CHAPTER 7

7 TOWARDS A CONCEPTUAL FRAMEWORK

7.1 INTRODUCTION

The main objective of this study was to create a new managerial framework for the enablement of the performance of virtual knowledge workers. This chapter presents the propositions relating to the new conceptual framework. The propositions are presented according to each concentric circle of the final model or "*Concentric performance enablement model for virtual knowledge workers*", which was described in Chapter 6 and presented in Figure 6-18. There are propositions for the individual's contribution, true virtuality, the manager as enabler, parameters affecting performance, true performance and trust. The aim of the propositions is to assist the manager in enabling the true performance of virtual knowledge workers.

7.2 PROPOSITIONS: THE INDIVIDUAL PERFORMING WORK

The contribution and influence of the individual is often underestimated. Focusing on the individuals, and allowing them to make a greater contribution to their performance, will mean they will take accountability and can show more self-control.

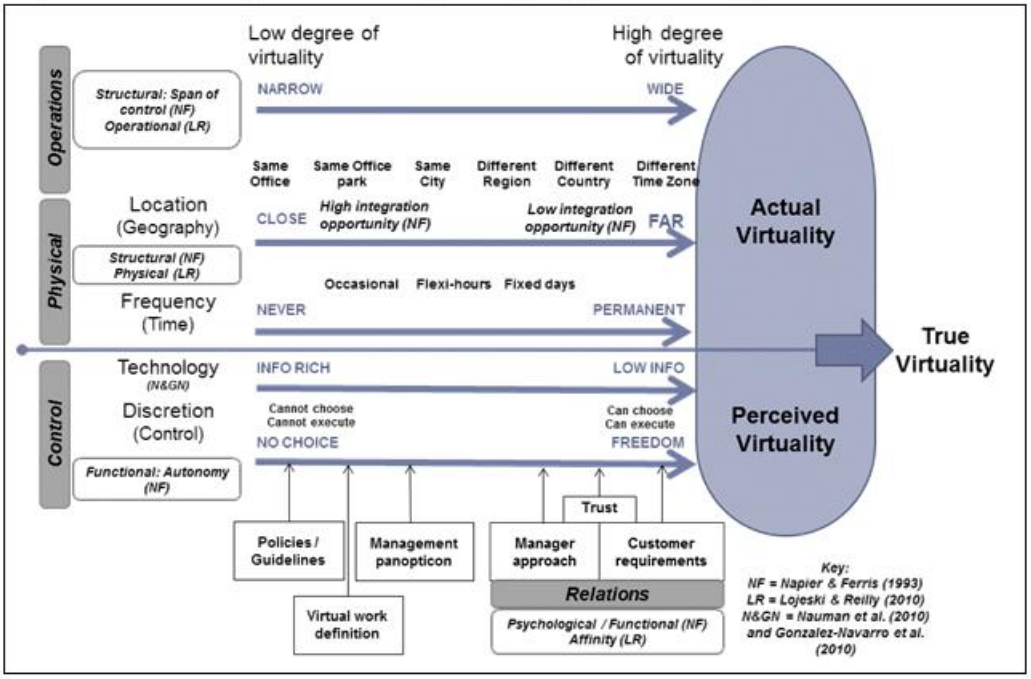
Proposition IC1: *The more individuals are made part of the detail planning, the more accountability they will assume.*

Proposition IC2: *The more the contribution and influence of individuals is appreciated, and the greater the contribution to their performance they are allowed to make, the more accountability they will show, and the more their self-control will become evident.*

7.3 PROPOSITIONS: TRUE VIRTUALITY

The first theme illustrated the difference between actual and perceived virtuality, and how this related to true virtuality (Figure 6-3, also copied below). It showed that the true virtuality could in fact be higher than the degree of perceived virtuality; in other words, the degree of perceived virtuality could be low, although the actual virtuality might be high. An example of perceived low virtuality is an individual who works on a customer site, away from the line manager but under constant surveillance of the customer, and therefore thinks that this is not working virtually. This is in fact an example of actual virtuality, since the individual is working away from the direct influence of the manager. The analysis of the data of all five of the cases showed that individuals were exposed to a high degree of actual virtuality, although the perceived virtuality was not always that high.

Figure 6-3: Actual vs. perceived virtuality – theory map ("True Virtuality")



Note: Refer Figure 15-1 in Appendix F for the enlarged diagram.

The propositions are based on the true virtuality model.

Proposition TV1: *The true virtuality of individuals is often higher than the perceived virtuality.*

The manager needs to determine the true virtuality by evaluating actual and perceived virtuality. Elements found to contribute to actual virtuality were operations and physical distance, while control and relations distance contributed to perceived virtuality. From an operations distance perspective, the higher the manager's workload, the less time the manager has to spend with the individuals. This implies that there is less time to build relationships, with increased perceived virtuality, and as a result the true virtuality increases as well. Managers should be aware of the fact that under these conditions, individuals who have low maturity and/or experience will be more likely to show a decline in their performance. Therefore managers should be vigilant and try to provide sufficient support for those individuals.

Discretion distance is also important. Even though the individuals may be working remotely from their manager, their perceived virtuality may be low, based on the fact that the customer wants them to work on site, and they therefore do not have a choice of where and when they should work. The manager's approach and assumptions about virtual work will also determine how the individuals perceive the discretion that the manager allows them. In addition, the availability of policies, how virtual work is understood and the management panopticon will all play a role in reducing or enhancing the perceived virtuality.

The following propositions have been formulated for each of the types of virtual distance.

Proposition TV2 - Virtual distance:

(a) ***Physical Distance:*** *Individuals working geographically close to their managers (even in the same office park or office block, i.e. having a low degree of location virtuality) may still have a high degree of time virtuality and operations virtuality, which increases their degree of true virtuality.*

(b) ***Operations Distance:*** *The higher the operations distance, the more time the manager needs to spend on building relationships, to ensure that the true virtuality can be reduced and that the performance can be enabled.*

(c) ***Relations Distance:*** *The less time the manager spends with the individuals, the higher the relations distance. A high degree of relations distance lessens trust.*

(d) ***Discretion Distance:*** *The less choice the individuals feel they have in being able to select their time and location of work, the lower the perceived virtuality (and the lower the perceived trust).*

The true virtuality affects the activities that the manager should be carrying out. These activities need to be maintained to ensure that the individual is enabled to perform optimally in the virtual work environment.

