“Discretionary Effort in Virtual Work Teams”

A Research Report

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Pragasen Roland Govender
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ABSTRACT

This study was undertaken to form a theoretical and practical framework for analysing the concept of discretionary effort within virtual networks. The study was based on an individual’s experience within her/his virtual team, i.e., the group of time, organizationally and/or geographically dispersed workers who communicate via information and telecommunication technologies to accomplish organisational goals. This research process was an investigation of expectancy in the virtual workplace. Expectancy refers to an individual’s belief about whether her/his goals are achievable on a professional level, in terms of effort and productivity. The researcher attempted to discover if virtual teams experience these expectancies to the extent that it motivates them to produce more discretionary effort, i.e., more effort than is required by the parameters of their job descriptions.

Individuals working in virtual teams enter these networks, either willingly or unwillingly, with certain expectations. Employee motivation and the resulting workplace productivity is determined by the associations that people make towards their own abilities to perform within the virtual environment and the effect this ability has on their professional outcomes. The structured interview questions in this research report examined the virtual teams under investigation to determine if the key drivers of engagement were present in those teams.

The results of the research showed that discretionary effort is dependent on factors such as self-esteem, communication, reciprocation, recognition and skill level. These factors help define an individual’s sense of worth and position within the virtual network and this affects the amount of discretionary effort that the individual is willing to give in the professional environment.
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Section 1: Research Report Title

1.1. Research Title: “Discretionary Effort in Virtual Work Teams.”

The researcher attempted to determine if virtual teamwork provides the necessary dimensions required to produce discretionary effort in work teams.

1.2. Discretionary Effort

“We define discretionary effort (DE) as an individual’s free choice, in which intrinsic motivation is operationalised, and which emanates from the individual’s desire to engage in, or to bring to bear his/her already full engagement to, an activity or activities because s/he enjoys, is interested in, and/or is committed to, the activity” (April, Katoma & Peters, 2009, p. 2).

1.3. Virtual Teams

“Virtual teams or networks can be described as those that work on projects with interdependent tasks and common objectives. Their interaction wholly or solely takes place through the use of some kind of technology; be it computer, telephone, video, etc. In this context, virtual network leadership in turn can be defined as the set of competences, approaches and outlook needed to lead such teams effectively, in a way that allows them to develop, learn and operate to their best ability” (April, Katoma & Peters, 2009, p. 2).
Section 2: Introduction

2.1. Research Area and Problem

2.1.1. Background to the Research

As we move further into the 21st century, companies are finding virtual work practices more compelling for various reasons. Townsend et al. (1998, p. 17) state that “Virtual teams, which are linked primarily through advanced computer and telecommunications technologies, provide a potent response to the challenges associated with today's downsized and lean organizations, and to the resulting geographical dispersion of essential employees. Virtual teams also address new workforce demographics, where the best employees may be located anywhere in the world, and where workers demand increasing technological sophistication and personal flexibility.”

However, the success of virtual teams hinges on the efficacy and the resultant productivity of one of the most crucial pieces of virtual teamwork, viz. the people involved in such work.

This study developed out of the researcher’s initial desire to study virtual team practices and to determine if strong relationships existed between people that performed their work with great geographical distances between them. The researcher was also interested in determining the levels of motivation and job satisfaction that existed in members of virtual teams and whether the strength of these levels was affected by the fact that these team members were not constantly working in close proximity.

2.1.2. Purpose of the Study

Thompson (2006) defines research as the systematic study of materials and sources, done for the purpose of establishing facts and reaching new conclusions. Leedy & Ormrod (2010, p. 5) define formal research as that in which “we internationally set out to enhance our understanding of a phenomenon and expect to communicate what we discover to the larger scientific community.” The research process involves many stages, including a literature review, collection and analysis of data, research conclusions and a direction for future research.
The initial purpose of this study was to examine the drivers of employee engagement in the IT field. The exploratory nature of the study (see Section 5.1.4.) was fitting in terms of the purpose of this study. In exploratory research, the focus of the study is initially broad and becomes progressively narrower as the research progresses (Saunders et al., 2009). The researcher’s aim was to narrow down the abundant theory on motivation to a manageable number of factors that organisations need to focus on to produce or enhance discretionary effort in virtual work teams.

The researcher then attempted to measure whether the drivers of motivation, as presented in the literature review, were present in the virtual teams that were studied through the processes of data collection and analysis. Committed, or engaged, employees perform at a higher level (Robinson et al., 2004). The researcher then attempted to determine if there were any factors that were inhibiting virtual teams from getting more commitment out of their constituents.

This study will therefore fill a demanded gap in the field of research on discretionary effort and virtual teams by providing theory and findings that will allow organizations to design better virtual team configurations to more effectively cater for the individual personal expectancies of members within those teams to be able to get more motivation and, resultanty, more discretionary effort from those individuals.

After the data analysis phase, the researcher attempted to add insight to the existing concept of Discretionary Effort by creating a model that could be used by organisational leaders to put into practice when addressing the issue of personal expectancy and, consequently, productivity of virtual team members, with regards to motivation.

2.1.3. Statement of the Problem

There is limited understanding of an important element of virtual work—the individuals” (Wang, 2011, p. 299). Research done by Mark (2001), has uncovered various challenges brought about by virtual teamwork. Some researchers have looked at the internal network structure of virtual organisations (Ahuja, 2003), while others have focused their work on interpersonal factors, such as trust (Jarvenpaa, 1999) and cohesiveness and conflict (Kankanhalli, 2006-7) among virtual team members. Individual characteristics and interpersonal dimensions play a crucial role in determining the overall performance of a virtual team. “The novelty of virtual work induces gaps between individuals’ existing
cognitive structures and the ones needed to perform work, which makes individuals and their limited capabilities a potential bottleneck in reaping benefits" (Wang, 2011, p. 300). In order for virtual teamwork to be successful, there needs to be a deeper understanding of the individual characteristics of virtual team members, specifically those concerning their ability to adapt to this virtual way of working. Studying the link between interpersonal interactions and virtual team effectiveness may help to enhance the effectiveness of virtual collaborations in business organizations.

Many organisations that engage in virtual teamwork have very little idea of how best to engage their employees in a way that motivates them enough to produce effort that goes beyond the standard requirements of their jobs (Wang, 2011). This research report has attempted to inform such organisations on the factors that are seen to promote better virtual performance by studying the behavioural parameters necessary to generate motivation in workplace environments. The researcher has attempted to measure whether these motivating factors were present within the virtual teams that were studied. The significance of this research is that it has linked the interpersonal factors of business productivity and virtual teamwork (Bandura, 1986; Townsend, 1998; Kraiger, 1993; Spencer, 1993; Staples, 1999) in an attempt to instruct organisations on the effective methods of employee management that will help to increase the occurrence of business practices that strengthen discretionary effort in virtual work teams.

### 2.1.4. Importance of the research

The primary limitation in the existing academic literature is the narrow understanding of an important element of virtual work, i.e., the individuals. The researcher’s review of the literature has uncovered the finding that the composition of individual knowledge, skills, and abilities required to work virtually would benefit from further research (Wang, 2011, p. 300). In the present day global economy, high technology firms must be able to adapt and progress in an environment that is growing at a supersonic pace (Mishra, Deshmukh & Vrat, 2002). The organisation of the future will have to develop the skills and abilities to be able to transform itself into a virtual workplace (Arnison & Miller, 2002). Virtual teams, if not implemented effectively, can impose limitations on work productivity. For example, barriers in information flow and knowledge transfer can limit the successful functioning of virtual teams (Miles & Snow, 1986; Cohen & Bailey, 1997; Suchan & Hayzak, 2001; Arnison &
Miller, 2002). Other researchers also suggest that there is a considerable loss in innovation potential among virtual teams due to the considerable geographical, relational and cultural distance between the team members (Lojeski et al., 2006-7), which leads to a decrease in productivity.

The significance of this research study is that it has added to the existing theory devoted to understanding the individuals within virtual teams, with the aim of further understanding the elements that motivate these virtual workers to perform their work with more commitment. This understanding can be used in the application of designing and configuring virtual team environments to produce environmental factors that are conducive to enhancing the job satisfaction of virtual team members in the hope of motivating them to the point that they provide more discretionary effort in the workplace.

2.2. The Research Questions and the Scope of the Research

Saunders, Lewis & Thornhill (2003, p. 23) state that the extent to which the researcher is able to draw clear conclusions from the study is dependent largely on “…the clarity with which you have posed your initial research questions.” “The statement of the problem must first be expressed with the utmost precision; it should then be divided into more manageable sub-problems” (Leedy & Ormrod, 2010, p. 43). The researcher established a main research question which encompassed the entire objective of this research study. In accordance with theory by Leedy & Ormrod (2010), the researcher then broke down the research problem into sub-problems to allow the researcher to make the research process more manageable.

Leedy & Ormrod (2010, p. 51) state that the sub-problems should have the following characteristics:

- Each sub-problem should be a completely researchable unit.
- Each sub-problem must be clearly tied to the interpretation of the data.
- The sub-problems must add up to the totality of the problem.
- Sub-problems should be kept small in number.
2.2.1. The Research Question and Sub-Questions

Main research question: Does discretionary effort exist in virtual teams?

From the review of the literature, the researcher developed the following sub-questions that have been used to answer the main research question:

1. What are the expectancies of individuals in the workplace? The researcher chose this sub-question because a study of expectancy formed the basis of studies on motivation done by Vroom (1964), April & Smit (2010), Pinder (1984), Maslow (1943) and Herzberg (1974). These studies were used to study discretionary effort by the researcher.

2. What are the factors that motivate individuals to provide more discretionary effort in work projects? Vroom (1964), Maslow (1943) and Herzberg (1974) developed frameworks to determine and organise factors of motivation to ascertain which factors were most likely to influence motivation, and to what extent their influence determined said motivation. The researcher decided to research this sub-question because of the importance of motivating factors in creating discretionary effort.

3. Do the motivating factors of discretionary effort exist when working in virtual teams? Powell, Piccoli & Ives’ (2004) model of virtual teamwork outlines factors that must be present in order for motivation to exist in virtual networks. The researcher used this model to determine if Powell, Piccoli & Ives’ (2004) factors existed in the virtual teams studied for this research report to determine the existence of motivation and, consequently, discretionary effort in these teams.

4. If the motivating factors of discretionary effort exist in virtual teams, do they meet the expectancies of employees in these teams? If the motivating factors described by Powell, Piccoli & Ives (2004) existed in the virtual teams studied, the researcher attempted to draw on the theory of motivation (Vroom, 1964; Maslow, 1943; Herzberg, 1974; April & Smit, 2010) to see if elements of motivation met the expectancies of members of the virtual teams that were studied.

5. What factors must be introduced by business organizations to meet the expectancies of individuals working in virtual teams? The researcher attempted to use the data analysis in this research process to determine the factors of motivation that were most present, and those that were absent, in the virtual teams studied, to determine what
behaviour should be reinforced and what elements needed to be introduced into the virtual teams studied to strengthen discretionary effort.

2.2.2. The Scope of the Research

The scope of this research is limited mostly to the South African IT context, although it is informed by a substantial amount of international literature. The majority of the data for this study was obtained from South Africans working in a single IT organisation. This is in accordance with the single case method of research design (Saunders et al., 2009). Although the interviewed individuals are currently working, or have worked, with teams in international organizations, the researcher did not directly obtain information from international respondents with regard to their motivation levels within the virtual team environment. This indicates that any conclusions drawn may not be directly transferable outside of South Africa or the IT industry. The small proposed sample size of twenty respondents will also limit the strength of the conclusions drawn (Leedy & Ormrod, 2010), and thus, the study will likely need to be replicated with larger sample sizes in other countries and organizations to establish greater generalizability of the results.

Section 3: Research Assumptions and Ethics

3.1. Research Assumptions

The researcher based this investigation on the assumption that discretionary effort is dependent upon the basic motivation factors of relationship-building, cohesion and trust (Powell, Piccoli & Ives, 2004), personal factors such as esteem and self-concept (Vroom, 1964), and environmental factors such as care and understanding (Herzberg, 1974).

The researcher did not investigate the impact of financial compensation, cultural background, lineage, position in society, community and religious affiliation, political affiliation, family composition, relationship status and biological factors such as age or gender. By not including these factors in the research work, the study may have been impacted negatively if one or more of these factors play a significant role in the determination of discretionary effort. The researcher decided not to include the abovementioned factors in the study to limit
the scope of the research to make the study more manageable, given the proposed timeframe of the research work.

The other assumptions of the researcher were:

- All respondents provided honest, unbiased responses.
- The researcher assumed that the interview process (Saunders et al., 2009) that was selected and the inductive coding process chosen for this study was sufficient to achieve the information required to produce conclusions that would allow the researcher to answer the research question and sub-questions (Saunders, Lewis & Thornhill, 2003, p. 23).
- The respondents have worked in an exclusively virtual environment.
- The motivating factors that brought about discretionary effort in co-located teams also brought about the same levels of effort in virtual teams (Teas, 1981).
- If the factors that brought about motivation were present in virtual teams, the level of productivity of these teams would be higher than those teams that did not experience these motivational factors.
- Successful practices that brought about discretionary effort in the teams studied would be easily transferable to other teams working for similar organisations and within similar environments.
- All respondents that experienced the factors of work motivation had contributed successfully to virtual teamwork.
- The researcher selected a sample size of twenty (20) respondents for this study. The researcher chose not to interview more people than twenty to make the study manageable within the proposed time frame of the research (Thornley & Adams, 1998), and to give the researcher enough time to do follow-up interviews if needed (Lenth, 2001). The researcher assumed that this sample size would be adequate for a study of this limited scope.

According to Thomas (2003, p. 2-3), assumptions related to data analysis are:

- Data analysis is determined by both the research objectives (deductive) and multiple readings and interpretations of the raw data (inductive). Thus the findings are derived
from both the research objectives outlined by the researcher(s) and findings arising directly from the analysis of the raw data.

- The primary mode of analysis is the development of categories from the raw data into a model or framework that captures key themes and processes judged to be important by the researcher.
- The research findings result from multiple interpretations made from the raw data by the researchers who code the data. Inevitably, the findings are shaped by the assumptions and experiences of the researchers conducting the research and carrying out the data analyses. In order for the findings to be usable, the researcher (data analyst) must make decisions about what is more important and less important in the data.
- Different researchers are likely to produce findings which are not identical and which have non-overlapping components.
- The trustworthiness of findings can be assessed by a range of techniques such as (a) independent replication of the research, (b) comparison with findings from previous research, (c) triangulation within a project, (d) feedback from participants in the research, and (e) feedback from users of the research findings.

3.2. Ethical Considerations

The researcher believes that this study raised no ethical concerns. The researcher believes that three areas of ethical transgression could have occurred while conducting this study. These areas and the manner in which they have been mitigated are presented below:

1. Informed Consent: Only participants that wilfully agreed to participate in the study were interviewed. Willing respondents filled in a release form (Leedy & Ormrod, 2010), detailing the purpose of the study and how the results of the study would be used. Respondents indicated on the release form (see Appendix 1) whether or not they wanted their responses to be used in the study.

2. Invasion of privacy: All participants in the study were given full right to privacy. Participants were given the option of skipping questions that they did not want to answer. Respondents were also given the opportunity of withdrawing from the study (Martin, 1999), after the completion of the interview. All respondents were
guaranteed total anonymity and interview transcripts were stored in a secure database that was accessible only by the researcher.

3. Deception: The consent form signed by all participants clearly states the purpose of the study and this ensured that all participants were made fully aware of the application of the study in the research process. All of the aforementioned practices were used to ensure the elimination of suspicion from any of the participants (Epley & Huff, 1998).

Section 4: Literature Review

The researcher reviewed the existing literature on discretionary effort and virtual teamwork to determine what factors were responsible for motivating people to provide more discretionary effort.

4.1. Discretionary Effort

The researcher based this investigation of discretionary effort on the April-Smit Discretionary Effort Model in Table 1
Table 1: The April-Smit Discretionary Effort Model


Discretionary Effort (DE) = (0.1*I) x (0.2*O) x V x (0.1*A)

where:

I = Importance of the Expectancy Construct to the Individual
O = Measure of Desired Outcome Materialising in Workplace
   = Effort Expectancy Construct (EE) + Performance Expectancy Construct (PE)
V = Valence
   = Workplace Orientation for Desired Outcome / Emotional Orientation for Desired Outcome at Workplace
   = (Importance Value of the Expectancy Construct to the Workplace (W) + Achievement of Workplace Goals (WG)) / Emotional Orientation for Desired Outcome at the Workplace (EO)
A = Affirmation of Self through Expectancy (Self-Esteem)
   = Positive Comparison of Expectancy with Peers Meaningfully Evaluated by Workplace (PC) + Self is Perceived to have Capacity for Efficacious Action as evaluated by Workplace (EA)

The April-Smit model illustrates that the key drivers of discretionary effort are:

- Importance of Expectancy (I),
- Valence (V),
- Self-Affirmation (A).

