
Anonymous	Afrikaans
Anonymous	Xisongafsizulu
Anonymous	Ped
Anonymous	Africans
Anonymous	Africares
Anonymous	Zulu
Anonymous	AFRIKAANS
Anonymous	N.Setho
Anonymous	Afrikaans
Anonymous	English
Anonymous	Siswati
Anonymous	English
Anonymous	Sepedi
Anonymous	Africans
Anonymous	English
Anonymous	English
Anonymous	Africans
Anonymous	Afrikaans
Anonymous	Africans
Anonymous	Africans
Anonymous	7111
Anonymous	Afrikaans
Anonymous	Zulu
Anonymous	Afrikaans
Anonymous	ergish
Anonymous	N.Sothe
Anonymous	Africans
Anonymous	AFRIKAANS
Anonymous	Africans
Anonymous	Afrikaans
Anonymous	English
Anonymous	Afrikaans
Anonymous	Sepedi
Anonymous	Afrikaans
Anonymous	English
Anonymous	Afrikaans
Anonymous	Northern Sotho
Anonymous	Africans
Anonymous	Africaens
Anonymous	Afrikaans
Anonymous	Ped
Anonymous	AFR
Anonymous	Afrikaans
Anonymous	8. Sotho
Anonymous	english and afrikaans
Anonymous	Afrikaans
Anonymous	Africaens
Anonymous	Sepedi
Anonymous	English
Anonymous	endi
Anonymous	Africaens
Anonymous	Afrikaans
Anonymous	Afrikaans.
	The state of the s

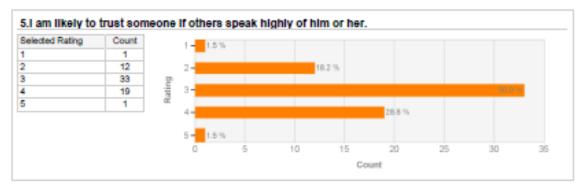
Section 2: In the following questions please state the extent to which you agree with the statement by selecting a number between 1 (strongly disagree) to 5 (strongly agree). Do not over think the questions. Read the question and go with the answer that seems right to you.