Proposition TV3: *The higher the true virtuality:*

(a) the more communication is needed;

(b) the more relationship building is needed;

(c) the more clear the objectives, measurement criteria and end goals should be; and

(d) the more trust the manager needs to have in the individuals' ability to deliver without being monitored.

7.4 PROPOSITIONS: MANAGER AS ENABLER

The manager's approach includes the impact that the manager could have on the individual's performance through the manager's experience in his or her field, the manager's assumptions about remote work, and who the manager is as a person ("I am" statements made). An important point is that irrespective of the manager's preferred management style, it is necessary for the manager to be flexible in order to accommodate the different styles of the individuals. In other words, individuals need to be handled differently, even though the deliverables or outputs may be the same.

Propositions ME1 - The manager's approach:

(a) The better managers understand themselves and their management style ("I am" descriptions), the easier it is for managers to select individuals that fit this desired style.

(b) The better managers understand their own management style and the more flexible they are prepared to be, the more easily managers will be able to work with a diverse range of styles of team members.

(c) The better managers understand their own underlying beliefs regarding remote work, the better they will understand why they are placing certain demands on individuals to enhance the perceived performance.

(d) The more experience managers have with remote work (working remotely themselves, or allowing teams to work remotely), the more understanding the managers will have with regard to the needs of their remote team members.

(e) The more technical experience managers have, the easier it will be to evaluate the validity of deliverables and the timing required, as well as manage customer expectations.

(f) The easier it is for managers to measure the team's work, the more readily they will allow the individual to work remotely.

The manager as enabler acts as mediator for all of the Impact Parameter Model parameters. If managers understand the total impact that the organisation, customer, their own approach and contextual parameters have on the individual's performance, they will be able to influence and relay the effect of these parameters. This will assist in enabling the individual to perform better, leading to a higher degree of actual performance. The manager acts as communication hub, manages interfaces impacting on performance that fall outside the scope of control of the individual, enables the performance of the individual through involvement and support, and shows trust by giving the individual autonomy to perform the work that has been allocated.

Proposition ME2 - The manager as enabler:

(a) *The more communication channels the manager has activated, the higher the positive impact of the communication will be*. (Managers should aim to rather over-communicate than to under-communicate, especially where it comes to organisational messages.)

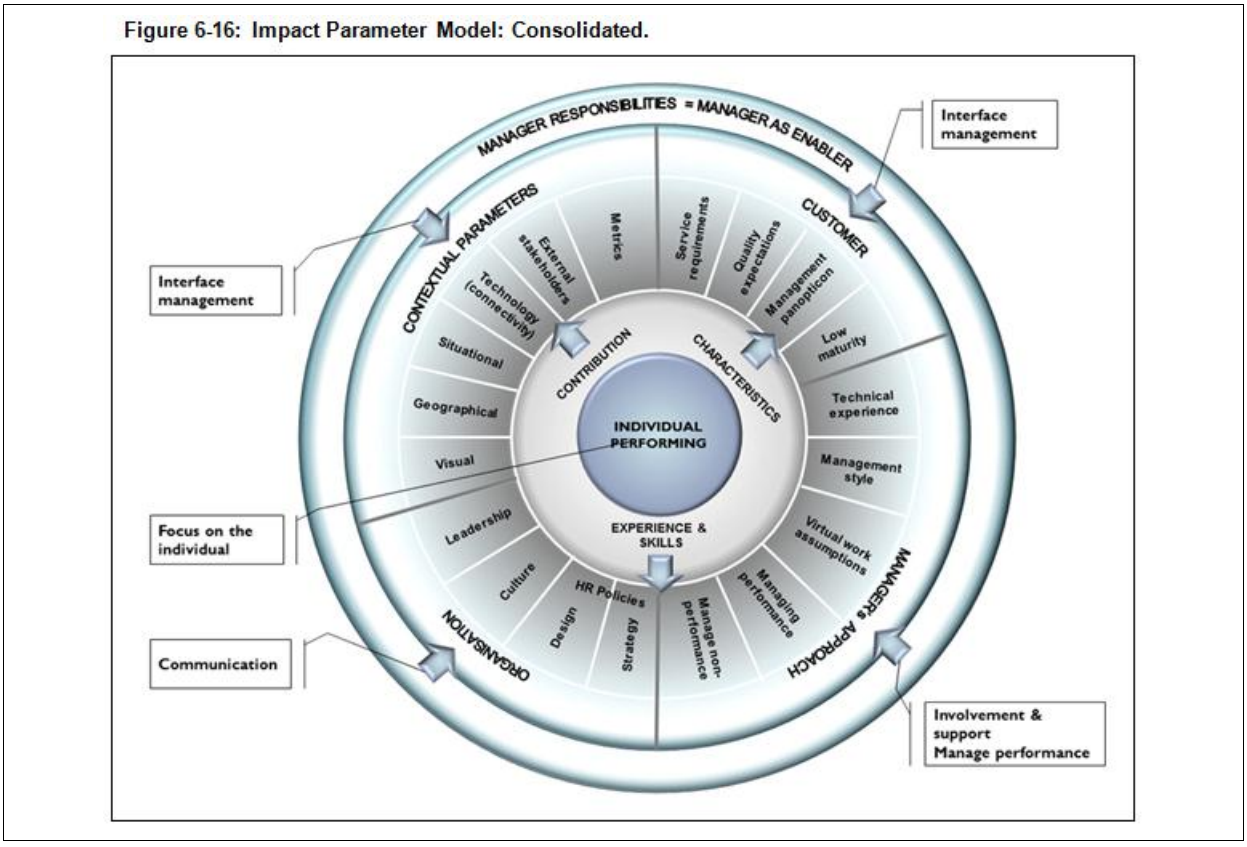
(b) The more the manager facilitates the interfaces for individuals, the more support individuals will have through the interfaces for their performance.

(c) The greater the availability of the manager in terms of support and involvement with the individual, the lower the perceived virtuality, even though the actual virtuality may be high. This also builds trust and belongingness.