A primary focus of this report was the exploration of how these variables related to and influenced one another and how this dynamic either reinforced or weakened discretionary effort.

The researcher paid special attention to the self-affirmation (A) parameter as motivation is based largely on how people see themselves, as individuals, and as part of a group and how they perceive their importance in the group dynamic. Different constituents of groups have
different expectations about what they are required, and what they are able, to do. Individual contribution, and therefore workplace performance, is linked to associations people make to expected outcomes and their contributions to those outcomes. Self-affirmation grows as the individual’s expectations are met and this motivates her/him to offer more effort towards work projects.

4.1.1. Researching the Individual Drivers of the April-Smit Discretionary Effort Model

The researcher used Vroom’s (1964) study on expectancy and valence to form the basis of the investigation of the drivers of personal motivation.

4.1.1.1. Expectancy

According to Vroom (1964), expectancy forms the basis of most studies dealing with the area of work motivation.

Van Eerde & Thierry (1996, p. 1) state that expectancy theory relates to training motivation, turnover, productivity loss in the performance of individuals working in groups, goal commitment, and goal level. However, these authors fail to consider the fact that expectancy is also driven by emotional attachment to success and achievement. To address this shortcoming, Lawler (1968) proposed a new model of expectancy. This model is based around four aspects that affect human motivation and preference. These aspects are:

- People consider the potential outcomes that are available to them and choose the one/s that they have a preference for.
- People have expectations about the likelihood that an effort on their part will eventually lead to the intended or expected outcome.
- People have expectancies (instrumentalities) about the probability that certain outcomes will follow their behaviour.
- In any situation, the action/s individuals choose to take are determined by the expectancies and the preferences that they have at the time.
“Vroom (1964) defines expectancy as a subjective probability of an action or effort \((e)\) leading to an outcome or performance \((p)\) expressed as \((e) \rightarrow (p)\). In practice, expectancy has also been measured as the perceived relation or correlation between an action and an outcome” (Van Eerde & Thierry, 1996, p. 2). Vroom’s (1964) theory assumes that people weigh the choices of activities that they have in life and choose those that suit them best among the alternatives based on psychological events that are associated with the chosen behaviour. This is affirmed by April & Katoma (2008, p. 12), who state “In other words, a person’s work behaviour results from conscious choices from a range of alternatives and these choices (behaviours) are related to their psychological processes, particularly perception and the formation of beliefs and attitudes.”

Vroom’s (1964) motivational theory can be summarised by the following equation:

\[
\text{Motivation} = \text{Expectancy (E)} \times \text{Instrumentality (I)} \times \text{Valence (V)}.
\]

With his expectancy model, Vroom (1964) makes the assumption that employees bring different expectations and levels of confidence about their inherent capabilities when approaching work situations. The Instrumentality (I) component of the motivational theory refers to the perception of these employees that there will actually be an outcome associated with their effort. Vroom’s (1964) expectancy theory model is summarized in Figure 1.
Criticism of the Vroom (1964) Valence, Instrumentality and Expectancy (VIE) model comes from Pinder (1984, p. 154) who states that the VIE components of motivation and behaviour are not sufficient enough to explain why individuals contribute the amount of discretionary effort that they do. Pinder (1984) states that there are other factors of employee motivation, such as the individual effort of the employee, the amount of support received from one’s supervisor/s and team member/s and the availability of the tools and materials required to complete the task and achieve the intended outcome. In this regard, Pinder (1984) is suggesting that Vroom’s (1964) model needs to take further factors of motivation into account in order for it to be an accurate measurement of discretionary effort and motivational work practices.
4.1.1.2. Valence

Vroom (1964) defines valence as “all possible affective orientations toward outcomes.” “It is interpreted as the importance, attractiveness, desirability, or anticipated satisfaction with outcomes” (Van Eerde & Thierry, 1996, p. 2). In the field of psychology, valence is closely linked with the emotional tethers of engagement and outcome. Negative emotions, such as anger and fear, pull individuals away from developing deep experiences in work engagements, leading to a reduction in discretionary effort.

Graen (1969, p. 3) suggests, however, that “the concept of valence contains too much "surplus meaning" to be useful, because it seems inexorably embedded in the ahistorical field theory approach.” Graen (1969) proposes an extension to the Vroom (1964) model. He employs the use of role concepts to define the difference between first-level and second-level outcome, as opposed to the general outcome postulated by Vroom (1964), and to specify more fully the correlation between various concepts, such as employee satisfaction and job accomplishments. Graen (1969) also makes the point that the ahistorical approach of the Vroom (1964) model is too constrained and suggests a more historical approach to study the effects of motivation to give the model a broader dimension. “If instrumentality theory is to possess practical utility, it must be known to what extent perceived instrumentality is influenced by actual work experience as opposed to cognitive manipulations” (Graen, 1969, p. 4).

4.1.1.3. Instrumentality

According to Vroom (1964), instrumentality is the perception of individuals that their efforts in completing a particular task will lead to a specific outcome. This perception is what drives people to attempt work projects. “Instrumentality and specificity are essential quality aspects of implementation intentions” (van Oschac, Lechnerbe, Reubsaeetae & De Vriesac, 2010, p. 3).

Work done by Gollwitzer & Sheeran (2006) reveals that implementation intentions that are more specific are far more likely to lead to greater performance and a higher level of discretionary effort than plans that are relatively broad and non-specific. However, van Oschac et al. (2006, p. 2), caution that “Over-specification of the goal action may lead to difficulties when one or more components of the intended action are not present or cannot be
performed. It may be that the more pre-conditions an action requires, the more difficulty people experience complying with these conditions and the less likely it will be that the action will be performed.”

4.1.1.4. Self-Affirmation

Work output increases when individuals experience a development in psychological states that leads to the increase in high internal work motivation, high general job satisfaction and high personal growth satisfaction. Figure 2 summarizes these developmental states and how they relate to outcomes.

Figure 2: The effect of psychological states on work motivation

Source: The job characteristics of industrial salespersons: Relationship to motivation and satisfaction (Becherer, Morgan & Richard, 1982, p. 2).
Figure 2 characterises one’s need to develop oneself in order to survive within competitive environments. Self-affirmation theory (Steele, 1988) explains how people attempt to reduce the impact of a threat regarding their self-concept by focusing on and affirming their competence in some other area. The psychological states depicted in Figure 2 are considered the causal core of the model. The model postulates that “an individual experiences positive affect to the extent that [she/he learns (knowledge of results)] that [she/he personally (experienced responsibility)] has performed well on a task that [she/he cares about (experienced meaningfulness)]” (Hackman & Oldham 1974, p. 8).

The researcher drew on the work of Maslow (1943) to further investigate behaviour as a function of the need to succeed. Maslow was one of the initial content theorists that suggested that the behaviour of an individual is determined by her/his strongest need.

Maslow (1943) demonstrates human needs in a hierarchical level. These needs are detailed in Figure 3.

Figure 3: Maslow’s (1943) hierarchy of needs.
When Maslow proposed his hierarchy of needs theory, the concept of self-actualisation was seen as the final need woman/man could have, after satisfying the basic and ego needs. The quest to find one’s “true calling” or aspire to greatness is a tendency that humans have and relates to humankind’s concept of the self.

Maslow’s (1943) humanistic approach to the construct of the self seeks to understand the cognitive processes by which humans develop their personality. “As humans, we seek to realise our “ideal self” or to ensure our self and thus self-concept is positively regarded” (Rogers, 1961). Thus, there is an intrinsic need to affirm or validate ourselves.

A further study of Maslow’s (1943) theory revealed that motivation does not depend solely on satisfied needs. Maslow states that, as lower-level needs are satisfied, they cease to be as effective at driving behaviour as they were during the initial stages of motivation and they no longer drive behaviour. It is at this point that higher order needs take over as the motivating forces that drive behaviour. The level of challenge of an individual’s job will have a huge factor in determining the level of needs that must be satisfied in order to affect workplace motivation.

If a person is engaged in a vocation that is extremely challenging, the first three needs in the Maslow hierarchy, viz. physiological, safety and love and belonging needs are the most likely attainable. However, the challenging nature of the working environment inhibits most employees from realising the esteem and self-actualisation levels. In challenging environments, the need for love and belongingness creates an environment of fierce competition and intense rivalry among individuals, leading many employees to believe that this stage in the Maslow (1943) hierarchy can never be achieved because of the hostile dog-eat-dog atmosphere in which they work. This serves to demotivate many individuals, especially those working in highly corporate environments, leading to many employees leaving their organisations and even the industry they work in.

This research report also focused on finding the link between the need for self-affirmation and the notion that it is manifested through efforts to succeed in the workplace. The workplace becomes the natural arena for people to seek affirmation of themselves. The time spent in the workplace and the task-versus-reward oriented nature of working environments provides people with a suitable environment in which to attain successes and in so doing, affirm their sense of self. This process can be seen as the major contributor to what management theorists describe as discretionary effort. Adamson (1997) suggests that the need to attain self-actualisation in the workplace can be symbolically noted in the effort
required to successfully complete a task in the workplace and to be compared favourably to others.

Although Maslow’s (1943) theory is widely accepted, Wahba & Bridwelt (1973) claim that there is little research evidence to support it. They conducted a study using questionnaires built on three different scales, one of them being general work motivation rather than job-specific motivation, to test the validity and relevance of Maslow’s (1943) need classification scheme. The overall finding of the study was that there is no clear evidence that human needs are classified into five distinct categories and that these categories are structured hierarchically, as depicted by Maslow (1943). It was also not possible to conclude from these studies whether self-actualization is, in fact, a need “or simply a social desirability response resulting from certain cultural values” (Wahba & Bridwelt, 1973, p. 4).

Kroth (2007) asserts that Maslow’s (1943) theory has some relevance in motivational theory but that it does not cover all areas of behavioural constitution. Kroth (2007) goes on to suggest that each person is similar, having the same needs that Maslow and others describe, but that each person is also different and simply applying Maslow’s (1943) framework to every situation is not sufficient enough to understand what motivates and drives human behaviour. “While it is tempting to apply general motivational theory in the same way to every individual, in fact, theory application must involve customization to meet what is salient for each individual. The only way to know how to do that effectively is to determine what is important to each employee or student” (Kroth, 2007, p. 21).

### 4.1.2. Herzberg’s Motivator-Hygiene Theory

Another theory of motivation that the researcher used in this study is the Motivator-Hygiene theory developed by Herzberg in 1974. The central aspect of Herzberg’s (1974) theory is that the absence of certain factors causes dissatisfaction. These factors are known as hygiene, or maintenance factors and they include items such as salary, supervision, and working conditions. Other factors, when they are present, build job satisfaction and motivation. These are known as motivational aspects and they include factors such as achievement, recognition, growth, and the nature of the work itself. Herzberg advocated job enrichment to encourage motivation in individuals and he encouraged the building of motivational factors into working environments.
4.1.3. Motivational Factors That Lead to an Increase in Discretionary Effort

The following factors, when applied to business organisations, have been observed to lead to an increase in motivation:

- **Care:** "Caring is not only a feeling, it is behaviour. Organizational and supervisor caring results in Perceived Organizational Support (POS) and Organizational Citizenship Behaviors" (Kroth, 2007, p. 21). When employees are helped and given support and when their ideas and opinions are treated with importance, they are more likely to feel that the organization is treating them more fairly. The notion of fairness, as perceived by individuals within organizations is crucial to understanding how individuals perform and what they believe their expectancies are, based on the way they are treated or the way in which they perceive they are treated.

- **Understanding:** If leaders understand that every employee is the same, having the same basic needs and the same responses to rewards and punishments, but also that every employee is different with regard to personality, interests, hopes and fears, companies can go a long way towards motivating employees on an individual level. Motivation theory must be customizable to meet the salient needs of each individual to get the best out of each person in the workforce. Work tasks must be designed to bring intrinsic enjoyment to each individual and the working environment must be conducive to creating motivating work on an individual level.

- **Setting Motivating Goals:** Money is becoming less of a motivational factor as people begin to value more personal goals, such as greater work/life balance. “When people say that money motivates, what they really mean is that money controls. And when it does, people become alienated—they give up some of their authority—and they push themselves to do what they must do” (Deci & Flaste, 1995, p. 29). Crafting rewards around non-monetary objectives will go a long way towards motivating people to give more effort in work projects.

- **Supporting Goal Pursuits:** Once goals are set, the challenge for the organisation is to maintain constant motivation by providing emotional and motivational support, and giving constant feedback to employees.
4.2. Virtual Teamwork

The second part of this research study focused on virtual teams. The researcher was interested in the aspects that made virtual teams successful and how this related to the individuals that made up such teams. The research fieldwork was targeted towards individuals working in virtual teams and whether or not they felt that the nature of their interaction with other virtual teams provided the necessary motivation to increase their level of engagement, i.e., discretionary effort in work projects.

Virtual teams are "groups of geographically, organizationally and/or time dispersed workers brought together by information and telecommunication technologies to accomplish one or more organizational tasks" (Powell, Piccoli & Ives, 2004, p. 8). Figure 4 represents Powell, Piccoli & Ives’ (2004) model of virtual teamwork:

![Figure 4: Diagram of the focus of virtual team research.](source)


The researcher focused much of this report on the socio-emotional and task processes. These processes deal with the emotional issues involved in virtual teamwork and the diplomacy and
mitigation needed to achieve cohesion and, most importantly, trust, among team members. With reduced face-to-face contact, relationship building is difficult to achieve within virtual teams and, as such, individuals will find it very difficult to understand their roles and how their personalities fit into the greater team.

Table 2 shows the challenges associated with virtual teamwork as stated by Nunamaker, Reinig & Briggs (2009):

**Table 2: Challenges facing virtual teams**

- Loss of many non-verbal cues
- Reduced mechanisms for informal conversation
- Reduced opportunities to build friendships
- Time zone differences
- Complicated, unreliable technology
- Building consensus at a distance
- Establishing shared meaning at a distance
- Different work processes
- Different cultures


Building shared relationships is a key component of motivation and engagement. “One often cited shortcoming of virtual teams is that it is difficult to build meaningful relationships In face-to-face teams, team building often evolves naturally as people share meals together and discuss common interests in informal hallway meetings. However, leaders of virtual teams must design explicit activities to promote team building” (Nunamaker, Reinig & Briggs, 2009, p. 2).

Virtual team composition is also a subject matter that the researcher found to be very significant with regard to the overall effort level of individuals within virtual teams. “When putting individuals with varying levels of conscientiousness together, the highly
conscientious members who exert or plan to exert effort in the tasks may react negatively to less conscientious members who put in less effort and are less self-disciplined. Individuals in such teams will have different opinions on what they want to accomplish and how much effort each should put into the task” (Turel & Zhang, 2010, p. 1). Understanding the makeup of successful virtual teams is beneficial in producing more meaningful interactions among virtual team members to allow for the propagation of discretionary effort in work situations.

4.3. An Understanding of the Link Between Employee Expectancies and Workplace Motivation

In an attempt to understand the link between employee expectancies and workplace motivation, the researcher attempted, with the use of relevant theory, to determine the motivating factors that satisfy the expectancies of people in business and how these factors bring about discretionary effort. This was done in order to develop a set of themes that could be used in the qualitative data analysis process (see Section 5.9.1.). The researcher analysed seven of the ten expectancies developed by April, Katoma & Peters (2009). These expectancies are expanded on below.

4.3.1. Effort-Performance Expectancy

Network member (you) believes that desired levels of performance are possible, given the resources, competencies and skills s/he possesses.

Findings by Korman (1971), Lawler (1970) and Walker, Churchill, & Ford (1977), show that there is a positive relationship between people’s self-perceived abilities and their expectancies. In other words, people who perceive themselves as more capable, due to their abilities are more likely to believe that their efforts will translate into good performance. Teas (1981) also reports evidence supporting the relationship between effort and performance. From these findings, it can be deduced that the greater a person’s self-esteem, the greater their expectancies. Also, people place specific emphasis on their abilities as differentiators in the professional environment. These abilities create self-worth that is derived from being different, and better, than others, due to skill differences (Brewer &
Gardner, 1996). At this level people are motivated by personal values and pursuits, such as education, that maximize their own welfare and this is central to the value of individualism (Hofstede, 2001; Oyserman et al., 2002; Triandis, 2001). “In work contexts self-beneficial outcomes, such as pay and career development opportunities, are salient for employees with strong individual identities” (Kohli, 1985, p. 230).

4.3.2. Internal-Recognition Expectancy

Network member (you) believes that s/he will be recognised (with little or no financial rewards), both within the network and the greater organisation, for the contribution s/he has made.