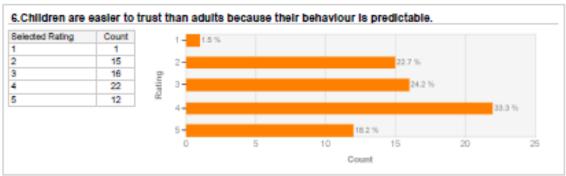


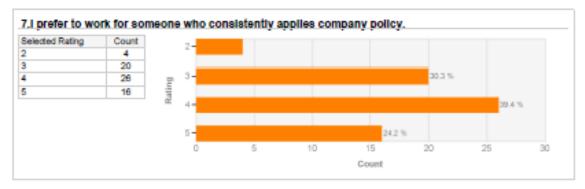


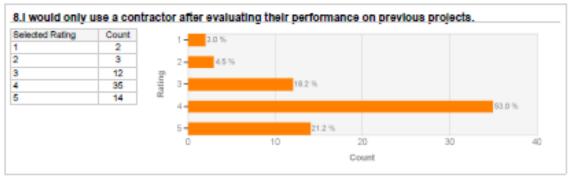


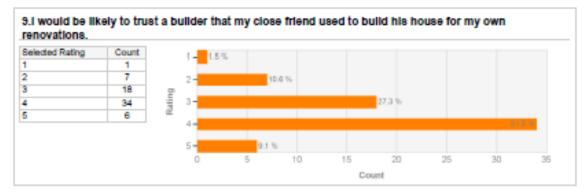


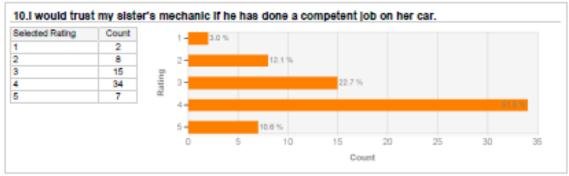


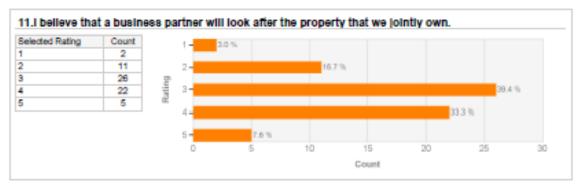


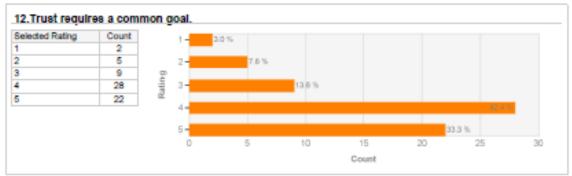


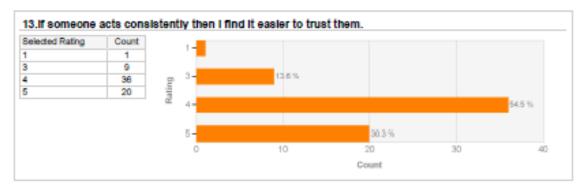


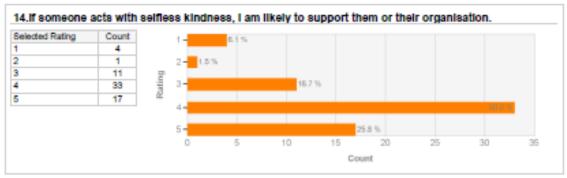


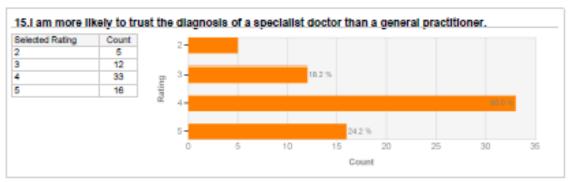


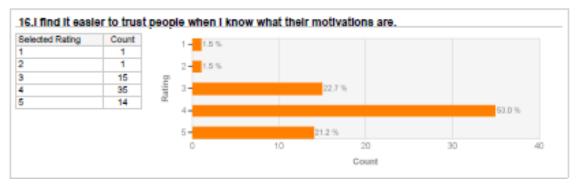


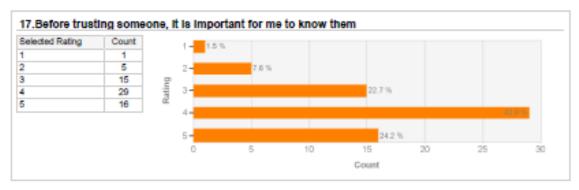


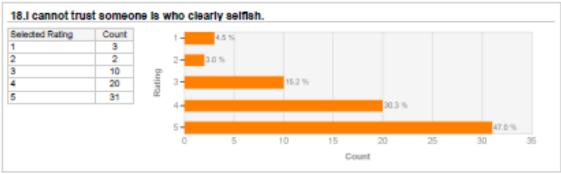


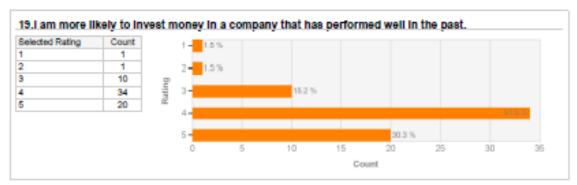


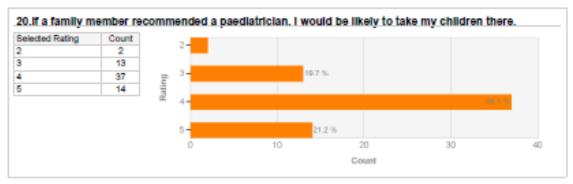


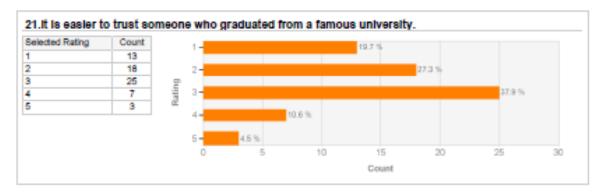


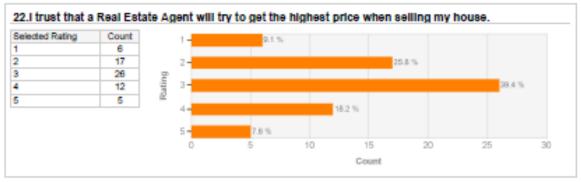




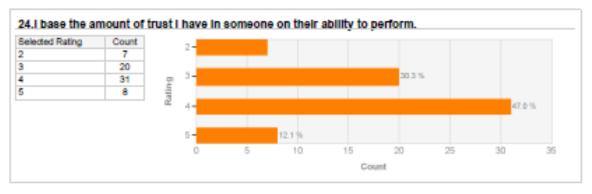


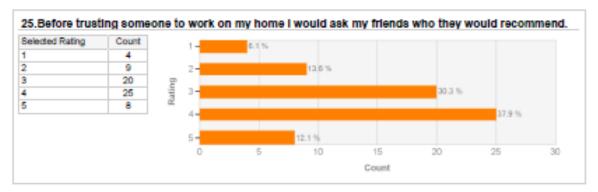


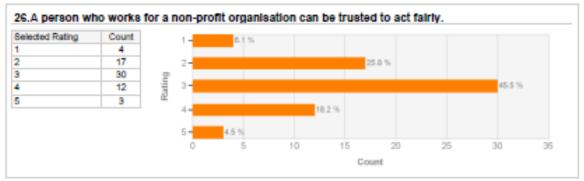


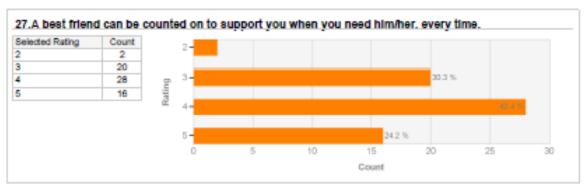


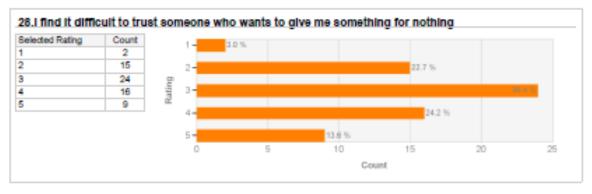




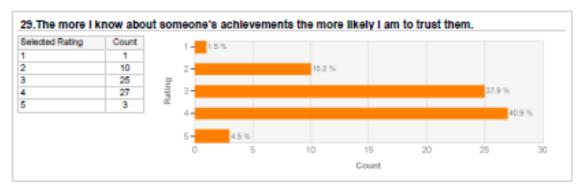


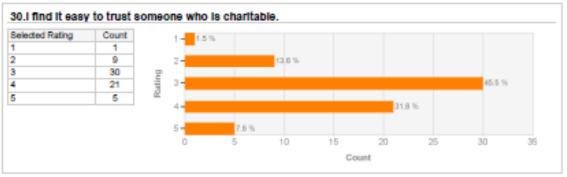


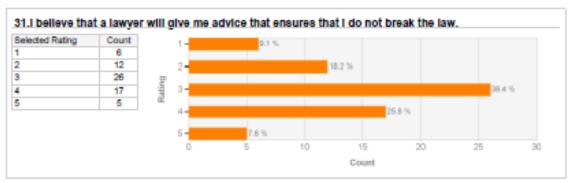


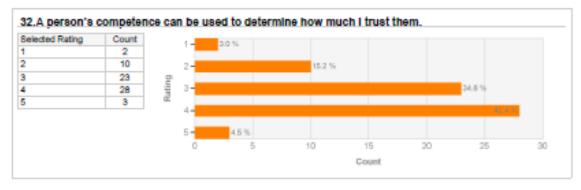


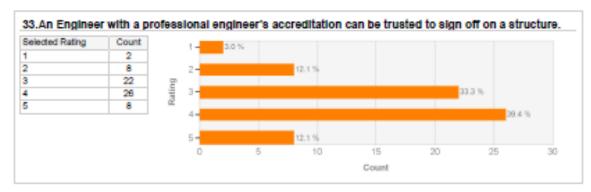


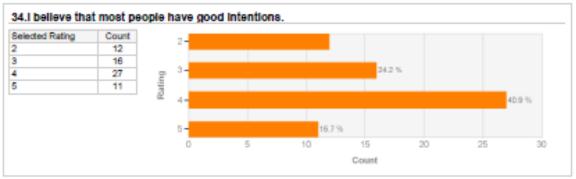


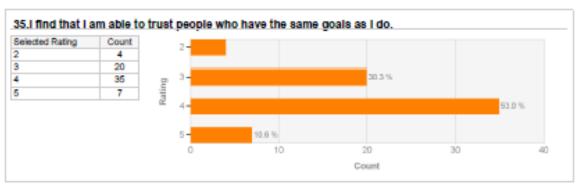


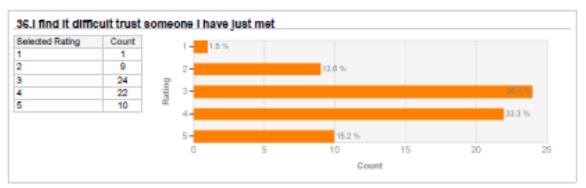