7.5 PROPOSITIONS: CONTEXTUAL, ORGANISATIONAL AND CUSTOMER PARAMETERS

The parameters identified in the study affecting performance covered a broad spectrum: from organisational settings to general contextual, from customer requirements to the manager's approach, and then in addition the manager's responsibilities and the individual's contribution as was shown in Figure 6-16 (also included below). Propositions have been created for each of these categories. The multiplicity of parameters also shows how complex a task it is to manage the performance of virtual knowledge workers, because there are always multiple inputs that need to be taken into consideration.

Figure 6-16: Impact Parameter Model: Consolidated.



Note: Refer Figure 15-3 in Appendix F for the enlarged diagram

As seen in the Impact Parameter Model, the organisational setting includes the impact of the company's leadership, design and strategy, organisational culture and HR policies.

Proposition PARM1 - Organisational setting:

(a) The smaller the organisation, the more positive the effect the vision of the CEO will have on day-to-day performance.

(b) The more support from a senior official in terms of the acceptance and implementation of virtual work within the organisation, the higher the discretion distance will be (i.e. individuals will perceive that they have more choice, and based on proposition TV3(d) their perceived trust will thus increase.)

(c) The higher the disconnect between the organisation (HR), the manager and the employee, in terms of the performance management triangle, the less time will be spent on performance management, and the more performance management will be seen as an obstacle, rather than a help.

(d) Having guidelines for virtual work available on organisational level will assist managers in decisions regarding virtual work requests, and save time in creating individualised frameworks.

(e) Making HR guidelines and policies relating to virtual work more visible will increase the understanding of the concept of virtual work.

Contextual parameters are those relating to geography, the situation, technology, external and metrics.

Proposition PARM2 - Contextual parameters:

(a) The better the connectivity, the more work can be done remotely.

(b) The situation will dictate whether virtual work is possible for a particular piece of work. This may imply that the same piece of work could be done remotely on one day, while having to be done co-located the next day.

(c) Until such time as South Africa can increase the bandwidth availability significantly, and ensure the actual availability thereof, performance of virtual workers will have to be managed using less information-rich media, and/or

individuals will have to visit the main office location more regularly to satisfy the need for face-to-face interaction.

(d) The fewer key metrics that are defined for measuring, the easier it will be for individuals to fulfil the requirements for those metrics. (Also see propositions TP3 and TP4(e), which relate to metrics.)

As indicated in Chapter 6, in the virtual world of work, one of the key differentiators for managing the performance of virtual knowledge workers is that technology becomes the mediator for the manager to initiate, plan, execute, monitor and control (Avolio *et al*., 2009:440; DasGupta, 2011:1), but also for the performance of the individual to become apparent or visible to the manager (i.e. creating the concept of perceived and true performance). In this regard, most of the studies reviewed as background to this research in Chapter 6 on virtual leadership and management of dispersed teams focused on a situation where the manager never sees the individual, and all activities have to take place remotely or via technology.

As managers in the current study indicated, one way to improve the management of the performance of remote teams and individuals was to create more opportunity for face-time in the form of visiting individuals on customer site or at regional offices, or else to have better video conference facilities, where the expressions of the individuals could be more clearly visible. There were also situations where the managers indicated that they preferred to have the teams together, especially when issues needed to be resolved, when the environment or solution was still fluid (i.e. collaboration needed) and deadlines were short. Face-to-face contact was also used often for the building of relationships. Ultimately there seems to be an inherent human need for people to see each other, and the recommendation is for managers to create as much opportunity as possible for this.

The propositions for the advantages for visual contact are listed below.

Proposition PARM3 – Contextual and face-to-face:

The more face-to-face contact,

(a) the better the relationship;

(b) the more trust;

(c) the shorter the delivery time;

(d) the easier the collaboration;

(e) the higher the perceived performance.

In the absence of face-to-face contact, there are additional activities the managers need to take into consideration. These are reflected in the two propositions below.

Proposition PARM4: *The less face time (including the use of less information-rich telecommunication media), the more explicit and the more regular the communication needs to be.*

Proposition PARM5: *The fewer the visual inputs (or face time), the more alternative inputs are needed (listening, perceptions, using multiple deliverables over a period of time) to establish the true performance of the individual.*

Throughout the research, it has become apparent that the customer plays an important role in terms of virtuality perceptions and related performance of individuals. Ultimately, if the customer is satisfied (“happy”), then it is deemed that the individual has performed, equating to “true performance”.

Proposition PARM6 - The customer:

(a) The more trust the manager builds with the customer, the more amenable the customer will be to allowing the individual team members to work remotely or from home.

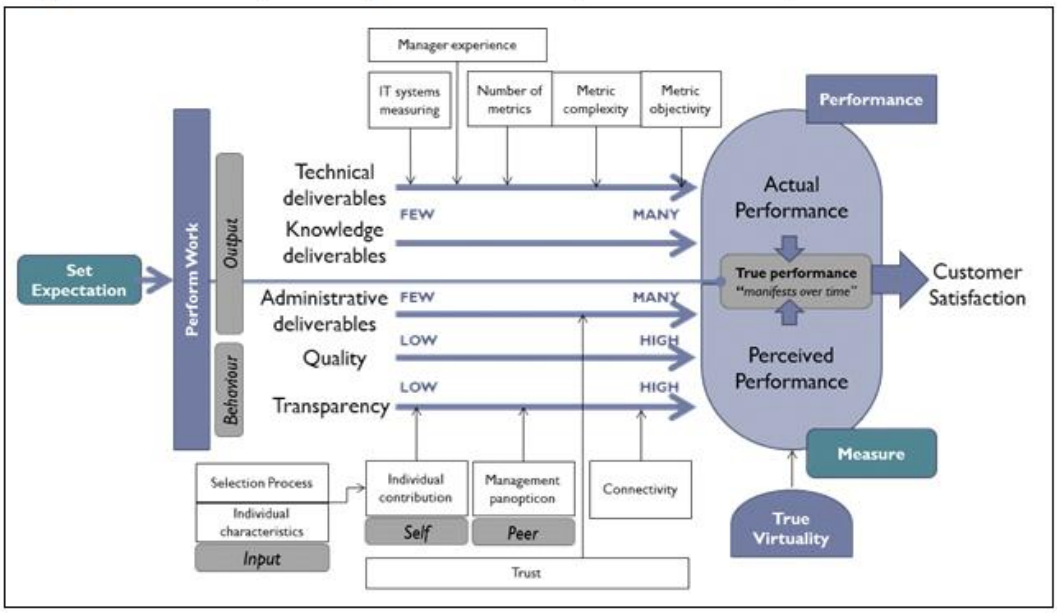
(b) The higher the customer happiness factor, the higher the actual performance of the individual.