Fulk & Wendler (1982) and Schriesheim, House & Kerr (1976) state that repeated criticisms and negative feedback from organisational leadership make employees doubt themselves and this negatively affects people’s abilities to perform. This criticism leads to low self-esteem in employees. In addition, Fulk & Wendler (1982) also state that criticism causes employees to doubt whether good performance will be rewarded or not. Thus, criticism results in low instrumentalities and low job satisfaction. Leaders who administer rewards and recognition to employees for good performance cause subordinate performance to increase (Greene, 1976; Podsakoff, Tudor & Skov, 1982; Podsakoff et al., 1984; Sims, 1977). Sims & Szilagyi’s (1978) findings show that if employees receive consistent rewards and recognition when they display good performance, they are expected to have high performance-reward instrumentalities. “Further, making positive reinforcement contingent upon good performance is likely to clarify what constitutes good performance and what is expected of salespeople, that is, improve their role clarity. We therefore hypothesize that the greater the supervisory contingent approving behaviour, the greater the salespeople's instrumentalities, job satisfaction, and role clarity” (Kohli, 1985, p. 425).
4.3.3. Performance-Outcome Expectancy

Network member (you) believes that what s/he is doing will lead to certain outcomes.

Locke and Latham’s (2004) research on work motivation suggests that individual values e.g., work satisfaction and cognitive growth are a means to productive ends e.g., economic growth and job performance. Ciulla (2000, p. 510) posits that “The objective element of meaningful work is made up of the moral conditions of the job itself.” These conditions are honest communication, fair and respectful treatment, intellectual challenge, considerable independence to determine work methods, democratic participation in decision making and fair compensation (Arneson, 1987; Bowie, 1998; Ciulla, 2000; Schwartz, 1982). “Surely, meaningful work is an important work motivator. It is also obvious that productivity is an important motivation for work motivation theory” (Michaelson, 2005, p. 237). Hopcock (1935) defines meaningful work as an employee’s psychological, emotional and physical feelings. It also includes her/his natural reaction to her/his work environment. Robbins (1992) states that meaningful work comes from internal and external rewards, and overall job satisfaction.

4.3.4. Mutual-Reciprocity Expectancy

Network members returning directly, or indirectly, aid, resources and/or friendship offered by another network member.

Anderson & Chen (2002) state that satisfaction from relationships depends on the extent to which people define themselves in terms of connections with specific members of their social groups. Self-worth is based on reflected appraisals from significant others, such that self-esteem is enhanced by having high-quality relationships and this translates into higher work motivation (Kinch, 1963). “Sources of motivation at the relational level include serving the welfare of dyadic partners and fulfilling their role expectations and obligations. People with chronic relational identities are focused on relationship development and maintenance, which are accomplished by internalizing the values and goals of their dyad partners” (Johnson et al., 2010, p. 230)
4.3.5. Individual-Network Learning Expectancy

Network member believes that his or her own personal learning, knowledge and insights are of value, and can contribute, to the network’s learning.

Research suggests that workplace learning improves an employee’s skills and abilities and enhances her/his job satisfaction and resulting commitment to an organisation (Bartlett, 2001; Rowden, 2002; Rowden & Conine, 2005). Frese & Zapf (1994) and Taris & Kompier (2005) suggest that challenging work creates greater work satisfaction and that challenging work requires the integration of new skills and/or knowledge to perform correctly and this means that the employee will have to learn as s/he performs the work. “High demands will stimulate workers to set themselves difficult goals, whereas high levels of autonomy may provide opportunities to accomplish those goals” (Kompier et al., 2010, p. 364). Bartlett (2002) also suggests that there is a strong relationship between workplace learning and job satisfaction and organisational commitment. Research has shown that employees who have positive attitudes towards training effectiveness (Kontoghiorghes & Bryant, 2004) were found to be more committed to the their organisations (Igbaria & Greenhaus, 1992; Smeenk et al., 2006).

4.3.6. Interpersonal-Performance Expectancy

Network member (you) believes that s/he is seen to be assisting, and developing, others.

Organizational commitment has been widely recognized as a predictor of employee workplace performance and organizational success (Bateman & Strasser, 1984; Brooks, 2002; Samad, 2005). Workplace learning is dependent on environmental factors that facilitate such learning (Rowden, 2002). Lowry, Simon & Kimberly (2002) found that employees who received training opportunities from their organisations showed more job satisfaction than those who did not. Research suggests that learning and the resulting work motivation is most effective when organisations give employees the resources to learn and when they are allowed to direct their own learning. “The theoretical connection is based on the idea that learning is enhanced when employees are involved in organizing, planning
and/or checking the quality of their own work. This may be through teams that have their own responsibilities and are given the freedom to determine how work is organized or through individuals given the autonomy to organize their own work tasks, pace and standards. Either way, problems have to be resolved as and when they arise, and the solutions communicated to fellow colleagues.” (Felstead et al., 2010, p. 1670). Felstead et al. (2010) go on to state that this learning is enhanced when organisational support is greatest.

4.3.7. Leading-Visibility Expectancy

You are seen to be in step with new trends and the cutting-edge, and acknowledged as being knowledgeable and practicing at the forefront.

Factors that have been linked to individual’s innovation capacity are organisational culture (Scott & Bruce, 1994), relationships and social and group context (Munton & West, 1995) and differences in abilities (Bunce & West, 1995). According to Vroom (1964), people act on the expected consequences of their behaviour. Innovative behaviour acts as an important psychological motivator, because the possible outcomes of innovative behaviour brings benefits beyond a sense of intrinsic enjoyment (Janssen, 2003; Janssen et al., 2004). “Expected performance outcomes are positive when employees believe that their innovative behaviours will bring performance improvement or efficiency gains for their work roles or work units. What constitutes positive performance outcomes, therefore, is subjectively defined by each particular employee. Improved efficiency and job performance increase the competitiveness and success of an employee. Following the efficiency-oriented perspective in understanding innovation, we contend that employees are more likely to engage in innovative behaviour when they expect such behaviour to benefit their work.” (Feirong & Woodman, 2010, p. 325).
4.4. The Researcher’s Preliminary Discretionary Effort Model

4.4.1. Explanation of the Researcher’s Preliminary Discretionary Effort Model

The model shows discretionary effort at the centre, with all other factors around it influencing it in some way. The researcher developed the understanding, through the study of the literature, that the basic motivation factors of valence, instrumentality and expectancy are necessary to develop discretionary effort but that these factors rarely affect human behaviour unless they are strengthened by personal factors such as self-concept, self-efficacy, esteem, and physiological needs. Finally, for personal factors to develop, support from external sources is paramount. Only through contact with the environmental factors of care, understanding, being given motivating work, organisational support, availability of information and reward and recognition, can individuals have the confidence to develop autonomy through the development of personal factors.

Figure 5: The researcher’s preliminary discretionary effort model.
4.5. Conclusion to the Literature Review

By reviewing the literature, the researcher developed a clearer understanding of the research title. The study of work done by Vroom (1964) led to a better understanding of the expectancies that individuals have in the workplace (research question 1) and how fulfilment of these expectancies leads to work motivation through the perception of achieving outcomes (research question 2). By studying the work of Herzberg (1974) and Maslow (1943), the researcher developed a better understanding of the factors that satisfy the expectancies of individuals and how these factors motivate individuals to produce more discretionary effort in their work. With this understanding, the researcher became aware of what factors to look for in interview responses when searching for the presence, or absence, of motivation in virtual teams and this knowledge has been used in the rest of this research report to answer research questions 3, 4 and 5.

Using the theoretical knowledge of expectancies and motivation, the researcher created interview questions adapted from a questionnaire developed by April, Katoma & Peters (2009). The interview questions were specifically aimed at determining the presence of motivating factors in virtual teams. These questions were appropriate for this study because the researcher’s aim, as detailed by research questions 3, 4 and 5, was to ask respondents questions to determine if they experienced the factors of motivation, as outlined in the theory, and then to determine if their expectancies had been met by experiencing these motivating factors.

From the literature review, the researcher uncovered seven main themes from the seven expectancies that were researched (see Section 4.3.). These themes are outlined in Table 3.
Table 3: The seven main themes uncovered in the literature review

<table>
<thead>
<tr>
<th>Expectancy</th>
<th>Theme</th>
</tr>
</thead>
<tbody>
<tr>
<td>EFFORT-PERFORMANCE EXPECTANCY</td>
<td>Self-Esteem</td>
</tr>
<tr>
<td>INTERNAL-RECOGNITION EXPECTANCY</td>
<td>Recognition</td>
</tr>
<tr>
<td>PERFORMANCE-OUTCOME EXPECTANCY</td>
<td>Meaningful Work</td>
</tr>
<tr>
<td>MUTUAL-RECIPROCITY EXPECTANCY</td>
<td>Reciprocation</td>
</tr>
<tr>
<td>INDIVIDUAL-NETWORK LEARNING EXPECTANCY</td>
<td>Learning Organisation</td>
</tr>
<tr>
<td>INTERPERSONAL-PERFORMANCE EXPECTANCY</td>
<td>Availability of Developmental and Growth Opportunities (ADGO)</td>
</tr>
<tr>
<td>LEADING-VISIBILITY EXPECTANCY</td>
<td>Innovation</td>
</tr>
</tbody>
</table>

The seven themes on the right-hand column of Table 3 are the seven code families that the researcher used to code interview data.

Interview questions (see Appendix 2) were related to these themes and were used to determine if elements of these themes existed in the virtual teams that were studied. The researcher conducted this study to determine if these themes existed in the interviews that were conducted, to determine if the motivating factors that lead to discretionary work effort existed in virtual teams, since the researcher linked these seven themes to motivation, with the use of theory, in Section 4.3.
Section 5: Research Methodology

5.1. Research Strategy

5.1.1. The Mixed-Method Strategy

The researcher used a mixed-method research strategy with both quantitative and qualitative research methods. Characteristics of qualitative and quantitative research methods are listed in Table 4.

Table 4: Characteristics of qualitative and quantitative research methods

<table>
<thead>
<tr>
<th>Question</th>
<th>Quantitative</th>
<th>Qualitative</th>
</tr>
</thead>
<tbody>
<tr>
<td>What is the purpose of the research</td>
<td>To explain and predict</td>
<td>To describe and explain</td>
</tr>
<tr>
<td></td>
<td>To confirm and validate</td>
<td>To explore and interpret</td>
</tr>
<tr>
<td></td>
<td>To test theory</td>
<td>To build theory</td>
</tr>
<tr>
<td>What is the nature of the research</td>
<td>Focused</td>
<td>Holistic</td>
</tr>
<tr>
<td></td>
<td>Known variables</td>
<td>Unknown variables</td>
</tr>
<tr>
<td></td>
<td>Established guidelines</td>
<td>Flexible guidelines</td>
</tr>
<tr>
<td></td>
<td>Predetermined methods</td>
<td>Emergent methods</td>
</tr>
<tr>
<td></td>
<td>Somewhat context-free</td>
<td>Context-bound</td>
</tr>
<tr>
<td></td>
<td>Detached view</td>
<td>Personal view</td>
</tr>
<tr>
<td>What are the data like, and how are they</td>
<td>Numeric data</td>
<td>Textual and/or image-based data</td>
</tr>
<tr>
<td>collected</td>
<td>Representative, large sample</td>
<td>Informative, small sample</td>
</tr>
<tr>
<td></td>
<td>Standardised instruments</td>
<td>Loosely structured or non-standardised</td>
</tr>
<tr>
<td></td>
<td></td>
<td>observations and interviews</td>
</tr>
</tbody>
</table>
How are the data analysed to determine their meaning?

- Statistical analysis
- Stress on objectivity
- Deductive reasoning
- Numbers
- Statistics, aggregated data
- Formal voice, scientific style

How are the findings communicated?

- Search for themes and categories
- Acknowledgement that analysis is subjective and potentially biased
- Inductive reasoning
- Words
- Narrative, individual quotes
- Personal voice, literary style

Table 4: Characteristics of qualitative and quantitative research methods (continued)

Source: Practical research: Planning and design (Leedy, P.D., & Ormrod, J. E., 2010).

5.1.2. Definition of a mixed-method study

“A mixed methods approach is the general term for when both quantitative and qualitative data collection techniques and analysis procedures are used in a research design. Mixed methods research uses quantitative and qualitative data collection techniques and analysis procedures either at the same time (parallel) or one after the other (sequential) but does not combine them” (Saunders et al., 2009).

5.1.3. Benefits of a Mixed-Method Study

Tashakkori & Teddie (2003) state the following benefits of a mixed-method study:

- Multiple methods are useful because they allow you to better evaluate the extent to which your research findings are trustworthy and inferable.
- A mixed-method study can allow you to use different methods for different purposes in a study. For example, interviews can be used at an exploratory stage, to get a feel for key issues. Thereafter, a questionnaire can be used to collect

Adams & Schvaneveldt (1991) state that the great advantage of exploratory research is that it is flexible and adaptable to change. This allows researchers to change direction as a result of new insights and new data that become available. In exploratory research, the focus is initially broad and becomes progressively narrower as the research progresses (Saunders et al., 2009).

The researcher used the theory of Tashakkori & Teddie (2003), to conduct an exploratory study through the use of interviews (see Section 5.7.1.) and short questions (see Section 5.7.5.) to seek insights (Robson, 2002) into the practices of virtual teams to determine if the motivating factors of discretionary effort do exist in those teams.

The mixed-method study was suitable to this research report because it allowed the researcher to use triangulation to increase the reliability of the research results.

5.1.5. Triangulation

Triangulation is the combination of two or more data sources, investigators, methodological approaches, theoretical perspectives or analytical methods within the same study (Denzin, 1970). Triangulation allows researchers to design studies that have strong internal and external validity and reliability through a comprehensive multi-perspective view (Boyd, 2000).

The benefits of triangulation (Jick, 1979) include: increasing confidence in research data, creating innovative ways of understanding a phenomenon, revealing unique findings, challenging or integrating theories, and providing a clearer understanding of the problem.

To achieve triangulation, the researcher utilised a mixed-methods study. Qualitative data was obtained through structured interviews (see Appendix 2 for interview questions) administered to the research population. Quantitative data was then collected by asking the same population a set of questions designed to produce a positive or a negative summation of the descriptive, or explanatory, data to give validity to the analysis of the most important issues.
qualitative results (see Appendix 3 for quantitative analysis questions). In this way, the researcher was able to use numerical, graphical data to support and confirm the qualitative data. The mixed-methods study was used to obtain reliability of the results by combining the same observations in different analysis techniques (Patton, 2001).

5.1.6. Qualitative Analysis

The researcher used a qualitative approach to gather primary data.

One advantage of qualitative methods in exploratory research is that the use of open-ended questions and probing gives participants the opportunity to respond in their own words, rather than forcing them to choose from fixed responses, as quantitative methods do (Gummesson, 2000). Open-ended questions have the ability to evoke responses that are:

- meaningful and culturally salient to the participant,
- unanticipated by the researcher,
- rich and explanatory in nature.

5.1.7. Appropriateness of the Qualitative Research Method

Using a qualitative strategy was appropriate, given the use of a purposeful sampling method and a collection of open-ended data to answer the research questions (Creswell, 2003). Crabtree and Miller (1992) suggest that qualitative research is suitable for research purposes because it allows researchers to determine how a particular topic of interest is shared in the group or culture of interest. The researcher selected a qualitative analysis for this study because it was applicable in terms of sampling a collection of rich open-ended data about motivation and this allowed the researcher to get rich responses from IT professionals to determine how discussions of virtual teamwork were shared between groups of individuals in the organisation.

The advantages of qualitative research (Gummesson, 2000) are:

- It provides depth and detail and looks deeper than analysing ranks and counts by recording attitudes, feelings and behaviours.
• It creates openness by encouraging people to expand on their responses, which can open up new topic areas not initially considered.

• It simulates people's individual experiences, meaning that a detailed picture can be built up about why people act in certain ways, and their feelings about these actions.

• It attempts to avoid pre-judgements. If used alongside quantitative data collection, it can explain why a particular response was given.

The disadvantages of qualitative research (Gummesson, 2000) are:

• Usually fewer people are studied. Collection of qualitative data is generally more time consuming than quantitative data collection and therefore unless time, staff and budget allows, it is generally necessary to include a smaller sample size. The researcher has dealt with this issue by selecting a sample size of twenty respondents. This sample size is small enough to be able to interview within the imposed timeframe, yet sufficient enough to gain conclusive results in a study of limited scope.

• Data is less easy to generalise because fewer people are usually studied and thus it is not possible to generalise results from a sample to the rest of the population. Usually exact numbers are reported rather than percentages. The researcher has dealt with this limitation by using quantitative data to attach percentage values to the qualitative results and to achieve validation through triangulation.