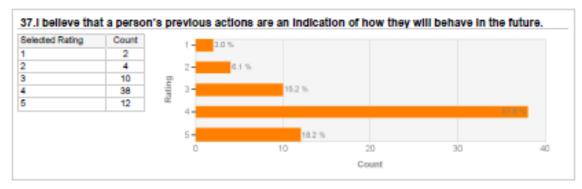


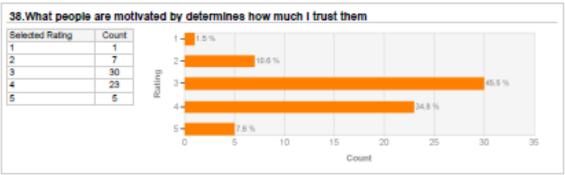


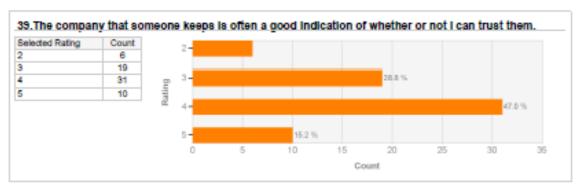


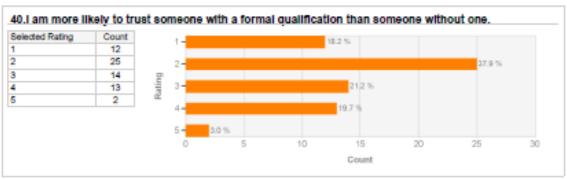












# Thank you



# **APPENDIX 3: RESPONDENTS CULTURAL DIMENSION SCORES**

Automatic respondent ID	Individualism Index	Masculinity Index	Power Distance Index	Uncertainty Avoidance Index	Long Term Orientation	Calculative Score	Predictive Score	Intentionality Score	Capability Score	Transference Score
2502	-43.45	9.66	-16.21	10.86	-121.98	3.00	3.50	3.50	3.63	3.00
2506	26.55	9.66	-61.21	50.86	88.02	2.75	3.00	3.00	3.75	3.50
2514	-8.45	-60.34	93.79	-4.14	63.02	3.38	3.75	3.50	3.63	3.63
2515	-8.45	9.66	33.79	100.86	-96.98	2.63	3.88	3.88	3.00	3.63
2517	26.55	-25.34	-16.21	-54.14	23.02	4.00	4.63	4.00	3.50	3.38
2519	96.55	-25.34	8.79	25.86	48.02	3.50	3.75	3.50	3.38	3.00
2520	-43.45	-25.34	-16.21	-54.14	103.02	4.13	3.75	3.38	3.38	4.00
2521	-8.45	44.66	33.79	-29.14	23.02	3.38	3.63	3.38	3.50	3.25
2523	-43.45	-25.34	48.79	60.86	48.02	3.75	4.25	4.00	4.13	3.75
2525	-8.45	79.66	33.79	5.86	-56.98	2.25	3.00	2.63	2.88	3.00
2527	26.55	-25.34	8.79	-29.14	-121.98	3.75	3.50	3.75	3.63	3.38
2530	26.55	9.66	-16.21	10.86	-41.98	3.38	3.38	3.63	3.50	2.88
2532	-43.45	-60.34	-26.21	-4.14	-41.98	3.63	3.75	4.38	4.00	3.75