7.6 PROPOSITIONS: TRUE PERFORMANCE

The second theme indicated which factors contributed to actual performance and perceived performance, and how the combination of these two resulted in true performance. Where visibility of the actual performance was low, which is often the

case in virtual work situations, the manager depended on perceived performance to measure the performance of the virtual workers. For perceived performance to be positive, the quality of deliverables needs to be high. At the same time, managers tend to increase the number of administrative deliverables to ensure that work is actually happening, rather than trusting the individual. The propositions below relate to the model of "True Performance" as presented in Figure 6-9.

Figure 6-9: Actual vs. perceived performance model ("True Performance")



Note: Refer Figure 15-2 in Appendix F for the enlarged diagram

Although it has been established that the degree of virtuality does not change the scope of the technical deliverable, a key element is that actual performance is still closely related to real outputs and real measurements. Therefore, the more easily the deliverables can be measured, the more accurate the reflection of the actual performance will be. In terms of actual performance, the following propositions apply:

Proposition TP1: *The more IT-based measurement systems are available to measure actual deliverables, the more accurately the actual performance will be represented.*

Proposition TP2: *The more technical experience the manager has in the deliverables that are being managed, the better the manager will be able to set*

expectations, define deliverables sparingly, and accurately evaluate the actual performance.

Proposition TP3: *If the number of metrics, their complexity and their subjectivity are all high, the reflected actual performance will be seen as low, even though the true performance may be high (i.e. the customer is happy).*

The factors contributing to perceived performance often have the opposite effect to that anticipated. In other words, the more the administrative deliverables, the higher the performance perceived by the manager, but the lower the actual performance will be. The more managers there are in the matrix of management for the individual, the higher the perceived performance, but the lower the actual performance. Individuals could, however, increase the perceived performance by increasing visibility (or transparency) of their work. The manager should always ensure that the number of administrative deliverables does not exceed the number of technical deliverables and that the time required to provide the administrative deliverables does not exceed the time required to provide the actual deliverables. In this regard, it is important for managers to understand why they are measuring. Managers should only measure the relevant data, because there is effort and time involved in providing the supporting data for the measurements. In addition, as seen from the data provided in this study, the wrong measures will stimulate the wrong behaviour.

In terms of perceived performance, the following propositions apply:

Proposition TP4 – Perceived performance:

(e) The lower the transparency the lower the perceived performance (i.e. low transparency leads to negative perceptions of performance).

(f) The greater the individual contribution, the higher the perceived performance.

(g) The more managers who are demanding (administrative) deliverables from the individual, the higher the perceived performance but the lower the actual (and true) performance.

(h) The higher the connectivity and the more information-rich the medium, the higher the perceived performance.

(i) *The better the manager understands what he or she really needs to measure, the easier it is to define the measures.*

Based on the maturity of both the manager and the individual, and depending on the skill level of the individual, the number of technical deliverables in relation to perceived deliverables can be adjusted, as well as the level of detail that the manager needs to give. This was shown in Table 6-4, and the additional propositions as related to the level of maturity are listed below.

Proposition TP5: *When the maturity of either the manager or the individual is low, then:*

(a) deliverables will be based on standards in the environment;
(b) goals will be expanded to task level;
(c) the behaviour required will be specified; and
(d) deliverables will tend more towards "output" deliverables.

Proposition TP6: *When the maturity of the manager and the individual are both high, then:*

(a) deliverables can be defined by the individual;
(b) the manager needs to provide only high-level goals;
(c) the behaviour required will be assumed; and
(d) deliverables will tend more towards behaviour and knowledge work.

Overall, for true performance, the following proposition applies:

Proposition TP7: *The greater the customer satisfaction, the higher the true performance.*

7.7 PROPOSITIONS: TRUST

Trust permeates the model and various propositions regarding trust have already been stated as part of the preceding concentric circles of the model. Trust also plays an important role in terms of perceived performance, and is associated directly with the number of administrative deliverables required in a particular situation. However,

even in high trust situations, the manager still needs to remain involved to ensure belongingness of the individual.

Proposition TRUST1: *The higher the trust, the fewer administrative deliverables will be needed. (For the individual: The more administrative deliverables, the lower the perceived trust.)*

Proposition TRUST2 - Manager as enabler and trust:

(a) *The more autonomy an individual is given, the higher the perceived trust by the individual and the better the chances of a successful outcome or output.* (Theory Y)

(b) The better the connection or relationship with the individual, the greater the mutual trust will be.

(c) The more trust between the individual and the manager, the easier it will be for the manager to convey difficult messages.

7.8 SUMMARY

The chapter has listed propositions according to each concentric circle in the model that was established in Chapter 6. The combination of the propositions and the model form the conceptual framework which was the aim of research objective 3. The propositions could assist managers to manage and enable the performance of virtual knowledge workers by becoming action guidelines for their own individualised management frameworks. The conclusions and recommendations based on this new conceptual framework will now be discussed in Chapter 8.

CHAPTER 8

8 CONCLUSION AND RECOMMENDATIONS

8.1 INTRODUCTION

In modern organisations, where mobile technologies have enabled knowledge workers to work remotely from their managers and colleagues, performance management principles have not adapted sufficiently to enable and measure the performance of these virtual knowledge workers both effectively and efficiently.

The study set out to investigate, analyse and describe the ongoing management and measurement of performance of virtual knowledge workers from the perspective of the manager, with the aim of setting up a new conceptual framework to help managers to enable and manage the performance of these individuals. In addition, the study set out to suggest what organisational context and individual contribution would be required to support the framework. This was done by using the embedded, multiple-case study strategy of enquiry, and included five companies, 39 interviews, which were qualitatively analysed, and 163 questionnaires, which were analysed through descriptive statistical methods.