• Data gathering is dependent on the skills of the researcher, particularly in the case of conducting interviews, focus groups and observation. The researcher has dealt with this limitation by using interview questions based on studies done by experienced researchers, thus leveraging off their experience.

5.1.8. Quantitative Analysis

The quantitative research method is based on a positivistic paradigm. Positivistic research suggests that “...the researcher in this tradition assumes the role of a subjective analyst” (Saunders, Lewis & Thornhill, 2003, p. 5). Bielefeld (2006) argues that the majority of management research is quantitative in nature. One of the primary reasons for choosing the
quantitative method was that, in a quantitative analysis, all of the research design is completed before the study begins, allowing for the variables to be objectively measured, thereby leading the researcher to obtain unbiased results (Leedy & Ormrod, 2010).

5.1.9. Limitations of Quantitative Research

Grossnickle & Raskin (2000) suggest that quantitative research is very abstract and can be difficult for decision makers to understand. Grossnickle & Raskin (2000) state that the most critical limitation of a quantitative study is that the results of an inadequately conducted study are often considered as the truth by individuals with limited statistical experience.

The abstract nature of quantitative results has been given some depth by the richer, deeper meanings provided by the qualitative analysis.

5.1.10. The Suitability of Quantitative Analysis for this Research Report

The researcher used quantitative data analysis to obtain a more objective view of the research results (Saunders, Lewis & Thornhill, 2003). This was done to offset the more subjective nature of the qualitative interview data. The interview responses provided many polarizing views of work experience in virtual teams. Using numerical analysis was the best way to determine the strength of the various motivating factors in the sample as well as to determine which factors influenced work motivation and which factors inhibited motivation.

5.2. The Research Design

5.2.1. The Single Case Study Method

The researcher used a single case study design for this research report. Robson (2002, p. 178) defines a case study as “… a strategy for doing research which involves an empirical investigation of a particular contemporary phenomenon within its real life context using multiple sources of evidence.” The case study approach is a suitable one as this study was an investigation of a contemporary phenomenon (virtual teamwork) within its real life context (an IT organisation), using multiple forms of evidence (qualitative interview data and quantitative numerical data). The choice of a single case, as opposed to multiple cases, was made because the researcher focused only on one context, i.e., a single IT organisation with
no delineations made between departments within the organisation, as opposed to a multiple case study, which involves various units of analyses within a single context (Yin, 2003).

5.3. Research Approach

5.3.1. The Deductive Approach

The researcher used a deductive approach to gather data and interpret the findings in this study. However, the process of qualitative analysis was inductive in nature (see Section 5.8.1.).

Deduction is a process of using research to test a body of theory and to develop a description of a phenomenon and to predict the occurrence of that phenomenon, thereby allowing it to be controlled and replicated (Collis & Hussey, 2003).

5.3.2. The Advantages of the Deductive Approach

The deductive approach has the following advantages (Saunders et al., 2009):

- The deductive approach allows one to study relationships between variables.
- Deductive approaches utilise structured methodologies to facilitate replication.
- Deduction allows for generalisation, meaning that it would be acceptable to infer characteristic traits about a population by studying a small sample of that population.

5.3.3. The Suitability of the Deductive Approach

The researcher chose the deductive approach to be able to test the body of theory on motivation in the workplace by interviewing employees working in virtual teams. The aim of the research was to discover if these employees experienced the factors that motivate individuals in work situations. The researcher compared these findings to the level of work motivation that employees experienced in their virtual teams to determine, a) whether the motivating factors outlined in the theory did actually lead to work motivation, and b) whether
there was a relationship between the theoretical factors of work motivation and actual work motivation.

The structured nature of the deductive process allowed the researcher to utilise structured interviews, thereby making the study replicable in the future. Deduction allows the findings to be generalizable, i.e., the researcher assumed that there was a great likelihood that all other virtual team members working in the researched IT environment, and similar environments, would experience the same factors of motivation as the twenty employees that were sampled.

5.4. Epistemology

“Epistemology concerns what constitutes acceptable knowledge in a field of study” (Saunders et al., 2009, p. 112). In terms of epistemology, there are two types of researchers, i.e., the ‘resources’ researcher and the ‘feelings’ researcher. The former is concerned with the analysis of ‘facts’, i.e., data that is far less open to bias and therefore more ‘objective’. The ‘feelings’ researcher is more concerned with the feelings and attitudes of people towards their surroundings.

The researcher took the viewpoint of the ‘feelings’ researcher in the sense that this research was based on the emotions and feelings of the individuals studied, to determine how their experiences in virtual teamwork affected their emotions to either motivate or demotivate them in work projects.

As the primary data used in this study is qualitative in nature, it was grounded in the epistemological approach of subjectivism (Howard, 1984). The reason for this is that the report was focused on respondents’ views on how they perceived their own sense of self and their own contribution within work teams and the subjectivist philosophy places emphasis on the way people “place many different interpretations on the situations in which they find themselves” (Saunders et al., 2009, p. 111). Saunders et al. (2009) go on to state that people also seek to make sense of their environment through their interpretation of events and the meaningful experiences that they draw from these events. The researcher’s study also includes the dimension of personal attachment that people have to their current situations and how these attachments affect their level of self-esteem and resultant motivation to give more discretionary effort in work situations. The research data was collected in a subjective manner through the use of a structured interview. The researcher’s view was that social
reality is not external from the organization and the individuals participating in the study. The researcher believes that the findings may inform the behaviour of individuals working in a similar environment as those that participated in the study. These findings could be extrapolated to other individuals that work in similar business environments.

An epistemological issue encountered in this research study was that the primary data analysis was susceptible to error due to bias as a result of the subjective nature of the ‘feelings’ research approach. The researcher made attempts to ensure data verification, specifically by using triangulation (see Section 5.1.5.) to try to correct for research bias.

Another issue was that participant responses could have been inaccurate due to the fact that respondents may have withheld facts or may not have been willing to divulge information honestly. The researcher dealt with this issue by making the interview questions as unobtrusive as possible and by guaranteeing total anonymity of the research respondents in the research analysis process.

5.5. Ontology

The subjectivist ontological orientation was applied in this research report, indicating that the social reality was internal to the organization and the individuals that participated in the study (Saunders et al., 2009). The research findings were socially constructed and subjective and they did vary for a small number of the research sample as a result of differing viewpoints and experiences of the individuals within the sample.

An ontological issue is that the findings may not be able to inform the ways in which humans interact beyond the actual individuals in the study as the findings may only be applicable to the IT industry, on which the researcher based much of this study. There is no way for the researcher to have dealt with this ontological issue without having interviewed subjects from other industries, but that would have been outside the scope of this research report.
5.6. Sampling

The researcher selected a sample size of twenty (20) respondents for this study. The researcher chose not to interview more than twenty people to make the study manageable within the proposed time frame of the research (Thornley & Adams, 1998), and to give the researcher enough time to do follow-up interviews if needed (Lenth, 2001).

The researcher limited this study to IT professionals working exclusively in virtual networks. The sample was diverse and included individuals of different sex, ethnicity, age and experience, although these elements were not considered influencers of the final outcomes of the report. The interviewed sample consisted mostly of individuals in a senior position within the organization studied.

5.6.1. Sampling Method

A fundamental principle of statistical theory states that a random sample of significant size will represent, within measurable limits, the population from which it was taken. The researcher sampled a subset of a larger represented population with the intention of being able to project the results of the research to professional networks. The researcher used purposive sampling (Saunders et al., 2009), one of the most common sampling strategies. Purposive sampling takes participants and groups them according to preselected criteria relevant to a particular research question, e.g., people in IT organisations who work in virtual teams, for the purpose of this research report. Most of the respondents were selected from the same IT organisation. The researcher approached only those employees who fit the criteria of people working within virtual teams for more than 5 years.

The researcher obtained data from a sample of twenty respondents. Out of this sample, 16 were from the same organisation. The researcher approached the employees with the greatest exposure to virtual teamwork to get the richest responses possible due to greater working experience in the virtual field. Members of the proposed sample were contacted by e-mail and asked if they wished to participate in the study. The response rate was 91%. The researcher believes that the number of interviews achieved was sufficient enough to produce conclusive results in a research report of this scale.
5.6.2. Characteristics of the Sample.

Table 5 shows the breakdown of the personal characteristics of the twenty respondents that were interviewed. It should be noted that all the respondents, with the exception of respondent 6, work in the IT industry. Respondent 6 works in the food services industry in the IT company that was researched.

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Table 6 shows the region/s that each respondent’s team has had remote working experience with.
Table 6: Regions covered by the virtual work experience

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5.7. Data Collection Methods

5.7.1. Qualitative Data Gathering Techniques

The researcher conducted structured individual interviews (see Appendix 2 for interview questions) to collect data for this research study. The purpose of the structured individual interviews was to produce data and insights about the experience of employees when working in virtual teams to determine if the drivers of motivation were present in those experiences. Potential respondents were approached, either personally or by e-mail, and informed of the purpose of the study and its relevance to their working environment/s. They were then asked if they wanted to participate in the study. Those that agreed to do so were asked to fill in a release form, indicating their willingness to participate in the study, and to state whether they would allow for their responses to be used for the purpose of data gathering. Interviews were conducted using three methods:

- In person. 85% of the interviews were conducted by personally questioning the individual respondents. Interviews lasted 30 minutes to an hour and were
recorded using a digital recording device. These recordings were later transcribed by the researcher for the purpose of data analysis.

- Telephonically. 10% of the interviews were conducted over the telephone. The researcher typed out the responses of the telephonic interviews as the respondents answered questions.
- By e-mail. 5% of the interviews were conducted via e-mail. The interview questions were e-mailed to the respondent. The completed responses were e-mailed back to the researcher. The researcher then conducted a series of e-mail conversations with the respondent to get more detail on certain statements within the responses.

5.7.2. Advantages of Using Interviews as a Data Collection Method

“The use of interviews can help you gather valid and reliable data that are relevant to your research question(s) and objectives” (Saunders et al., 2009, p. 318). Interviews will allow for the collection of in-depth, rich information that will add to the validity of the data collected through the use of questionnaires. With interviews, there is a greater degree of validity as opposed to using questionnaires. With questionnaires, the researcher cannot be sure that the person answering the questions is the intended recipient. Since the interview is conducted in person, the researcher will be able to get the required information from the required individual(s) (North et al., 1983, cited in Healey, 1991).

5.7.3. Types of Interviews

The researcher used structured, in-depth interviews to gather qualitative data. According to King (2004), these types of interviews work very well with qualitative research methods. The interview questions were adapted from work done by April, Katoma & Peters (2009).

5.7.4. Limitations of the Interview Process

Interviewing, unlike questionnaire-based analyses, is an intrusive process and takes up a lot of the subject’s time. This has the potential of creating a reduction in the willingness of some individuals to participate in the process. The researcher has a long standing relationship with MicroGaming, the software development organisation at which most of the
interviews were conducted, and thus, there was not much trouble getting access to employees and securing interviews (Gummesson, 2000).

5.7.5. Quantitative Data Gathering Techniques

To gather quantitative data, the researcher asked each respondent nine yes/no questions at the end of each interview (see Appendix 3 for these questions). The responses to these questions were the only data used in the quantitative data analysis process.

5.7.6. Operationalisation of Data Constructs

The data constructs in this study referred to the factors that influenced motivation in work environments. Operationalisation (Saunders et al., 2009) was not a mitigating factor in this study and the researcher felt that degrees of construct measurement were not important, given the limited scope of this research report. For example, in the case of the self-confidence construct, the researcher was only concerned with determining if self-confidence was present in the virtual team studied, and not the degree to which said construct existed.

5.8. Data Analysis Methods

5.8.1. Qualitative Data Analysis

The purpose of this study was to examine the drivers of employee engagement among business people in the IT industry, and then to determine if these drivers existed in virtual teams. The study leveraged the engagement work of Vroom (1964), who developed a theory of expectancies related to how people experience their work and how these expectancies affect work motivation. Seven motivating factors, i.e., self-esteem, availability of developmental and growth opportunities, innovation, recognition, reciprocation, learning and meaningful work, were used as themes in the analysis process to determine if work motivation existed in the respondents interviewed by the researcher.

This deductive study utilised a process of inductive coding (Thomas, 2003). The inductive coding process is detailed in Table 7.
Table 7: The coding process in inductive analysis

<table>
<thead>
<tr>
<th>Initial read through text data</th>
<th>Identify specific segments of information</th>
<th>Label the segments of information to create categories</th>
<th>Reduce overlap and redundancy among the categories</th>
<th>Create a model incorporating most important categories</th>
</tr>
</thead>
<tbody>
<tr>
<td>Many pages of text</td>
<td>Many segments of text</td>
<td>120 subthemes</td>
<td>50 subthemes</td>
<td>24 subthemes</td>
</tr>
</tbody>
</table>

Note: Adapted from Creswell, 2002, Figure 9.4, p. 266

A standard interview guide, which included 14 questions (see Appendix 2), was used for the structured interviews. The interview responses were analysed using ATLAS.ti, a qualitative data analysis software program.

Inductive coding is a qualitative method of thematic analysis. Thematic analysis is the identification of subthemes that emerge from the data that are deemed as being systemically important to the results of the research study (Daly, Killehear & Gliksman, 1997). The process involves identifying subthemes through “careful reading and re-reading of the data” (Rice & Ezzy, 1999, p. 258). Identified emerging subthemes become the codes for data analysis (Fereday & Muir-Cochrane, 2006). The researcher developed a coding template within ATLAS.ti prior to coding the data. Leveraging April, Katoma & Peters’ (2009) research, the seven code families were included in the coding template. After the initial coding template was formed with the seven code families, the researcher proceeded with coding the data using inductive coding logic. The coding process produced subthemes within the data (see figure 16). Using the process outlined in Table 7, the researcher initially identified 120 subthemes which were eventually reduced to the 24 most dominant and influential subthemes that were unearthed during the quantitative analysis process (see Appendix 11). The researcher coded each of the 24 subthemes and then aligned them with each of the appropriate code families to determine if motivating factors existed within the code families/themes. The researcher decided that if such factors existed, a conclusion could be drawn that specific individual expectancies were being satisfied and, concurrently, that motivation factors were present.
The inductive coding process was suitable to the qualitative study in this research report because the main method of data collection was the use of structured in-depth interviews and the inductive coding process lends itself well to the analysis of such data.

5.8.2. Quantitative Data Analysis

Respondents were asked nine yes/no questions (see Appendix 3) based on their experiences in the virtual team. The quantitative data was analysed using Excel. The quantitative analysis process was conducted by looking at individual variables and their components (Sparrow, 1989). The researcher used quantitative analysis to measure the following aspects:

- Highest and lowest values: The researcher created a bar chart with values that ranged from highest to lowest, to determine what behavioural factors were most present in the virtual team environment that was studied. The researcher tested this data against the theory on motivation to see if the most significant experiences in the virtual team were correlated to motivating factors in the theory (see Section 9.2).

- Proportions: The researcher created pie charts to verify the primary data gathered through interviews. The pie charts were used to determine the strength of motivation factors in the responses received. For example, if, for a motivating factor, a pie chart showed a stronger positive response than a negative one, the researcher drew the conclusion that the motivating factor represented by that particular pie chart had a strong enough presence in the study to be considered an influencer of discretionary effort (see Section 9.2).

5.9. Research Reliability & Validity

5.9.1. Quantitative Research Validity

Joppe (2000, p.1) defines reliability as “…The extent to which results are consistent over time and an accurate representation of the total population under study is referred to as reliability and if the results of a study can be reproduced under a similar methodology, then the research instrument is considered to be reliable.” To ensure reliability of results, the researcher administered the same nine questions to all members of the research sample, thus achieving consistency in the quantitative data gathering process.
5.9.2. Testing for Internal Validity

Internal validity “refers to the ability of your questionnaire to measure what you intend it to measure” (Saunders et al., 2009, p. 372).

According to Ratcliff (1995), validity can be achieved through convergence with other sources of data and comparisons with the literature. The researcher gathered qualitative and quantitative data and compared the quantitative results with the qualitative results achieved. The researcher found that there were similarities in the findings between both sets of results. The researcher compared these results to the theoretical findings and determined that both sets of results, when taken separately, were sufficient enough to prove the existence of factors of motivation in work teams.

5.9.3. Achieving Validity and Reliability in the Qualitative Analysis

Valid and reliable qualitative research is research that is trustworthy (Mishler, 2000), defensible (Johnson, 1997) and one in which the researcher has confidence in the findings (Lincoln & Guba, 1985). Research reliability refers to the ability to “understand a situation that would otherwise be enigmatic or confusing” (Eisner, 1991, p. 58) through qualitative research. A good qualitative study can help us “understand a situation that would otherwise be enigmatic or confusing” (Eisner, 1991, p. 58).