2539	26.55	114.66	58.79	50.86	-16.98	3.13	3.63	3.50	3.00	3.13
2542	26.55	44.66	-26.21	50.86	33.02	3.63	4.25	2.75	2.88	3.00
2545	-43.45	44.66	-16.21	-4.14	-81.98	3.75	4.13	3.75	3.88	3.50
2546	-43.45	219.66	-26.21	-109.14	-6.98	2.50	4.00	2.88	3.13	3.38
2547	-8.45	44.66	-51.21	-224.14	-186.98	2.75	3.00	3.50	3.38	3.38
2548	26.55	-25.34	-16.21	10.86	-96.98	3.50	4.38	3.75	3.75	3.25
2549	-43.45	-25.34	-41.21	20.86	128.02	3.63	3.88	4.13	2.75	3.00
2553	26.55	-25.34	93.79	10.86	-16.98	3.25	3.38	3.75	3.38	3.25
2554	-43.45	44.66	-11.21	-54.14	-16.98	2.38	2.88	2.88	2.88	2.75
2555	26.55	-60.34	-1.21	75.86	23.02	3.25	3.38	3.88	3.25	3.63
2556	61.55	9.66	23.79	-39.14	-41.98	2.88	3.50	3.75	3.25	3.50
2557	96.55	44.66	93.79	25.86	63.02	4.13	4.13	3.75	3.50	3.38
2560	61.55	44.66	-26.21	-14.14	63.02	3.38	3.88	3.50	4.00	3.75
2563	-43.45	44.66	-1.21	-119.14	-1.98	3.38	4.25	3.50	4.00	3.75
2564	26.55	-60.34	8.79	0.86	-16.98	3.50	3.63	3.88	3.63	3.25
2565	-8.45	-60.34	-51.21	10.86	78.02	3.63	3.88	4.00	4.00	3.75
2567	-8.45	44.66	-41.21	20.86	88.02	3.13	3.38	3.25	3.38	3.00
2568	26.55	9.66	33.79	70.86	13.02	2.38	3.63	3.63	2.25	2.50
2570	26.55	-95.34	-16.21	-174.14	23.02	4.00	4.50	4.00	5.00	5.00
2572	26.55	-25.34	33.79	-4.14	-1.98	3.88	4.38	4.50	4.63	4.00