Chapter 8 is the culmination of the research, and summarises the findings in relation to the research objectives that guided the study. It also elaborates on the significance of the research on theoretical, methodological and practice levels and lists the limitations of the research. In addition, the chapter provides recommendations on organisational, managerial and individual levels, linked to the levels of the research. As part of the recommendations, areas of future research are also included.

8.2 SUMMARY OF FINDINGS

8.2.1 RO1: How is Performance Managed

> RO1: To critically review the current state of knowledge and understanding of **how the performance of virtual knowledge workers is managed**.

The first important finding in terms of how performance is managed was the understanding of how "virtual" is defined, when individuals deem themselves to be virtual workers, and when managers see individuals as working virtually. This led to the *first theme* being identified, namely "understanding virtuality". A model was built to show how actual virtuality and perceived virtuality lead to true virtuality. This has implications for how performance is managed and what managers and organisations put in place to enable performance in situations which have a higher degree of either perceived or true virtuality.

From *Theme 2*, which consolidated the aspects of managing performance, one of the key findings was that managers indicated that they did not differentiate the management of performance and deliverables based on whether the individual was working remotely or co-located, but rather based on the personality of the individual. However, when individuals worked remotely, additional tasks and checklists were often put in place to increase the perceived performance, in addition to the deliverables or outputs which contributed to actual performance. Linked to this was the finding that true performance always manifested itself over time, and that managers needed to take multiple inputs into consideration in order to establish true performance. In addition, the "customer happiness" factor was seen as a strong indicator of true performance.

Given the needs of managers regarding perceived performance, individuals still experienced the management of performance as micro-management, limiting the individual within the deliverable and metrics framework that the manager was setting, rather than acting as enabler by allowing the individual autonomy to expand on or change the parameters for delivery, with the proviso that the customer was happy (i.e. expectations had been met.) This finding was linked to the model of "Work vs.

Measure" (Figure 6-4), which indicated that time allowed to work should always be more than time required to measure. Intrinsic to this finding was also the finding that the more managers the individual needed to report to, the more time would be required to satisfy the needs of each manager in terms of "measurement", rather than being able to deliver productive work (Figure 6-5).

Another finding related to *Theme 2* was that in general scientific literature investigating performance management as such seems to be linked more closely to the views and practices prescribed from an HR practitioner or HR researcher point of view, instead of from a line manager point of view. In this context, managers often see "performance management" as restrictive and a barrier to performance, rather than aiding the management of performance.

Lastly, as shown by *Theme 4*, in the context of virtual work and managing virtual performance, managers still found visual clues to be important, rather than just listening and observing behaviour via emails and telephone conversations. In most cases, when managers were asked what they would like to be doing differently, they indicated that they would aim to have more contact time with the remote individuals, either via improved video conferencing or through more regular site visits. Related to this theme is also the fact that human beings are inherently social in nature, and although there are some individuals who prefer to work alone or independently, belonging to a group and having that social interaction is still important. Connectedness is what makes us human.

8.2.2 RO2a: Organisational Context

> RO2a: To analyse and describe how the **organisational context** affects the performance and outputs of virtual knowledge workers.

Theme 3 consolidated all the parameters that impacted on the performance of the individual in a remote situation. This went beyond the organisation and included the contextual factors, such as geographical, situational, technological and external factors, as well as the effect of the customer. This shows how this research which was performed in a real-life situation corresponded with the subjectivist-interpretivist

research paradigm, in that the situation and its specific set of parameters created different truths for the managerial framework. A single, definitive managerial framework would therefore not be possible.

In terms of organisational context, a key finding was that the smaller the organisation and the fewer the layers of management, the more managers were aware of policies and procedures available on organisational level, and the more influence the CEO would have on guiding performance and virtual work in the organisation. The lack of knowledge of virtual work policies also seemed to decrease the degree of perceived virtuality; because no policy existed (either real or perceived), individuals believed that they were not allowed to work virtually.

Technology was also listed as a contextual factor, and has a limiting effect on allowing visual interpretation of the individual's emotional state. In the South African context, using video conferencing effectively is constrained by bandwidth limitations.

Another key finding was that the situation would often dictate whether work could be performed remotely, or if remote performance was acceptable. Elements such there being many issues to resolve, the requirements still being fluid, or deadlines being and collaboration needed, would drive the preference of the manager for having the team co-located.

The customer had a strong influence on defining the requirements for service delivery as well as interpreting the ultimate performance. This could either lead to a positive customer experience (also referred to in this study as the "customer happiness factor") or a negative customer experience, even if the customer might have been the cause of the non-performance. In addition, the customer often dictated the location of the individual, and in this way had an impact on the perceived virtuality of the individual. In general, the customer plays a key role in determining the true performance of individuals.

8.2.3 RO2b: Manager's Approach

RO2b: To analyse and describe how the **approach of managers** affects the performance and outputs of virtual knowledge workers.

Within the Impact Parameter Model (Figure 6-16), two aspects of the manager were included as part of Theme 3. The first was the manager's approach and the second was the manager as enabler. These two aspects represent "enablement" of performance as opposed to the underlying control theme of "managing" (and inherently controlling) performance.

Three elements of the manager's approach influence how virtual work is managed. Firstly, how the manager describes himself or herself in terms of *"I am" statements used* influences the manager's initial selection of individuals, the level of involvement of the manager in work being performed and the way that deliverables are defined. Secondly, the *manager's experience with remote work*, and resulting *assumptions about remote work* influence how the performance of virtual knowledge workers is managed in relation to the amount of control, as opposed to trust, that is exercised. Thirdly, the level and years of *technical experience* of the manager allow the manager to be more accurate in goal setting as well as evaluation of deliverables. These three variables create part of the context in which individuals perform and managers manage. As part of the discussion relating to subjectivist-constructivist research paradigms, Saunders (2009:601) indicates that "… entities are created from the perceptions and consequent actions of those social actors responsible for their creation". Through these three variables, managers create their own framework of management and enablement based on who they are and the type of individuals included in their teams.

In addition to the manager's approach, the findings indicated that the main responsibilities of the manager that could enable the individual were communication and organisational change management; focus on the individual; involvement and support; interface management, and the direction elements relating back to the principles of management of performance.