Patton (2001, p. 247) advocates the use of triangulation by stating that “triangulation strengthens a study by combining methods. This can mean using several kinds of methods or data, including using both quantitative and qualitative approaches.” The researcher used triangulation to achieve reliability and validity of the qualitative research analysis (see Section 5.1.5.).

5.9.4. Replicability of the Qualitative Research

According to Ziman (1991), the key to building a body of knowledge is that research is replicable. Because the researcher used structured interview questions for data gathering, replicating the study should not be an issue as long as the research sample has similar characteristics to the sample in this study (see Section 5.6.).
5.9.5. Research Authenticity

Messick (1992) states that authenticity in research can be achieved by clearly stating the context in which the research has been undertaken. The research study should be an authentic reflection of the research population being studied and it should be noted whether or not the results can be carried over into other contextual environments. The researcher attempted to maintain authenticity by stating implicitly that the applicability of the research results was confined to the sample being studied, i.e., a medium-to-large software development organisation in the IT industry. At no point in this research report does the researcher provide any guarantees that these findings could be applicable in other organisations or industries.

5.9.6. The Researcher’s Chain of Evidence

Stating the main research problem: The researcher set out to determine the motivating factors that lead to discretionary effort in virtual teams and whether these factors were present in virtual teams. The second aim was to determine what organisations should do to create or strengthen these motivational factors.

Review of the literature: The researcher then conducted a review of relevant literature to determine the relevant factors of motivation (see Section 4.). Seven expectancies were determined and these were linked to motivation using relevant theory (see Section 4.3.).

Data gathering: Individuals in virtual teams were interviewed. Interview questions were based on the seven themes that were determined, thus ensuring that the data gathering process was supported by theoretical findings, since the seven themes were linked to motivational theory.

Linking the qualitative data to theory: Subthemes were discovered during the inductive coding process. These subthemes were linked to their relevant themes using theory (see Section 7). This established a credible link from the subtheme to the theme and, ultimately, to the theory on motivation. Thus, any subtheme discovered by the researcher during the inductive coding process was an indication of the existence of a motivating factor in the data. Thus, the researcher was confident in the conclusions made about discretionary effort from the research findings, as they were supported by theory.
Section 6: Qualitative Research Findings

The following sub-sections include a discussion of the subthemes that were identified during the interview coding process (see Section 5.8.1). Subthemes that emerged from each of the seven questions were analysed. Corresponding quotes from respondents were used to deductively determine if there were any relevant links between the subthemes and the code families. The researcher’s aim was to find traces of motivational factors in participant responses. The researcher then attempted to find links between the various themes by noting the subthemes that came out of interviewee responses.

6.1. Self-Esteem

6.1.1. Results Related to Research Questions About Self-Esteem.

The first code family/theme is Self-Esteem. During each individual structured interview, participants provided perspectives concerning their self-esteem within the virtual team.

Relationships. The first subtheme related to the self-esteem theme is: relationships. This pertains to forming connections with other employees within the virtual team. Through the data analysis, it was noted that the relationships subtheme was correlated to comments about acceptance of viewpoints and the creation of a comfortable working environment and the resultant ease of being able to speak up in the virtual team environment.

When asked if he was confident in his skills and had the courage to stand up to virtual team members, Respondent 2 commented on the value of relationship-building in developing the freedom to speak:

- “I think so. We have had discussions, not heated ones but some discussion about what we need to do and the main thing for any team is for everyone to give their point of view. It’s easy to let everyone have their point of view and to discuss it the way we need to do [things]. In the beginning, I used to go and visit them once every 6 weeks and we were able to build the relationship and so it’s easier to speak up for what I believe in because we have that relationship with them.”
Abilities. The second subtheme related to the self-esteem theme is: abilities. This pertains to individuals’ determination of their ability to do their jobs and is related to their perceptions of their effectiveness within their virtual team environments. Through the data analysis, it was noted that the abilities subtheme was correlated to comments about feeling needed and valued within the virtual team environment because of the perception that the organisation is dependent on those abilities for the effective running of the virtual teams.

When asked if he felt that he played an important role in the virtual team and that he was needed and valuable to the organisation, Respondent 3 spoke about being given a role based on his abilities and how that made him feel valued by the organisation:

- “Yes, specifically in the role I am in at the moment. I was chosen for this role, I didn’t apply for it. I was chosen for my ability to create this group and to be able to create the cohesion and to work with and build a tightly knit team that can withstand all sorts of challenges and setbacks. There’s no greater feeling than to be chosen for a job rather than applying for it. So that makes me feel as if the organisation values my skills and abilities and they trust me enough to be able to allow me to represent the organisation in this relationship we have with these virtual teams.”

Self-Confidence. The third subtheme related to the self-esteem theme is: self-confidence. This pertains to an individual’s belief in her/his abilities and capabilities to be able to contribute to the virtual team. Through the data analysis, it was noted that the self-confidence subtheme was correlated to comments about feeling comfortable, the level of commitment to the team, experience with working in virtual teams and belief in one’s ability to do the job.

When asked if he was confident in his skills and had the courage to stand up to virtual team members, Respondent 17 commented on his years of experience in the virtual environment and how this experience has affected his understanding of how to function in the virtual environment and how this, in turn, affects his self-confidence:
“I’m increasingly comfortable and I think, especially in the latter years it has been a challenge. It requires a level of commitment to make it work. Engaging in that way, I’ve become increasingly comfortable but I have also had to work through my assumptions about how connected it is in terms of trying to understand, “Am I getting out of that person what I would have if I was sitting across the desk the desk from them?” I doubt myself less now.”

**Courage.** The fourth subtheme related to the self-esteem theme is: courage. Courage refers to having the confidence to be strong enough to speak up in the virtual team environment without fear of being judged or falling victim to uncertainty and insecurity. Through the data analysis, it was noted that the courage subtheme was correlated to comments about authority, responsibility and belief in one’s skills.

When asked if he was confident in his skills and had the courage to stand up to virtual team members, Respondent 19 commented on his view that being in a leadership role made it easier to show courage in the virtual team environment:

- “I don’t feel apprehensive. I can say whatever I want. I’m confident in my authority and my skills and abilities to be able to tell the team that they need to be doing things this way. I have a responsibility to get the work done and so, I have to have the strength and courage to speak up in the team.”

Respondent 17 commented on his virtual team members’ perception of him and his abilities and how this drove his own courage within the virtual team:

- “Personally, I’m confident in the way that I back myself, in terms of the way I think through something or rationalize something and I give myself time to work through an issue and process it and give myself feedback or an answer. It’s natural for all of us not to grasp something, but I back myself to think through things. I have to set an example to my team as well so I’m very public with regard to asking my boss if I could sound off ideas to him and ask for his input.”

**Freedom to speak.** The fifth subtheme related to the self-esteem theme is: freedom to speak. Freedom to speak refers to virtual team members’ belief that they can give their viewpoints in
the virtual team environment without fear of reprisal or being judged. Through the data analysis, it was noted that the freedom to speak subtheme was correlated to comments about comfortable working environments and belief in one’s own skills in the virtual team environment:

When asked if he was confident in his skills and had the courage to stand up to virtual team members, Respondent 15 spoke about feeling free to speak in the virtual team environment due to knowing the other members in the virtual team:

- “Yes, not a problem because you are tasked to do a certain job and you are paid to do that job so you need to do those things. Yeah, generally because your team, you may not know them face-to-face but you know of them and you know their skills and capabilities so it’s easy to be confident around them and let them know how I feel.”

6.2. Availability of Developmental and Growth Opportunities (ADGO)

6.2.1. Results Related to Research Questions About the Availability of Developmental and Growth Opportunities.

The second code family/theme is Availability of Developmental and Growth Opportunities (ADGO). During each individual structured interview, participants provided perspectives concerning this theme.

Supportive Environment. The first subtheme related to the ADGO theme is: supportive environment. This pertains to virtual team members’ beliefs that the organisation they work for provides enough emotional and professional support to them in order for them to be effective in their work. Through the data analysis, it was noted that the supportive environment subtheme was correlated to comments about relationships within the organisation and the virtual team, and a mutual desire for improved productivity and better communication.

When asked if he was able to learn the required amount to develop the skills to work competently in the virtual team, Respondent 3 commented on training assistance that the
organization has given him, and how that assistance has benefitted him in terms of improving communication within his virtual team:

- “Yes, I’ve gone on fair number of conflict resolution courses and depth facilitation courses. Practical courses, not just theoretical courses. These courses have helped me resolve conflicts with people that just didn’t want to perform in the virtual environment and it helped me understand why they didn’t want to perform. The company has been great in terms of providing that assistance, and I’ve used the training that I received. Understanding your own emotional intelligence and then understanding the EQ of others and being able to deal with them based on that and trying to get introverted people to open up to improve the communication process is very beneficial.”

Resources. The second subtheme related to the ADGO theme is: resources. This pertains to the information and hardware available to virtual team members to make them more productive. Through the data analysis, it was noted that the resources subtheme was correlated to comments about learning, productivity and creating mutually beneficial links with the organisation to foster better productivity that would help both employees and the organisation.

When asked if she was able to provide virtual team members with training and resources to play meaningful roles in the team, Respondent 12 commented on the willingness of the organisation to provide resources, and how this helped with the productivity of the virtual teams:

- “…we also work with teams in this department who we don’t normally see until the end of a project so we do try to gel the 5 teams rather than having each team working on a separate goal. We also have training sessions with the other teams in which they give us information to help train us on a new product or a new area. So, yes the company is good at providing us with the resources we need to do our jobs better [and in doing so] it gets more productivity out of us, which helps the organisation in the long run.”
Empowerment. The third subtheme related to the ADGO theme is: empowerment. Empowerment refers to the willingness of a virtual team to help team members by giving them the opportunities, information and other resources to learn and develop on their own. Through the data analysis, it was noted that the empowerment subtheme was correlated to comments about openness, information sharing and better communication with the organisation to foster better productivity that would help both employees and the organisation.

When asked if he was able to provide virtual team members with training and resources to play meaningful roles in the team, Respondent 11 commented on the importance of communication in empowerment:

- “They don’t ask for information. There’s three types on info. that I can think of and that’s info. that they need to do their work, company info. and then info. on our processes. So, they join us for team meetings every morning and [Respondent 2] talks to them every morning so they talk to us all the time and we can chat with them through OCS all the time, using text chat and the guys use webcams and they meet on a very regular basis. So the request for information comes up when the need arrives, so they don’t ask for info. regularly, we just provide it as needed. But if they need anything, it’s easy for us to provide that for them, because we have all the resources available, so it’s no problem.”

Learning. The fourth subtheme related to the ADGO theme is: learning. Learning refers to the ability of virtual team members to learn and develop the skills needed to be more productive in their work. Through the data analysis, it was noted that the learning subtheme was correlated to comments about empowering virtual team members by giving them learning opportunities and resources and allowing them to choose their own learning.

When asked if he provided constructive feedback to virtual team members regarding their understanding or misunderstanding of important knowledge related to a virtual team project, Respondent 2 spoke about the openness of the environment and how this visibility made it easier to determine what learning opportunities team members needed.
“Yeah, you need to understand the tech if you don’t know the bits and pieces. It’s easy to speak to the guys and ask them what they are involved in to be able to get up to speed to the level they need to be. I feel they are able to learn everything at the level they need to know, so if the developers in the virtual team are developing a widget in SilverLight, for example, I know what they are doing because I’ve had prior knowledge and I can get specifications to them and it’s easy for them to understand it. It will take me a lot longer to develop it myself, so being able to get them the information they need to do their jobs is very important.”

When asked if he was able to provide virtual team members with training and resources to play meaningful roles in the team, Respondent 17 commented on how he was able to get the resources needed for his team to be able to learn what they needed to in order to become more productive:

“I spend a bit of time trying to create a conducive working environment and I make sure the resources are available to train them and make sure they are able to use the collaborative tools we use to communicate. I also give people the freedom to learn by themselves and give themselves more opportunity to learn how to use the tools more effectively. I get a sense of pride when I see my team members learning to use the tools more effectively and if I learn from it myself and, learning about how other cultures work is also implicit in the learning as well, that increases my motivation to work.”

6.3. Innovation

6.3.1. Results Related to Research Question About Innovation.

The third code family/theme is Innovation. During each individual structured interview, participants provided perspectives concerning this theme.

Acceptance of viewpoints. The first subtheme related to the innovation theme is: acceptance of viewpoints. Acceptance of viewpoints means reaching mutual agreements by allowing all
team members to contribute equally to virtual work projects. Through the data analysis, it was noted that the acceptance of viewpoints subtheme was correlated to comments about forming mutual working relationships, openness, alignment of work goals and an understanding of how each team in the virtual network operates.

When asked if he was able to purposefully explore unconventional approaches that could benefit the virtual team, Respondent 11 commented on listening to the ideas of virtual team members as long as they were aligned to the work goals of the organisation:

- “We don’t prescribe how the team works but I make sure we do follow the same methodologies. We all use the same development process and we use the agile development methods and so we do use the same development practices, but if they want to do something a certain way, we don’t have a problem with it, as long as it achieves our mutual goal. I prescribe to a certain level and make sure the processes are in place to get the project on track and let them do what they want.”

Alignment of work goals. The second subtheme related to theme of innovation is: alignment of work goals. This pertains to the understanding that all members of the virtual team must be able to collaborate within the parameters of the stated work objectives, in order to achieve mutual reciprocity. Through the data analysis, it was noted that the alignment of work goals subtheme was correlated to comments about forming mutual working relationships, understanding and communication.

When asked if he was able to purposefully explore unconventional approaches that could benefit the virtual team, Respondent 7 commented on the freedom to change working practices to suit the virtual team. He also mentioned that the infrastructure in the virtual team environment was well suited to the alignment of work goals:

- “Yes, I have the confidence to do that. We are in the process of doing that at the moment and I believe that infrastructure is crucial to the success of our interaction with the virtual team and I feel very confident in being able to say to the virtual team that certain methods need to be applied and methods of development must be adhered to, if I feel that’s what needs to be done. It also helps that I am in a position where
I’m allowed to mandate that so that gives me more confidence to do that. And I’m privileged to work with a team that’s very open to change and trying new things. However, there are certain times when their configuration over there doesn’t allow for our style of working and so they’ll tell us that, “We accept your way of working, but it just doesn’t fit our configuration at the moment, is there any way we can work around it?” So, it’s not a problem, there’s no resistance. The freedom and control I have motivates me more.”

**Mutual working environment.** The third subtheme related to the innovation theme is: mutual working environment. Mutual working environment means creating an environment where members of a virtual team help each other out and reciprocate effectively to achieve better productivity. Through the data analysis, it was noted that the mutual working environment subtheme was correlated to comments about communication, understanding, alignment of work goals and acceptance of viewpoints.

When asked if she consistently worked at aligning her goals with that of the virtual team, Respondent 12 commented:

- “We seem to be always on the same page. I think that develops with understanding. You cannot be on the same page if you don’t understand what that person needs to do their work. I think you’re not giving that person the information they need to be on the same page. I think it’s not so much working with them over a long period of time, it’s more about you working here for a long period of time and learning your job and the requirement of other departments and what they need to perform their jobs.”

**Sharing of Information.** The fourth subtheme related to the innovation theme is: sharing of information. Sharing of information means sharing knowledge openly between virtual teams to enhance the productivity of all teams. Through the data analysis, it was noted that the sharing of information subtheme was correlated to comments about good communication between the teams.
When asked if he regularly fed back new information and knowledge to virtual team members, Respondent 3 commented on the importance of communication in being able to share information between virtual teams:

- “Yes, there’s multiple forms of communications we can use to feed information and it’s easy to constantly share ideas, information etc. For quick chats, we use instant messaging. You can send small documents along with it and have quick chat sessions. I spend a lot of time with the development of the virtual team because it’s in our best interest that they are best-equipped to be able to be as productive as they can possibly be. I do spend some time on my own development, but it’s in my best interest as well as the success of the company that we invest in the virtual team more than we do in ourselves.”

When asked if she was able to provide virtual team members with training and resources to play meaningful roles in the team, Respondent 16 commented:

- “Yes, we have a structured setup. All the information is in one place where everyone can access it when they need to. We have good internet access, working phone lines, backup lines. There is good communication.”

6.4. Recognition

6.4.1. Results Related to Research Questions About Recognition.

The fourth code family/theme is Recognition. During each individual structured interview, participants provided perspectives concerning this theme.

Recognition from organisation and recognition from virtual team. The first and second subthemes related to the recognition theme are: recognition from the organisations that administer each side of the virtual team and recognition from the other team/s that each virtual team segment engages with. Recognition means receiving appreciation from others in the virtual team environment and is a barometer of success and achievement of the individuals within the teams. Through the data analysis, it was noted that the recognition
subthemes were correlated to comments about achievement, feeling valued and appreciation from others.