Automatic respondent ID	Individualism Index	Masculinity Index	Power Distance Index	Uncertainty Avoidance Index	Long Term Orientation	Calculative Score	Predictive Score	Intentionality Score	Capability Score	Transference Score
2644	-183.45	44.66	78.79	50.86	-6.98	2.75	3.88	4.63	3.50	3.63
2645	-8.45	-25.34	-26.21	-29.14	-41.98	3.63	4.00	3.38	3.75	3.88
2646	26.55	-60.34	-11.21	60.86	38.02	3.13	3.13	4.13	3.63	3.38
2647	26.55	79.66	-51.21	25.86	33.02	3.38	4.00	2.75	3.00	2.88
2649	61.55	9.66	-16.21	35.86	-41.98	2.63	2.88	3.00	2.75	2.63
2651	26.55	44.66	-66.21	-169.14	-71.98	3.38	4.50	3.88	4.00	3.38
2652	61.55	-25.34	-36.21	35.86	138.02	2.25	3.13	3.50	3.00	3.25
2653	61.55	44.66	-1.21	50.86	23.02	4.25	4.13	4.25	3.75	3.63
2654	-148.45	-60.34	-51.21	-54.14	88.02	3.25	3.63	3.75	3.50	3.13
2655	-43.45	-25.34	8.79	-14.14	23.02	3.13	3.63	3.63	3.38	3.63
2656	-8.45	9.66	33.79	25.86	73.02	3.50	3.75	4.13	4.13	4.13
2657	26.55	-25.34	8.79	-29.14	-66.98	2.75	4.13	3.00	3.13	2.63
2660	26.55	44.66	-51.21	10.86	-66.98	3.75	3.50	4.25	3.88	3.88
2662	-43.45	-60.34	-1.21	60.86	-66.98	2.88	3.88	3.63	3.13	3.00
2664	-8.45	9.66	8.79	-29.14	8.02	3.25	2.88	3.50	3.38	3.00
2666	-43.45	-25.34	58.79	-29.14	8.02	3.50	3.63	4.13	3.63	3.63
2669	-8.45	-25.34	8.79	125.86	-66.98	3.13	3.75	3.88	3.38	3.63
2670	-8.45	-95.34	-26.21	-44.14	48.02	3.25	4.25	3.63	3.38	3.00
2671	26.55	9.66	33.79	115.86	38.02	4.00	4.13	3.75	4.50	4.13
2672	26.55	-25.34	68.79	-44.14	63.02	3.25	3.50	2.88	3.50	3.00
2674	-8.45	9.66	-51.21	75.86	-131.98	2.88	3.38	3.50	3.75	3.25
2675	-43.45	44.66	-41.21	60.86	-1.98	3.38	4.38	3.88	3.63	3.63
2678	26.55	-60.34	-26.21	-54.14	38.02	3.38	3.75	3.38	3.88	3.88
2680	-8.45	-25.34	33.79	35.86	-41.98	3.63	3.25	3.88	3.75	3.75
2682	-43.45	-60.34	-16.21	25.86	48.02	3.50	3.75	3.00	4.25	3.25
2684	96.55	9.66	8.79	-39.14	63.02	3.75	4.25	3.25	3.63	4.25
2685	-78.45	-60.34	43.79	-29.14	38.02	3.88	3.63	3.50	3.88	3.50
2686	26.55	9.66	-1.21	60.86	143.02	4.13	3.88	3.75	4.50	3.63
2687	-8.45	-60.34	-16.21	25.86	23.02	2.38	3.38	2.75	2.88	2.63
2688	-78.45	-95.34	-1.21	10.86	-26.98	2.88	3.50	3.38	3.88	3.38
2689	-8.45	9.66	-16.21	10.86	23.02	3.38	3.00	3.13	2.88	3.63
2690	26.55	44.66	-51.21	50.86	-66.98	4.00	4.00	4.00	4.13	4.00