8.2.4 RO2c: Individual Contribution

> RO2c. To determine what **individual factors** play a major role in the performance of virtual knowledge workers.

In theme 3, the impact of the individual was also addressed. There are two components relating to this element. Firstly, there is the manager's view, which includes the selection component, in that managers try to select individuals that fit their management style. They also prefer individuals who are professional, self-driven and have sufficient experience to be able to work on their own. In addition to this, the manager would expect a certain amount of transparency (among other qualities) from the individual when working remotely.

Secondly, there is the individual's point of view – a person and not an automaton – making unique contributions. A managerial framework as such will not automatically ensure the performance of the individual. The manager therefore creates the positive environment and feeling of belonging, and the individuals contribute their own skills and passion for the specific area of work. So the one cannot function without the other; they are mutually dependent for ensuring the virtual performance. The manager should therefore always include the individual in the initiation and planning stages where deliverables are defined and goals are set to ensure that the shared level of obviousness is created from the start.

8.2.5 RO3: The Conceptual Framework

> RO3a: To create a **new conceptual framework** or intellectual tool to help managers to manage and enable the performance of virtual knowledge workers.

The conceptual framework combines the themes into an integrated and holistic view of managing the performance of virtual knowledge workers effectively. It consists of the *Concentric performance enablement model for virtual knowledge workers* (illustrated in Figure 6-18) and the related propositions in Chapter 7. The manager can use the combination of these two elements as a guide in creating his or her own framework for managing performance in the team.

RO3b: To determine what **organisational context** would be required to support this new conceptual framework.

The organisational context is described as part of the parameters identified in Theme 3 and links to the elements identified in RO2a. Two organisational elements that would support the framework itself are firstly that a guideline, and not necessarily a policy, would assist with the definition of individual frameworks; and secondly that support from senior management for virtual work, would give official sanction to the framework. Also, although the management panopticon is important in the context of managing virtual performance, the smaller the matrix of management, the more individuals can focus on productive work, rather than on administrative deliverables to prove they are working.

RO3c. To determine how **individual factors** might influence the definition of the intellectual tool.

The contribution of the individual for Research Objective 3c filters through directly from the findings for RO2c. Among others, the individual plays a key role in alleviating some of the limitations and challenges of remote work and the challenges to management of virtual performance experienced by the manager, and in this way will influence the complexity and comprehensiveness that will be needed in the framework.

8.3 SIGNIFICANCE OF THE RESEARCH

The study makes a contribution to the body of knowledge on e-leadership, as stated by DasGupta (2011:30), “Finally, some newer technological innovations are in progress to support the e-leadership movement. There does not appear to be any serious disagreement amongst scholars on e-leadership; there are only working variations in research focus. There is agreement that this is a new field and that more research needs to be conducted.” As such, the study confirmed the definition of a virtual worker and the existence of virtual work in the South African context, and showed that there is a whole continuum of virtuality and how this affects the perception of virtual performance. In answering the third research objective, the study

has made a contribution on theoretical and methodological levels and on the level of practice.

8.3.1 Theoretical

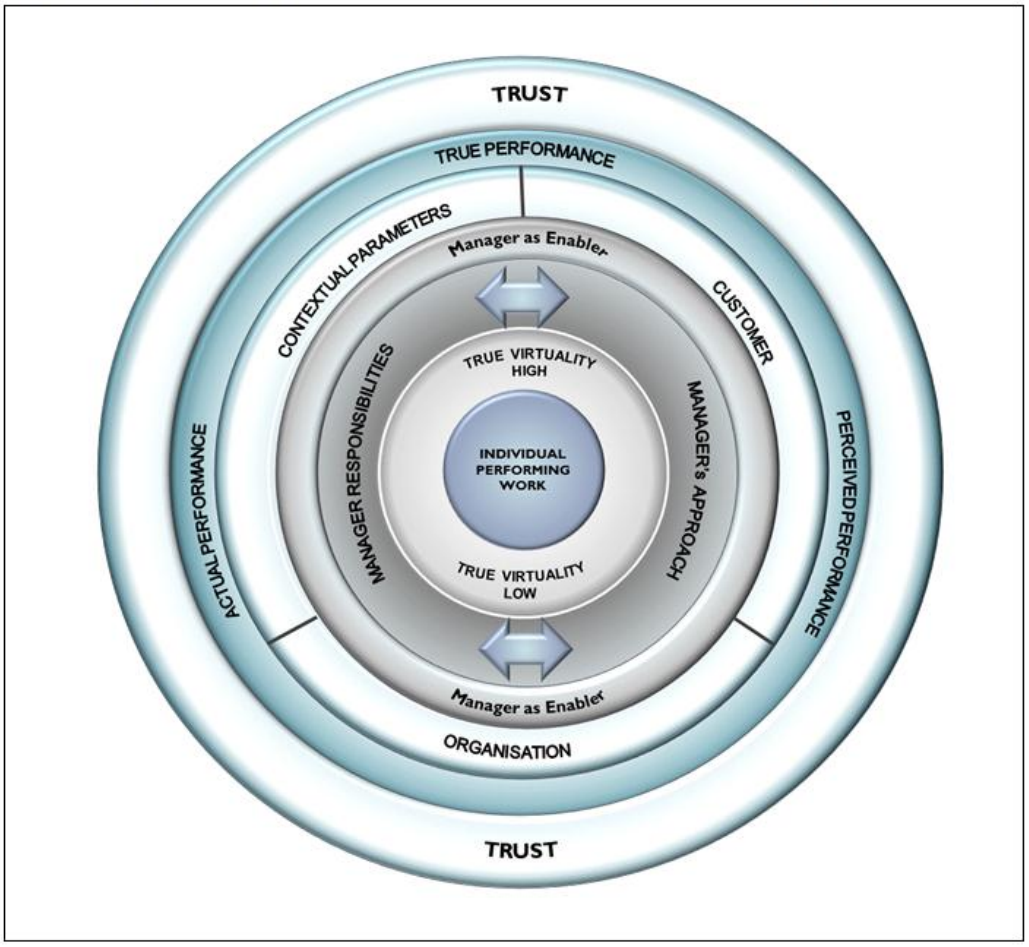
The current study makes a significant contribution on a theoretical level by extending existing theory and models, thereby creating a much more comprehensive model for the management of performance of virtual knowledge workers. This applies firstly to the *definition of virtuality* where the virtual distance model has been extended, and virtual work is shown on a continuum of virtuality, ultimately indicating the true virtuality of the individual. It also applies to *virtual performance*, by extending the theories regarding e-leadership and the management of dispersed teams, and in doing so, defining perceived, actual and true performance. The current study also showed that the degree of virtuality of the individual can act as a moderator for perceived performance. It is therefore important for the manager to determine the true virtuality of an individual so that it does not unnecessarily affect the perceived, and ultimately the true performance.