When asked if he periodically highlighted and celebrated virtual team members’ successful achievements, Respondent 3 spoke about using recognition to get virtual team members to repeat good accomplishments:

- “If they do something, you want them to do it again. You escalate it all the way up the chain and you celebrate it as much as you can so that they feel good about doing great things and they keep doing great things. Also, it is a good way to foster healthy competition. If somebody does something great, you want to highlight the heroes and generate champions and not encourage mediocrity and you do that by celebrating great achievements.”

**Feeling valued.** The third subtheme related to the recognition theme is: feeling valued by the other members of the virtual team. Feeling valued means being made aware, mostly through recognition, that one is an important part of the virtual team process. Through the data analysis, it was noted that the feeling valued subtheme was correlated to comments about recognition and environmental support in the virtual team environment.

When asked if she was satisfied with the amount of recognition she received from virtual team members for contributions to the network and organisation, Respondent 5 commented that the recognition from her virtual team members made her feel valued:

- “I am satisfied with the recognition I received from suppliers but not from my organization. Like I said, I stand alone so I don't feel that I get their support. When I get recognition from suppliers, it makes me feel very good. That's what most of us are all about. You need something like that in your life. It makes you feel good about yourself, like you are making a difference.”

When asked if she felt that she played an important role in the virtual team and that she was needed and valuable to the organisation, Respondent 16 commented on how recognition made her feel needed by the organisation:
“Yes, the company depends on me. I don’t think anyone could get the same kind of co-operation and level of work out of the virtual team that I can. That came from years of building that trust with them. It would cost the organisation a lot in terms of time and resources to do that with someone else. So, from that, I feel valued.”

Appreciation. The fourth subtheme related to the recognition theme is: appreciation. Appreciation means feeling that your efforts are valued by your virtual team members. Through the data analysis, it was noted that the appreciation subtheme was correlated to comments about recognition, visibility and regular communication and feedback with virtual team members.

When asked if he periodically highlighted and celebrated virtual team members’ successful achievements, Respondent 11 commented about the importance of regular feedback sessions and giving positive feedback:

- “Yes, they are treated pretty much the same. If they do well, they get the recognition. We do the daily catch-up meetings and so everybody knows what everybody else achieves and we do set aside some time to speak about people’s achievements, for example, this morning, we had a meeting where the team in Cape Town told us that they came up with a way to shorten the time it takes to do bulk software updates, so we gave them recognition for that and it made them feel very good, so ja, we do give them feedback when they do something good, especially now because we just signed off a project and it went really well and we’re on a buzz right now. Moments like that make me feel valued because I was a part of something successful and the organisation lets you know when you’ve done something good and so, yes I feel I am appreciated.”

Commitment. The fifth subtheme related to the recognition theme is: commitment to the virtual team. Commitment refers to virtual team members giving more effort in the team process because of a sense of responsibility to the virtual team. Through the data analysis, it was noted that the commitment subtheme was correlated to communication, recognition, responsibility and a shared understanding within the virtual team environment.
When asked if he periodically highlighted and celebrated virtual team members’ successful achievements, Respondent 15 commented on how appreciation generates more commitment by virtual team members:

- “Yes, and they appreciate it and it makes them want to work harder for us. They go the extra mile for us a lot of the time, so we do appreciate them a lot for that. Yes, an example is that we have a database administrator in Australia and it’s the middle of the night and he’s still up working because we have a report that died and he is currently fixing that report for me and it’s 3 A.M. and he helped us do a deployment earlier. It’s the last job of the day and I just threw another job at him. I didn’t expect him to do it but he did. That’s dedication for you. That definitely motivates me. This is a testament to his skill sets and his dedication to remote working. Interesting point is this organisation’s dedication to sending people across the world and still having them work for the company remotely. That’s trust from the organisation to that person and the dedication back is very visible. Giving more effort is personality-based but I haven’t found anyone that underperforms.”

6.5. Reciprocation

6.5.1. Results Related to Research Questions About Reciprocation.

The fifth code family/theme is **Reciprocation**. During each individual structured interview, participants provided perspectives concerning this theme.

**Cohesion.** The first subtheme related to the reciprocation theme is: cohesion within the virtual team. Cohesion refers to the unity of the virtual team and the extent to which team members work together. Through the data analysis, it was noted that the cohesion subtheme was correlated to appreciation, alignment of work goals and giving environmental support to virtual team members.

When asked what effect feeding back information and knowledge to virtual team members had on those team members, Respondent 1 commented on how recognition leads to cohesion:
“Makes them feel more motivated and committed, I think. They tell me that they appreciate it and it makes their jobs easier. They also feel more connected to our team here and I think that helps to build the cohesion between us.”

**Understanding.** The second subtheme related to the reciprocation theme is: understanding within the virtual team. Understanding refers to whether or not all the members of the virtual team have enough information to understand what is required of them in work projects. Through the data analysis, it was noted that the understanding subtheme was correlated to trust, relationship and communication with virtual team members.

When asked “How’s your relationship with your virtual team?” Respondent 7 commented on how close relationships were important to understanding virtual team members:

- “Pretty good. I have met them on a few occasions and I have worked with some of them on a one-to-one basis. I believe that is a key thing in terms of building relationships. I believe there needs to be some face time there. You can’t build relationships on a purely virtual level. You have to engage with them on a physical level to be able to understand their ability to understand you and to gauge you and also to gauge their competency levels. They need to get some reverse-level feedback from you to feel if you are able to lead them and manage them. With cultural difference you can get a great deal of misunderstanding and then you get a sense of them feeling like, “Who are these guys and why are they telling us what to do?”, if you don’t have that personal interaction. If you do have that personal interaction, you have an image in your mind of the person you are dealing with rather than that person just being someone at the end of an e-mail.”

**Openness.** The third subtheme related to the reciprocation theme is: openness within the virtual team. Openness refers to being comfortable in the virtual team to have enough confidence to communicate freely about insecurities and misunderstandings. Through the data analysis, it was noted that the openness subtheme was correlated to comfortable working environments with virtual team members, relationships and communication.
When asked if he was able to learn the required amount to develop the skills to work competently in the virtual team, Respondent 2 spoke about the ease of being open with his teammates due to having a close relationship with his contact person in the virtual team:

- “Ja. The way the dynamics works is: I’m dev team lead but they have a manager down there, so if there’s something that’s quite sticky, then I’ll speak to him because we have an open relationship. What doesn’t work well is trying to convey emotion over e-mail and over text, because you can’t convey tone so you don’t know how things are being interpreted, but it seems to work quite well at the moment. [Their team lead] and I do disagree at times, but it’s just part of the job and it hasn’t affected our relationship any.”

When asked if he consistently worked at aligning his goals with that of the virtual team, Respondent 3 commented:

- “Yes, if they are working on a project that has no long-term value for them, but is going to create value for this organisation, the other team might have an attachment to that project but it gets taken away from them. That can break down the relationship and in this case you have to be upfront and honest with them. It’s good to have a bad cop in the team and to let them know exactly what the situation is upfront.”

6.6. Meaningful Work

6.6.1. Results Related to Research Questions About Meaningful Work.

The sixth code family/theme is **Meaningful Work**. During each individual structured interview, participants provided perspectives concerning this theme.

**Respect.** The only, subtheme related to the meaningful work theme is: respect within the virtual team. Respect refers to an esteem for or a sense of the worth or excellence of members of the virtual team. Through the data analysis, it was noted that the respect subtheme was correlated to building relationships and recognising the abilities of team members.
When asked, “Do you think you are respected?” Respondent 7 mentioned that he felt that the virtual team respected him because of his prior achievements:

- “Yes, I think I am. I would like to have more face time with them to prove that further. But the fact that they respect my achievements and they notice that shows that they respect me. As human beings, we all want respect and that does inspire you to work harder and give more effort, so, yes, that does affect my self-esteem and motivates me more. In terms of tones of e-mails and such, when I ask how things are going to be done, they always ask me how they think I think things should be done, so there’s a level of approval seeking there and I can see that they respect my abilities.”

When asked if he felt that he played an important role in the virtual team and that he was needed and valuable to the organisation, Respondent 18 commented on respect earned as a result of possessing skills that were needed and valued for the success of the virtual team:

- “Yes, I do. By virtue of the fact that we are short-staffed, everybody here plays an important role, and so, yes, I do believe that I am needed. Also, I’ve had years of experience doing this job and I think my skillset is very valued by this organisation. It’s not easy to run a virtual team, and I think my skills give me some value in that regard. I feel that I am respected by the virtual team as well. I like that the team comes to me when they need anything. They don’t go to the manager. That makes me feel like my skills and experience are respected.”

6.7. Learning

6.7.1. Results Related to Research Questions About Learning.

The sixth code family/theme is Learning. During each employee individual structured interview, participants provided perspectives concerning this theme.

Personal engagement. The first subtheme related to the learning theme is: personal engagement. Personal engagement means forming social, non-business connections with other employees within the virtual team. Through the data analysis, it was noted that the
personal engagement subtheme was correlated to comments about cohesion through building relationships and fostering communication with members of the virtual team environment.

On the subject of seeking to improve virtual team communication, Respondent 8 was asked if there were misunderstandings due to language barriers. In response, he commented on personal engagement being crucial in breaking through cultural barriers:

- “We just weren’t on the same page in terms of understanding the meanings of what we wanted to convey to each other, if that makes sense? But, eventually, the relationship became so strong that, at the end she [my virtual team member] would actually finish my sentences, in the sense that she would know what I wanted even before I asked for it. We have that in the current team I work with as well. There is a central person I deal with, so I don’t have to get to know everybody there, even though I do know them, and so it’s easier to deal with them and communication is that much simpler. Also, over time we cut out a lot of the other people in the communication process. At first, there [were] too many people between her and the actual business, too many managers and so it took ages to get feedback from them, but after working through the relationship a bit, we figured out a way to cut out a lot of the intermediary people and so the process went a lot smoother.”

**Caring for team members.** The second subtheme related to the learning theme is: caring for team members. Caring for team members pertains to having the best interests of the team at heart and going the extra mile to be supportive to virtual team members in a professional or a personal manner. Through the data analysis, it was noted that the caring for team members subtheme was correlated to comments about supportive environment, building relationships and providing learning opportunities and empowerment capabilities for team members of the virtual team environment.

When asked if he was able to provide virtual team members with training and resources to play meaningful roles in the team, Respondent 1 commented that he provided training and development opportunities for his virtual team members. As a follow-up question to this, he was asked “Does that affect the relationship?” In response, he commented that caring for the team made them more productive:
“Yes, they appreciate the fact that I spend time with them and the fact that I care about their development. I think it makes them more motivated and they work harder for me and the company. That’s the bottom line, doing more to get the job done better.”

When asked, “Do you go out of your way to help the virtual team?” Respondent 3 commented on caring for team members and how that motivates them to give more effort in work projects:

“Yes, I go out of my way to help team members. I believe that its part of my job and I draw satisfaction from it. It’s harder with virtual team members because you often don’t know what their requirements are but I try as much as I can to help them out in whatever way that I can. People, no matter who they are or where they are, they appreciate that and they are happier and are much more willing to go the extra mile for you. If a team member knows you go the extra mile for them and if, for example, you need them to work a weekend for you, for example, they are much more likely to do so because they know you’ve got their back.”

**Communication.** The third subtheme related to the learning theme is: communication. A communicative environment is one where virtual team members speak to each other regularly and share personal and professional information for the alignment of work projects and to foster closer relationships among themselves. Through the data analysis, it was noted that the communication subtheme was correlated to comments about trust, commitment, building a comfortable working environment, the available communication tools and processes used to communicate and the relationships among the virtual team members.

When asked if he continuously sought to improve virtual team processes and communication to achieve higher levels of reciprocity among virtual team members, Respondent 2 commented on how better communication tools led to better communication among virtual team members:

“No, we’ve always used Skype, though the audio doesn’t always work well, video is beneficial to be able to see the other person on screen. OCS [Office Communication System] works well.”
Software] has helped immensely, you can see when someone else is available and you can just start a chat with them. On OCS and Skype, screen sharing works very well. So, when the developers release something to Q.A. [Quality Assurance], the tester can show the developer the screen and show them the issues and it makes it easier to translate issues that need to be addressed. Plus, we can get the developer to walk over to the tester’s desk and have them deal with it. I feel that my message gets across most of the time.”

When asked if he regularly fed back new information and knowledge to virtual team members, Respondent 11 commented on how a close relationship with the virtual team created a comfortable working environment and the freedom to communicate openly:

- “They just let me know when they need anything from us. I get an e-mail and a phone call and they get hold of me. It’s like their team lead is here with me because we communicate so openly and so often. So, we have that relationship where they ask anything at any time and it’s that comfortable environment that we have set up. They know we are always available to help them out.”

When asked if he continuously sought to improve virtual team processes and communication to achieve higher levels of reciprocity among virtual team members, Respondent 19 commented on team commitment and how that led to great communication:

- “It’s different. In the case of our team member here in [Durban], I can contact him relatively easily and communication is good, because he is part of this organisation and, because he has a loyalty to us, the communication process is very good. I feel there is more trust in him. I know he’ll get the work done the way we need it to be done.”
Section 7: Discussion of the Qualitative Research Results.

Out of the 52 subthemes that emerged from the data analysis, the researcher identified those subthemes that had the most influence on the respective family codes/themes that they were related to.

7.1. The most dominant subthemes in the Self-Esteem code family/theme were:

**Abilities.** Previous research on expectancy theory suggests that individual perception of skills and abilities influence expectancy perceptions (Katzell & Thompson, 1990; Rasch & Tosi, 1992), and have an influence on self-esteem (Bandura, 1982).

Respondents in the study mentioned feeling appreciated by their organisations and their virtual team members for their abilities. They also spoke about the pride they felt about being given roles specifically for their abilities, and how this pride helped develop their self-esteem. Respondents also felt that they were respected for their abilities. In many of the interviews it was noted that this feeling of respect translated into motivation.

**Self-confidence.** Research by Busenitz (1999), suggests that entrepreneurs lacking in self-confidence are less likely to take on the considerable risks of a new venture. Reduced willingness to take risks is also a function of lack of self-esteem, which often leads to reduced performance in work tasks (Hilton & Darley, 1991).

Many respondents felt that their self-confidence was reinforced by the fact that they were trusted by the organisation and the virtual team to be able to perform their work smoothly, based on the skills and experience that they had in the area of working in virtual teams. Respondents also mentioned that their virtual environments were comfortable to work in, due to the formation of relationships, and as such, they were able to speak up and play an active role in the virtual team, thus enhancing their self-esteem.

**Relationships.** Research has suggested that social support, from supervisors and families reduced stressors affecting individuals in the workplace, and demonstrated consistent protective effects on individual well-being, leading to greater self-esteem (Payne & Jones, 1987).
Respondents spoke about relationship-building through the acceptance of viewpoints. Because of this, it was easier for many virtual team members to voice their opinions on various projects and to have the courage to suggest various methods of working without feeling like they were being judged. Respondents admitted that they felt a sense of safety and belonging within the virtual team because of the close relationships that they formed and this, in turn, helped to build their self-esteem within the virtual environments.

**Courage.** Research suggests that entrepreneurial courage is linked to confidence in one’s abilities, and this directly affects one’s willingness to engage in risky projects, even in the face of failure. This confidence in one’s abilities gives one the courage to speak up and is instrumental in shaping one’s self-esteem (Baron, 1999).

Respondents commented that courage came from having the authority to be able to decide how best to implement and run the virtual team. This authority is what allowed these respondents to have the courage to speak up and challenge current working methods, to be able to develop better, more effective ways of working. This courage was instrumental in shaping their self-esteem and their confidence. Respondents also mentioned that having skills and years of experience working with virtual teams were also highly influential in building courage.

**Freedom to speak.** Research by Mayo (1933) suggests that workers can be motivated by giving them freedom to speak and make decisions on the job. Mayo’s (1933) work also suggested that workers that had greater freedom to speak had better self-esteem.

Respondents spoke about being able to speak freely within their virtual team environment, because of the high level of comfort within that environment and because of the environmental support and the level of personal engagement that existed in the virtual team environment. Respondents also mentioned the fact that being able to speak to their superiors about their insecurities and uncertainties, without fear of losing their jobs, helped to reinforce their self-esteem.
7.2. The most dominant subthemes in the Availability of Developmental and Growth Opportunities (ADGO) code family/theme were:

Supportive environment. Numerous studies suggest that there is a link between the high levels of support given to employees in terms of training, and the increase in involvement by these employees (Frazis, Gittleman & Joyce 2000; Whitfield, 2000; Lynch & Black, 1998; Osterman, 1995; MacDuffie & Kochan, 1995).

Respondents felt that their organisations were very supportive in terms of providing training and mentoring to help them work more productively in the virtual team environment. The biggest motivation for this was the fact that there was a mutual goal of having to get the work done.

Resources. Research by Badaracco (1991) suggests that the availability of learning resources is crucial for the development of employees in the workplace. Nelson & Winter (1992) posit that the skill level of a company’s workforce was a direct correlation of the organisation’s ability to provide its workforce with learning resources.

Respondents mentioned that their organizations were very good at providing resources for learning. The realisation of mutual benefit made these organisations aware that it was in their best interest as well as the best interests of the employees to make these resources available for the good of the collaborative effort.

Empowerment. The key component of learning within professional networks is to gradually develop the knowledge of new employees through the guidance of a mentor. Once this employee gains the necessary knowledge to perform her/his work function, s/he will take on the role of mentor and ensure the propagation of the learning environment by passing on this knowledge to newer employees in the organisation (Lave & Wenger, 1991).

Respondents commented on how important they felt communication was in terms of empowerment. Most of the teams that the researcher spoke to mentioned that they made sure that they communicated on a daily basis, if possible, to speak about any areas of uncertainty and to feedback information between the teams to be able to empower each other to be as productive as possible. Personal engagement also helped in this regard. Team members really cared about getting to know their offshore counterparts and this cohesion meant that team members were more likely to share information and further propagate the notion of empowerment. This reinforced the learning environment.
Learning. It is imperative for organisations to provide developmental and growth opportunities for employees. Theory suggest that development and learning opportunities enhance employee commitment and bring about conformity with standardized and prescribed ways of working (Felstead, Green & Mayhew, 1997; Felstead, Fuller, Jewson & Unwin, 2009).

Respondents commented on how personal engagement was reinforced through communication and the building of relationships. Becoming closer with their virtual counterparts made team members more interested in their personal lives and this increased the communication between the teams. This closeness also made team members more likely to provide more support and developmental opportunities for other team members and invest in their professional development and this facilitated greater learning.

7.3. The most dominant subthemes in the Innovation code family/theme were:

Acceptance of viewpoints. The reciprocal relationship that an employee has with her/his organisation and the acceptance of that employee’s views and ideas represents an important aspect of the immediate work environment that influences the employee’s belief in the possible performance and image outcomes of his or her innovative attempts (Yuan & Woodman, 2010).

Respondents commented that acceptance of viewpoints was possible due to the building of relationships between team members. Building a comfortable working environment was also a key factor in being able to speak up in the team without feeling judged. The virtual teams that the researcher spoke to mentioned that, despite the fact that they weren’t in the same physical space, the mutual goal of getting the work done motivated them to communicate actively to come up with as many ideas as possible to generate as much innovation in terms of coming up with productive working methods. In this way, acceptance of viewpoints led to innovation.

Alignment of work goals. Alignment of work goals is crucial to innovation. This is because innovation includes not only the generation of novel ideas by oneself, but also the adoption of the innovative ideas of other teams to the organisation to which these ideas are new and unfamiliar (Woodman et al., 1993). The applicability of the innovative ideas to the adopting
organisation can only be determined if all members of the team know what the work goals are.

Respondents mentioned that alignment of work goals was possible due to the shared responsibility of everybody in the virtual team. All team members realised that they had something to lose if they didn’t reciprocate to get the job done. Respondents also spoke about the fact that shared working methodologies made it easier to work in alignment because everybody was on the same page and there was cohesion and communication. This alignment led to the sharing of ideas and collaborative knowledge generation, which led to innovation.

**Mutual working environment.** According to Brun & Dugas (2002), any company that establishes an organizational culture that respects personal values and promotes their tie-in with organizational ones, creates the ability to generate innovation through diversity of idea generation.

Respondents mentioned that the mutual working environment was created by setting up the objectives of the teams at the beginning of each work contract. These objectives were then aligned on a regular, almost daily, basis. This fostered regular communication and the subsequent alignment of goals. Virtual team members also shared common working methodologies and this meant that they had to constantly communicate with each other on the progress of projects, which further reinforced the mutual working environment. This fostered innovation through the alignment of working ideas, with the help of communication and the shared need to work more productively.

**Sharing of information.** Limited knowledge through the absence of information sharing networks leads to the adoption of a single perspective and limits the scope of an organisation's inquiry and thus limits the extent to which it can harness the benefits of the innovation process (Yuan & Woodman, 2010).

Respondents spoke about their great communication tools and methods, which made it easier to share information. The ability to contact virtual team members anytime, and with great ease, made it easy and quite productive to share information at any time. Respondents also
mentioned that their organisations had centralised databases of information that had been built up through years of working in the virtual arena and that this information was freely available to employees. This reinforces innovation because information flow drives innovative capacity in organisations.

7.4. The most dominant subthemes in the Recognition code family/theme were:

**Recognition from organisation** and **recognition from virtual team members**. Research has shown that organisational recognition has a great positive impact on motivation and performance of employees in work teams (Herzberg, Mausner & Snyderman, 1959). Moreover, Porter & Lawler (1968), state that team recognition is an important determinant of individual motivation and organisational performance.

Respondents spoke about the fact that they were happy with the recognition that they received from their organisation and their virtual team. The important thing to note here is that respondents realised that recognition was directly related to hard work and effort, i.e., they were being recognised for the extra effort they were giving and not just for an ordinary performance. This made respondents feel valued for their abilities and their effort and it made them more motivated to work harder and to become more committed in work projects.

**Feeling valued.** The Douglas and Shepherd (2000) utility framework suggests that recognition for outstanding performance in team performances increases the perception that personal abilities and efforts in entrepreneurial activity will be successful (expectancy) and that the outcomes will be of value (instrumentality and valence).

Respondents mentioned that they felt valued because the organisation and the virtual team gave them recognition for the great work they were doing. This gave them a greater sense of visibility and a greater realisation of potential for promotion. A supportive working environment also made employees feel that the organisation was investing in them and this made them feel valued.
Appreciation. Most employees express a need to be recognized by their supervisors, co-workers and clients, regardless of their job status or type. Recognition makes employees feel valued and not only leads to better workplace motivation, but also improved physical well-being (Brun, 1999).

Respondents felt that they were being appreciated because of the recognition that they were getting from their organisation and from the virtual teams they were working with. Communication was also a big factor in appreciation because respondents felt that the constant communication allowed for team members to provide feedback about their successes and get recognition and assistance for work projects and this made them feel appreciated.

Commitment. Research suggests that recognition helps reinforce worker’s beliefs in their skills and abilities and that this enables an individual to be perceived as competent by teammates (Jarvenpaa et al., 1998; Mayer et al., 1995). This appraisal of one’s abilities by teammates encourages team members to help teammates beyond personal motives or individual gain, and thus, commitment increases (Jarvenpaa et al., 1998; Mayer et al., 1995).

Respondents mentioned that they felt that understanding was a big factor of commitment. Respondents spoke about feeling more committed to the virtual team when they received greater levels of understanding and compassion from both the organisation and other virtual team members. Recognition was also a major factor in commitment. Being recognised and appreciated made respondents more committed to the organisation and to their virtual teams.

7.5. The most dominant subthemes in the Reciprocation code family/theme were:

Understanding. Organisational reciprocation depends on the notion of encultured knowledge. This refers to the process of achieving shared understandings through the reciprocal processes of socialization and acculturation (Blackler, 1995). Periods of social transformation become the main vehicle for formulating new courses of action (Swidler, 1986).

Respondents commented that patience and communication were key factors in being able to understand others and to be understood by others. Organisational support made them feel
that their organisations were taking the time to understand the challenges of working in a virtual environment. Respondents also felt that increased communication and reciprocation went a long way towards achieving trust and mutual understanding between team members.

**Openness.** Social support is important to employees in the workplace. Reciprocation with colleagues and supervisors helps build relationships within the workplace, creating an open environment for communication and an increase in employee self-esteem (Lu, 1999).

Respondents mentioned that the biggest determinant of openness was that they felt comfortable working in the virtual team environment. This environment was created because of effective communication and relationship building, and this made it easier for team members to speak up and reciprocate openly with one another.

**7.6. The most dominant subtheme in the Meaningful Work code family/theme was:**

**Respect.** Research suggests that failure to treat workers as human beings reduces meaningfulness of work and leads to general productivity decline (Steers et al., 2004).

Respondents mentioned that they felt respected when virtual team members appreciated their abilities and, most notably, when their abilities were valued by team members. They also mentioned that the strength of the relationship between team members also contributed to respect as they were able to communicate better with team mates and get more of an understanding of each other’s roles and value in the team environment and this helped to build communal respect and it made their work more meaningful to them.

**7.7. The most dominant subthemes in the Learning code family/theme were:**

**Personal engagement.** Research has found that there is a positive relationship between personal engagement, in terms of close social interactions, and meaningful work experiences, and this facilitates learning through effective communication. (Schifrin, 1984).
Respondents commented on how personal engagement was reinforced through communication and the building of relationships. Becoming closer with their virtual counterparts made team members more interested in their personal lives and this increased the reciprocity between the teams. This closeness also made team members more likely to provide more support for other team members, which promoted greater learning.

**Caring for team members.** Employee involvement in decision-making about the completion of immediate work tasks, feedback on work performance and opportunities for development show employees that their organisations do care about their perspectives and their development and this strengthens the mechanisms for sharing information and learning throughout the organisation (Felstead et al., 2010).

Respondents mentioned that recognition and appreciation were related to their feelings of care in the virtual team. If team members worked harder, this created more personal cohesion in the teams and this made virtual team members more willing to take the time to understand their virtual team counterparts and to provide them with resources if they needed it. The availability of resources further enhanced learning within the teams.

**Communication.** Peter’s (1992) study of the consultancy firm McKinsey revealed that communication plays a central role in being able to share key reports, which made it possible to create and sustain a databank of project lessons to create a marketplace of readily accessible ideas, which made it easier for new employees to learn their jobs much easier and quicker.

Respondents credited the comfortable working environment with the ability to communicate easily and openly with other virtual team members. Building relationships made this environment possible. Respondents commented on how the adequate communication tools aided the communication effort by making communication easier. Easier communication made sharing information easier and this stimulated intra-team learning. Trust among respondents and their virtual teammates also made communication easier because they felt they could voice their opinions without being judged.
Section 8: Qualitative Research Conclusion

8.1. Have the Research Questions Been Clearly and Appropriately Answered?

**Research question 1:** What are the expectancies of individuals in the workplace?

Expectancies of individuals in the workplace were studied through the examination of the literature. Vroom’s (1964) expectancy theory was used as the basis for providing the understanding of employee expectancies. The April-Smit (2010) Discretionary Effort Model was used to create the understanding that the perception of individuals is that their efforts in completing a particular task will lead to a specific outcome (instrumentality) and that it is this perception that drives people to attempt work projects. This initial understanding then led the researcher to further investigate factors that drove these instrumentalities, i.e., what factors made employees believe that their efforts would lead to certain outcomes.

**Research question 2:** What are the factors that motivate individuals to provide more discretionary effort in work projects?

Study of the theory has revealed various factors that motivate individuals to work harder.

Maslow’s (1943) hierarchy of needs theory presents the findings that certain factors such as self-esteem, confidence, respect (esteem); relationships (love/belonging) and resources (safety), are responsible for making employees believe that they will be able to achieve their professional and personal outcomes if these factors were present in their lives. For example, employees believe if they are able to develop relationships within their working environment (expectancy), they will be able to develop safe networks to interact within and share information (instrumentality), leading to greater employee skills and confidence about being able to complete work projects (valence).

Vroom’s (1964) study also revealed that motivational factors included environmental support (peer and subordinate support, availability of pertinent material) and self-concept.

Research of Herzberg’s (1974) work revealed that motivational factors were linked to organisational support. This support can be in the form of care, understanding and support from peers, subordinates and leaders within the organisation.
Pinder (1984) states that there are other factors of employee motivation, such as the amount of support received from one's organisation, and the availability of the tools and materials (resources) required to complete tasks and achieve intended outcomes.

Research of the theory also revealed that individuals that are given opportunities to learn and develop in their working environments experienced greater meaningfulness of work. (Hackman and Oldham 1974, p. 8)

Research done by Udechukwu (2009) suggests that recognition causes individuals to have faith that their efforts will be noticed, leading to a greater realisation of expected outcomes, thus making them more motivated to work harder.

The researcher then linked the expectancies to theory (see Section 4.3.) to determine what factors were most relevant when it came to motivating employees to provide discretionary effort by convincing employees that they could achieve their desired outcomes in their professional lives. Through these linkages, the researcher was able to determine seven code families/themes that were used for the qualitative and quantitative data gathering processes.

**Research question 3:** Do the motivating factors of discretionary effort exist when working in virtual teams?

Sifting through the qualitative findings, the researcher concluded that subthemes that motivate employees to provide more discretionary effort in the workplace did exist in the research results. Participants mentioned experiencing the subthemes of relationships, abilities, self-confidence, courage, freedom to speak, supportive environment, resources, empowerment, learning, acceptance of viewpoints, alignment of work goals, mutual working environment, sharing of information, recognition from organisation and virtual team, feeling valued, appreciation, commitment, cohesion, understanding, openness, respect, personal engagement, caring for team members and communication. The researcher linked these subthemes to the seven family codes/themes using theory (see Section 7.) and these code families were linked to motivation using theory. This meant that evidence of the subthemes in interviewee responses proved that there was evidence of motivating factors, which would indicate the presence of discretionary effort in the research sample. However, the researcher felt that the quantitative analysis findings needed to be looked at before a final conclusion could be reached with regard to answering research question 3.
8.2. Limitations of the Qualitative Analysis Process and the Need for Secondary Verification Data

The qualitative findings confirmed the presence of motivating factors, but there was no information regarding the polarity of each theme. For example, the researcher was aware that self-esteem was present in the virtual teams studied, but there was no indication of the proportion of respondents that felt that their self-esteem was weak (negative polarity) to the proportion of respondents that felt they had strong self-esteem (positive polarity). Thus, at this point, there was not enough data to be able to answer research sub-questions 4 and 5, i.e., “If the motivating factors of discretionary effort exist in virtual teams, do they meet the expectancies of employees in these teams?” and “What factors must be introduced by business organizations to meet the expectancies of individuals working in virtual teams?”, respectively. Also, there was not enough conclusive evidence, at this point, to fully commit to a conclusion with regard to research question 3, i.e., “Do the motivating factors of discretionary effort exist when working in virtual teams?” Further quantitative analysis was undertaken by the researcher to validate the answer to this question.

To obtain more detail with regard to the strength of the seven themes in the virtual teams studied, the researcher conducted a secondary, quantitative study, which will be detailed in the next section.

Section 9: Quantitative Research Analysis

The researcher asked the research sample a set of nine questions, to which the respondents were required to give a yes or a no answer. The nine questions are detailed in Appendix 3. The questions were designed to test the strength of the positive or negative existence of themes in the virtual teams studied.

9.1. Discussion of the Qualitative Research Results.

Table 8 shows the responses of each of the twenty respondents (R1 to R20) to the nine questions (Q1 to Q9).
Table 8: The individual responses of the 20 interview participants to the nine yes/no questions (Appendix 3)

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The researcher constructed pie charts to show the proportion of positive to negative responses for each question. These will be discussed next.
**Question 1:** Do you generally experience high self-esteem in the virtual team environment?

![Figure 6: Proportion of respondents that experienced high self-esteem (YES) to those that did not (NO).](image)

Figure 6 shows that 90% of the respondents commented that they experienced high self-esteem in the virtual team environment. Through the theoretical linkages created between the themes and subthemes in Section 7, the researcher deduced that there is a strong positive presence of the relationships, abilities, self-confidence, courage and freedom to speak subthemes.

**Question 2:** Do you feel that there are enough opportunities for growth and development in the virtual team environment?

![Figure 7: Proportion of respondents that experienced enough opportunities for growth and development (YES) to those that did not (NO).](image)

Figure 7: Proportion of respondents that experienced enough opportunities for growth and development (YES) to those that did not (NO).
Figure 7 shows that 65% of the respondents commented that they had enough opportunities to develop and grow within the virtual team environment. Through the theoretical linkages created between the themes and subthemes in Section 7, the researcher deduced that there was a good positive presence of the supportive environment, resources, empowerment and learning subthemes.

**Question 3:** Is there enough opportunity to innovate in the virtual team environment?

![Figure 8: Proportion of respondents that experienced enough opportunity to innovate (YES) to those that did not (NO).](image)

Figure 8 shows that 80% of the respondents commented that they had the freedom and the opportunity to innovate within the virtual team environment. Through the theoretical linkages created between the themes and subthemes in Section 7, the researcher deduced that there was a strong positive presence of the acceptance of viewpoints, alignment of work goals, mutual working environment and sharing of information subthemes.
**Question 4:** Do you get enough recognition from your organisation and virtual team, and do you feel you give enough recognition to your virtual team?