An *Impact Parameter Model* (Figure 6-16) has also been created which consolidates a comprehensive set of parameters that moderate the performance of virtual knowledge workers, and shows how the *manager as enabler* will become the mediator of these parameters. In terms of this model, existing research referred to the policies (Lister & Harnish, 2011; Montalbano, 2010), and extensively to technology as mediator (Avolio *et al*, 2009; DasGupta, 2011; Geldenhuys, 2010; Piccoli *et al*., 2004:359; Raghuram *et al*, 2003:181; Watson-Manheim & Belanger, 2002:61), also referred to as the new field of sociomateriality (Orlikowsky & Scott, 2008). However, the literature did not refer extensively to the customer or the organisation and its strategy and design and how these affect virtual performance. The Impact Parameter Model also includes elements relating to the manager, which had extensive literature mapping as well; these are incorporated in the “Manager as Enabler”.

In terms of the *manager acting as enabler for virtual performance*, five categories of enablement were identified, namely communication and organisational change management; focus on the individual; involvement and support; interface management, and some elements relating back to the principles of management of performance. These were linked to the three elements of leadership, virtuality and technology, which form the components of e-leadership (Avolio *et al*., 2009; DasGupta, 2011). The literature mapping of the manager as enabler in Figure 6-14 shows how the current study also combined inputs from other research (Fisher & Fisher, 2001; Jablin & Putnam, 2001; Joshi *et al*., 2009; Lojeski & Reilly, 2010; Mogale & Sutherland, 2010; Orlikowsky & Scott, 2008; Watson-Manheim & Belanger, 2002) into this model, thereby extending existing theories, and creating a more comprehensive theoretical model for the manager as enabler for virtual performance.

In addition, these three models (true virtuality, true performance and the Impact Parameter Model) were then integrated into an extended theory, namely the c*oncentric performance enablement model for virtual knowledge workers* (Figure 6-18, also provided below), giving a much more comprehensive view of the complex phenomenon of enabling the performance of virtual knowledge workers. In addition propositions were created that can form the basis of future empirical work. In this work the propositions can be tested in order to develop a predictive theory of enabling the performance of virtual knowledge workers.

Figure 6-18: Concentric performance enablement model for virtual knowledge workers



Note: Enlargement of this diagram available in Figure 15-4, Appendix F.

8.3.2 Methodological

On a methodological level, the research demonstrates how an embedded, multiple-case study, executed on three levels of analysis, and based on a grounded theory approach, can be executed to develop theoretical insights into the complex phenomenon of enabling the performance of virtual knowledge workers;

The multiple-case study included five organisations from the Information and Communication Technology (ICT) and related sectors, in other words companies either delivering IT or ICT-type services, or using these ICT services, or providing consulting regarding these services. Seven different embedded units of analysis were included. The data collection and analysis took place on three levels, namely

organisational, managerial and individual levels. For the data collection and analysis, both qualitative and quantitative methods were used.

To execute this combined approach, methodological inputs were obtained from various authors. The case study process described by Yin (2009) and extended by Eisenhardt (1989) was used to create the framework for the research (Figure 1-2). The protocol described by Yin (2009) was implemented in the form of templates for emails, letters, schedules and documents to ensure reliability in execution (Appendix D – Case Study Protocol). Guidance was taken from Eisenhardt (1989) and Pratt (2009) for building of theory, and method of showing the progression of codes from open to selective coding. The code networks of ATLAS.ti were used to represent this. The code networks were also supported by code tables. Stake (2006) gives an extensive description of documenting findings for multiple-case studies, using worksheets per case and showing the relevance of the case per theme. The memos of ATLAS.ti were used to support this concept.

The study also contributes by giving a detailed description of how the multiple-case study and the use of mixed methods were implemented, by documenting all the steps, including the protocol. To this end, each case was first documented in full, with the aim of using this document as an appendix only. The body of the document was used only for the cross-case analysis and data synthesis, as supported by direction of Yin (2009). In this regard, the structure of the individual case studies, provided as supplementary documents, and the structure of Chapter 5 correspond.

The final themes were documented in Chapter 6, as interpretation of the data analysis. Although both qualitative and quantitative data collection took place in parallel, the data sets for each company were analysed independently (using Excel), and the interview transcripts of each organisation were analysed separately, using the document family provided by ATLAS.ti, so a document family per company was created. These elements also relate to the concepts of *timing, weighting,* and *mixing* of the qualitative and quantitative methods for mixed-methods studies (Creswell, 2009:206; Denscombe, 2010:135, Teddlie & Tashakkori, 2009:31). The findings were, however, “mixed” to show correspondence or difference between the data sets per organisation, applying the principle of triangulation. For the final review, as

documented in Chapter 5, all of the interviews were placed in one data set (facilitated by using one hermeneutic unit in ATLAS.ti), and all of the questionnaires were combined in one spreadsheet, with individual rows of data marked per company.

Another contribution on methodological level was that this study included actual cases, whereas some of the previous research reviewed was done under laboratory circumstances (Fiedler, 2008; González-Navarro *et al.*, 2010).

8.3.3 Practice Level

The study makes a contribution to the practice of management or e-leadership, in that it has provided a conceptual framework for the management of performance of virtual knowledge workers as provided in Chapter 6, which was extended to propositions in Chapter 7. The propositions can be used as action guidelines by managers. In addition, Chapter 5 includes various tables that managers can use in comparing their situation with what was found in the study. An example in Chapter 5 is the co-occurrence table, where metrics and deliverables are mapped against each other (Table 5-13). In the same chapter, the communication matrix is described as part of the manager as enabler (Table 5-24).