**Figure 9: Proportion of respondents that received enough recognition (YES) to those that did not (NO).**

Figure 9 shows that 80% of the respondents commented that recognition within the virtual team environment was good. Through the theoretical linkages created between the themes and subthemes in Section 7, the researcher deduced that there was a strong positive presence of the recognition from virtual team and organisation, feeling valued, appreciation and commitment subthemes.
**Question 5:** Are you able to reciprocate adequately with your virtual team?

![Pie chart showing the proportion of respondents that were able to reciprocate with virtual team members adequately (YES) to those that were not (NO).]

Figure 10: Proportion of respondents that were able to reciprocate with virtual team members adequately (YES) to those that were not (NO).

Figure 10 shows that only 35% of the respondents commented that reciprocation between virtual team members was adequate. Through the theoretical linkages created between the themes and subthemes in Section 7, the researcher deduced that there was generally a weak-to-negative presence of the cohesion, understanding and openness subthemes.

**Question 6:** Is the level of learning high in the virtual team environment?

![Pie chart showing the proportion of respondents that stated there was a high level of learning in the virtual team (YES) to those that did not state as such (NO).]

Figure 11: Proportion of respondents that stated there was a high level of learning in the virtual team (YES) to those that did not state as such (NO).
Figure 11 shows that 70% of the respondents commented that they felt that there was a high level of learning within the virtual team environment. Through the theoretical linkages created between the themes and subthemes in Section 7, the researcher deduced that there was generally a good positive presence of the personal engagement, caring for team members and communication subthemes.

**Question 7:** Is your work in the virtual team meaningful to you?

![Figure 12: Proportion of respondents that felt their work in the virtual team was meaningful (YES) to those that did not (NO).](image)

Figure 12 shows that 80% of the respondents commented that they felt that their work within the virtual team environment was meaningful to them. Through the theoretical linkages created between the themes and subthemes in Section 7, the researcher deduced that there was generally a good positive presence of the respect subtheme.
Overall proportion of positive to negative responses.

Figure 13: Overall proportion of positive responses (YES) to negative responses (NO) to the quantitative analysis questions.

Figure 13 shows that, overall, 71% of the sampled population experienced motivating factors of discretionary effort in the virtual working environment.

**Question 8:** Do you experience high job satisfaction and high internal work motivation?

Figure 14: Proportion of respondents that experienced high job satisfaction and high internal work motivation in the virtual team environment (YES) to those that did not (NO).
Figure 14 shows that, overall, 70% of the sampled population experienced high job satisfaction and high internal work motivation.

**Question 9:** Do you always achieve the desired outcome in work projects?

![Pie chart showing 80% Yes and 20% No]

**Figure 15:** Proportion of respondents that always achieved the desired outcome in virtual work projects (YES) to those that did not (NO).

Figure 15 shows that, overall, 80% of the sampled population felt that they achieved the desired outcome in their work projects in the virtual environment.
Figure 16 below shows the number of quotes made about each subtheme, as a percentage of the total number of quotes made.

Figure 16: The number of quotes made about each subtheme, as a percentage of the total number of quotes made.
Figure 16: The number of quotes made about each subtheme, as a percentage of the total number of quotes made (continued).
9.2. Discussion of the Quantitative Research Results and Quantitative Analysis

Conclusion.

The analysis in Section 9.1. provided the researcher with sufficient evidence to answer research sub-questions 3, 4 and 5.

Research question 3: Do the motivating factors of discretionary effort exist when working in virtual teams?

Linking the Findings to the April-Smit Discretionary Effort Model.

The April-Smit (2010) Discretionary Effort Model:

\[
\text{Discretionary Effort (DE)} = (0.1*I) \times (0.2*O) \times V \times (0.1*A)
\]

The quantitative findings showed that most of the respondents experienced high work satisfaction and motivation. 90% of the respondents stated that they had high self-esteem due to factors such as skills and experience gained through years of working in virtual environments. This was uncovered in the qualitative analysis. The researcher deduced that self-affirmation (A) was high in the study sample.

Achievement of workplace goals was also a high requirement for citizenship in the virtual networks sampled. Respondents mentioned that alignment of work goals made it easier to realise achievement of outcomes. Thus, the researcher deduced that the valence (V) component did exist in the sample.

Figure 9 shows that 80% of the respondents felt that they had a high measure of desired outcome (O), i.e., achievement of intended workplace outcomes.

Using theoretical linkages between the expectancies and themes (see Section 4.3.), and the presence of these themes in the sample, the researcher deduced that the Instrumentality (I) factor was high in the research sample, since subthemes that are theoretically observed to satisfy worker expectancies were present in the interview responses.

Thus, by the reasoning above, the researcher concluded that the drivers of discretionary effort, as stated in the April-Smit (2010) Discretionary Effort Model, were present in the
majority of the members of the research sample. Using this evidence, the researcher was able to conclude that discretionary effort does exist in virtual teams.

Research question 4: If the motivating factors of discretionary effort exist in virtual teams, do they meet the expectancies of employees in these teams?

Figure 13 shows that 71% of the research sample experienced positive motivating factors. Figure 14 shows that 70% of the research sample experienced high internal work motivation and high job satisfaction. The researcher deduced that the motivating factors of discretionary effort did exist in virtual teams that were researched, and that these factors did meet the expectancies of virtual team members to the point that they increased the motivation levels of these employees.

Research question 5: What factors must be introduced by business organizations to meet the expectancies of individuals working in virtual teams?

The findings produced very interesting quantitative data (see Figure 16) that shows various factors that organisations need to work on to improve virtual team productivity. For example, communication and relationships emerged as the two greatest influencers of motivation in virtual teams. Figure 10 presents findings that could be of great benefit to organisations working with virtual methods as it shows that most of the respondents felt that the reciprocation between the virtual teams was not adequate enough to motivate them. During the interview process, respondents mentioned that, although they felt they were able to communicate with great ease, the quality of the interaction was not what they expected it to be. Respondents felt that they were not able to develop a close personal bond with the offshore members of their virtual team. This made it difficult for team members to be open with one other in a personal and a professional sense, and this meant that virtual team members were committed only to their own organisations and not to the organisations of the virtual team/s that they were working with. This meant that their dedication to the virtual team was not as strong as it could have been. The findings show that most of the respondents felt that communication could be greatly improved in order to be able to build stronger relationships between team members to allow for more openness and better commitment.
Anderson & Chen (2002) state that satisfaction from relationships depends on the extent to which people define themselves in terms of connections with specific people from their social groups. Self-worth is based on reflected appraisals from significant others, such that self-esteem is enhanced by having high-quality relationships and this translates into higher work motivation (Kinch, 1963). Thus, it is imperative for organisations to take the time and make the effort to ensure that virtual team members spend as much time personally engaging with one another. Furthermore, the quality of the relationship between virtual team members should be increased to develop more understanding and openness between virtual teams.

The researcher also believes that limiting the study of expectancy to the Vroom (1964) Model of Valence, Instrumentality and Expectancy is not adequate enough to form understandings of employee motivation factors. The researcher believes that organisations should consider other factors such as the individual effort of the employee, the amount of support received from ones supervisor and team members and the availability of the tools and materials required to complete the task and achieve the intended outcome (Pinder, 1984), when designing employee motivation strategies.

Section 10: Researcher Limitations and Directions for Future Research

Because of the limited timeframe of the study, the researcher did not have the opportunity to study virtual team members in industries other than IT. The researcher believes that an examination of virtual teams in other industries could shed more light on the factors influencing discretionary effort. The researcher feels that it would also benefit organisations if a deeper study were done into the dimensions of reciprocation, communication and relationships, as these were the factors that most of the virtual teams in the sample had trouble perfecting.
Section 11: The Researcher’s Revised Model of Discretionary Effort

This section contains the researcher’s revised Model of Discretionary Effort as well as the researcher’s final conclusions to the study and recommendations for organisations wishing to strengthen the discretionary effort of their virtual work teams.
Figure 17: The Researcher’s Revised Discretionary Effort Model.
Figure 17 shows the seven expectancy themes that the researcher developed in this study of discretionary effort. In the researcher’s preliminary discretionary effort model (see figure 5), 13 factors were seen to have influenced discretionary effort. However, the researcher had no knowledge of which of these 13 factors influenced discretionary effort in the virtual teams studied and there was no knowledge to inform the researcher of the degree to which each factor influenced motivation and discretionary effort. By looking through the final results of the study, the researcher deduced that the seven factors of motivation that emerged from this study can be arranged in a hierarchy, with the factor having the least influence (meaningful work) at the base of the pyramid and the factor having the greatest influence (self-esteem) at the top of the pyramid. The order of the factors was determined, by the researcher, by looking at the number of comments made about each of the subthemes that related to each theme, and then arranging the themes from highest (most comments) to lowest (least number of comments). The hierarchy explains the direction that organisations must take in order to achieve more motivation from employees.

If we begin at the base of the pyramid, meaningful work is the easiest to achieve and the basic minimum requirement for any working environment that wants to be productive. This is because respect is a basic right of all employees and should be included in all workplaces. Through respect comes understanding and the freedom to speak openly, leading to the fulfilment of the reciprocation influencer. As employees reciprocate, they begin to create a supportive environment that empowers them through resources (short-term empowerment), thus leading to the achievement of the availability of developmental and growth opportunities influencer. As employees develop and grow within the organisation, work goals are aligned through the sharing of information (long-term empowerment) and the acceptance of viewpoints, leading to greater opportunities to innovate, and the achievement of the innovation influencer. Innovation creates a cycle of learning which is dependent on effective communication and personal engagement and this then leads to recognition for innovative and creative work outcomes, resulting in the achievement of the recognition influencer. Recognition makes employees more aware of the appreciation that the organisation has for their abilities and this builds self-confidence, which leads to courage and the freedom to speak, which leads to open communication and the formation of productive working relationships. At this final stage, the organisation has achieved the ultimate and most difficult-to-achieve influencer of human motivation, i.e., self-esteem.
Bibliography

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\[ \text{K} \]


\[ \text{L} \]


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• Respondent2, personal communication, September 28, 2011.

• Respondent3, personal communication, September 28, 2011.

• Respondent4, personal communication, September 30, 2011.

• Respondent5, personal communication, October 04, 2011.

• Respondent6, personal communication, October 04, 2011.

• Respondent7, personal communication, October 04, 2011.

• Respondent8, personal communication, October 04, 2011.

• Respondent9, personal communication, November 11, 2011.

• Respondent10, personal communication, October 25, 2011.

• Respondent11, personal communication, October 28, 2011.

• Respondent12, personal communication, November 04, 2011.

• Respondent13, personal communication, November 24, 2011.
• Respondent14, personal communication, November 24, 2011.
• Respondent15, personal communication, November 24, 2011.
• Respondent16, personal communication, November 08, 2011.
• Respondent17, personal communication, October 21, 2011.
• Respondent18, personal communication, November 07, 2011.
• Respondent19, personal communication, November 11, 2011.
• Respondent20, personal communication, December 01, 2011.


Y


Z

Appendix 1: Interview consent release form

GRADUATE SCHOOL OF BUSINESS

Release Form

The information gathered from me, relating to my research, will be held in strictest confidence, and its primary use is in partial completion of the MBA programme at the Graduate School of Business of the University of Cape Town. It is understood by myself that the results hereof will be used for research purposes only.

I additionally DO / DO NOT (circle choice) give permission to ....................... (student name) and Prof. Kurt April (research supervisor) to conduct secondary research on trend data and key themes from the research, in pursuit of a more robust and empirically-based understanding of the human condition and human dynamics through research, and subsequent publication for debate.

Please circle one choice out of the two possibilities below (if research permission has been given):

- ......................... (student name) and Prof. April may conduct such research, drawing out trends and themes from the interview/survey/questionnaire, and MAY use my name and appropriate quotations to highlight key areas/themes in the research, and in publication.

- ......................... (student name) and Prof. April may conduct such research, drawing out trends and themes from the interview/survey/questionnaire, but MAY NOT use my name, and any other information that can uniquely identify me in the research, or in publication.

________________________________________________________________________

PRINT FULL NAME & SIGN

________________________________________________________________________

DATE
Appendix 2: Interview questions for the purpose of qualitative data gathering

The following fourteen questions were posed to interview subjects. Qualitative data was obtained from the responses to these questions.

Question 1.
Code Family/Theme: **Self-esteem:**

1.1. Are you confident in your skills and performance and are therefore able to show courage and sense of purpose to stand up to your virtual team members for what you believe?

1.2. Do you feel that you are able to honestly acknowledge to your virtual team when you are unable to contribute significantly or do not know what you are doing or what to do next?

Question 2.
Code Family/Theme: **Availability of developmental and growth opportunities.**

2.1. Are you able to provide virtual team members with the necessary development, and resources to play meaningful roles in something that is quite significant to the virtual team and the organisation?

2.2. Do you believe that you are able to learn the required amount, and at the required pace, in order to work competently in all workplace eventualities and situations?

Question 3.
Code Family/Theme: **Innovation.**

3.1. Are you able to purposefully explore unconventional ideas and different approaches that could eventually (currently, or in the future) be important for your virtual team to know.

3.2. Do you regularly feed back new and different information and knowledge to your virtual team members (information and knowledge that they may not have come across)?
Question 4.

Code Family/Theme: Recognition.

4.1. Are you satisfied with the amount of recognition you receive, from your virtual team members and general organisation, for contributing to your network, and organisational success?

4.2. Do you prefer specific recognition and feedback, rather than general feedback, concerning your contribution?

Question 5.

Code Family/Theme: Reciprocation.

5.1. Do you consistently work at aligning your work goals with the goals of your virtual team members?

5.2. Do you continuously seek to improve virtual team processes and communication to achieve more effective network cooperation and higher levels of reciprocity among virtual team members?

Question 6.

Code Family/Theme: Learning.

6.1. Do you provide accurate and constructive feedback to your virtual team members regarding their understanding or misunderstanding of important knowledge relating to the work that the virtual team is involved in?

6.2. Do you put aside specific time slots/periods for sharing, informally and formally, personal knowledge and insights with other virtual team members?

Question 7.

Code Family/Theme: Meaningful work.

7.1. Do you periodically highlight and celebrate your virtual team members’ behaviours and actions that appear to be aiding the achievement of the desired organisational outcomes?

7.2. Do you feel that you play an important role in the virtual team and that you are needed and valuable to organisational success?
Appendix 3: Quantitative research questions

The following nine questions were posed to interview subjects. Quantitative data was obtained from the responses to these questions.

- **Question 1**: Do you generally experience high self-esteem in the virtual team environment?

- **Question 2**: Do you feel that there are enough opportunities for growth and development in the virtual team environment?

- **Question 3**: Is there enough opportunity to innovate in the virtual team environment?

- **Question 4**: Do you get enough recognition from your organisation and virtual team, and do you feel you give enough recognition to your virtual team?

- **Question 5**: Are you able to reciprocate adequately with your virtual team?

- **Question 6**: Is the level of learning high in the virtual team environment?

- **Question 7**: Is your work in the virtual team meaningful to you?

- **Question 8**: Do you experience high job satisfaction and high internal work motivation?

- **Question 9**: Do you always achieve the desired outcome in work projects?
Appendix 4: ATLAS.ti network tree diagram for the Self-Esteem code family showing number of quotations per node
Appendix 5: ATLAS.ti network tree diagram for the Innovation code family showing number of quotations per node
Appendix 6: ATLAS.ti network tree diagram for the Recognition code family showing number of quotations per node
Appendix 7: ATLAS.ti network tree diagram for the Reciprocation code family showing number of quotations per node
Appendix 8: ATLAS.ti network tree diagram for the Learning code family showing number of quotations per node
Appendix 9: ATLAS.ti network tree diagram for the Meaningful Work code family showing number of quotations per node
Appendix 10: ATLAS.ti network tree diagram for the Availability of Growth and Developmental Opportunities code family showing number of quotations per node
Appendix 11: The 24 most influential and dominant subthemes and the themes/code families they are related to

- **Self-esteem**: Abilities, Self-confidence, Relationships, Courage, Freedom to speak.
- **Recognition**: Recognition from organisation & recognition from others, Feeling valued, Appreciation, Commitment.
- **Learning**: Personal engagement, Caring for team members, Communication.
- **Innovation**: Acceptance of viewpoints, Alignment of work goals, Mutual working environment, Sharing of information.
- **ADGO**: Supportive environment, Resources, Empowerment, Learning.
- **Reciprocity**: Understanding, Openness
- **Meaningful work**: Respect.