Further contributions to practice will be discussed under the recommendations.

8.4 LIMITATIONS

The limitations on theoretical level are that detailed literature review was not done on all the foundational theories that could potentially be linked in the True Virtuality, True Performance and the Impact Parameter Models. These theories include systems theory, communications theory, team and workforce theories, information theory, shared mental models and detail on leadership theories. No theories regarding the importance of body language or the impact of the visual were researched.

Also from a theoretical perspective, the propositions were not re-tested in an additional case or company. In stating the propositions, it is possible that other

researchers could have a different interpretation, but it is the belief of the researcher that the study offers propositions that can be empirically tested in future studies.

The limitations on a methodological level include the fact that the quantitative data of the questionnaires was analysed using only descriptive statistics, and that regression or any other statistical testing was not employed. The reason for this was firstly the small sample and inter-group sizes, and secondly the fact that it was easier to compare and mix descriptive statistics with the qualitative data analysis completed. The qualitative data analysis also received a heavier weighting overall in the study. As an exploratory study, however, the study did achieve the integration of research on virtual working. Based on this integration, testable propositions have been created.

It might also have been preferable to include larger sample sizes within each company, so that each company as a whole would have been better represented. However, data saturation in terms of the themes identified did occur, which contributes to the generalisability of the research. Furthermore, culture and gender were not taken into account, and no questions were included in the questionnaires to determine this. From the interviews, it was apparent that the majority of the managers where white, with a 60/50 split between females and males.

The limitation on practice level was that the study did not look at the improvement of performance per se, but was rather an exploratory study for managing the performance of virtual knowledge workers. The study also does not necessarily set up a detailed guide or policy, but provides a conceptual framework that managers could use to interpret for their own situations.

Using a qualitative research design has also been seen as a limitation by certain “research communities” (Teddlie & Tashakkori, 2009:4). This study therefore had the aim of utilising a rigorous qualitative research design. As stated in Chapter 2, where the study design was described, “rigour” in qualitative research centres on the term of trustworthiness (Morse *et al*., 2002:5; Golafshani, 2003:602). Guba and Lincoln (in Guba & Lincoln, 1982:246-7) expanded this to *credibility, transferability,*

dependability, and confirmability. The research execution used for this study was evaluated according to these concepts, and is summarised in Table 8-1.

Table 8-1: Rigour in research execution

Qualitative term	Quantitative term	Technique / Tool	Description for research execution
Credibility	Internal validity	Triangulation	Comparing answers of managers, individuals and organisational level. Member checking.
Transferability	Generalisability (External validity)	Cross-case pattern matching Data comparable	Using the same code set between cases. Defining virtuality of individuals.
Dependability	Reliability	Case study protocol ATLAS.ti	Execution for each case similar. Analysis for each case similar.
Confirmability	Objectivity	Researcher reflections ATLAS.ti coding	Using field notes after the interviews and review of the research journey. Coding all transcripts in the same hermeneutic unit. Managing own subjectivity.

Credibility or truth value relates to whether the findings of the study actually represent reality (Guba & Lincoln, 1982:246), also known in quantitative studies as internal validity (Kotzé, 2010c:8). This was achieved through firstly doing a case study design and not a laboratory design, so the gathering of data was done in a real-life situation. Secondly, it was done by doing data collection on three levels (organisational, manager and individual levels), and then reviewing the case study as a whole with the company representative as part of member checking. Triangulation of data was thus done, and has ensured the internal validity of the data. Thirdly, credibility was accomplished by allowing the individual company representatives to review the documented cases respectively, thereby applying the principle of member checking.

The term *transferability* refers to how generalisable the results are (Guba & Lincoln, 1982:246; Kidder & Judd in Yin, 2009:40), and is known as the external validity of the data. Even though 39 interviews were completed and 163 questionnaires were used in the statistical analysis, this represents a very small portion of each company, and an even smaller portion of the total working community in South Africa. However,

data saturation between the companies was achieved, with only small variations or additions of codes from company to company. This implies that similar trends and themes were manifested in the different companies, and shows the potential for transferability to other companies or cases.

Thirdly, *dependability* (or reliability) implies that the study can be reproduced or replicated under similar circumstances and in a similar context but at a different time (Guba & Lincoln, 1982:247; Kotzé, 2010c:8). Applying the recommendation by Yin (2009) and creating a detailed case study protocol meant that it would be possible to replicate the study for more companies.

Confirmability is the last term to contribute to the concept of trustworthiness in qualitative studies. This relates to how objective the research is (Guba & Lincoln, 1982:248; Kotzé, 2010c:8). From a qualitative point of view, the researcher was closely involved in the research, by personally conducting all the interviews and also by being a manager in similar circumstances. (The researcher aimed to remain objective, however, by writing reflections after each interview.) Furthermore, by using a tool such as ATLAS.ti, it is possible to quickly compare all the quotes that are linked to the same code, and determine if there is integrity between the selections. The code comment field in ATLAS.ti was also used to explain the use of the code. ATLAS.ti as a tool thereby greatly assisted in ensuring the research was objective.

Individuals also often mentioned that the questions had prompted them to think more deeply or differently about how they manage virtual workers, showing that the research is already changing the status quo.

8.5 RECOMMENDATIONS

The recommendations of the study have been grouped under the different levels that were included in the research, namely the organisational, managerial and individual levels. The one recommendation that applies to all levels is to make sure that the degree of virtuality of all individuals is understood, so that the relevant supporting and enabling activities can be put in place.

8.5.1 Recommendations for the Organisational Level

8.5.1.1 Policies and guidelines regarding virtual work

Firstly, organisations should ensure that there are general guidelines available for virtual work that can be used by all managers. These guidelines should assist the manager as regards legal and labour-law requirements, and also provide a set of questions that the manager and individual could work through in order to determine the optimal level of virtuality for the situation. Organisations should also be more explicit in making known their views on virtual work, since virtual work as such has become more prevalent with technological advances made.

8.5.1.2 Manager and individual training

Additional training should also be provided from organisational level. This training should be part of the induction of each individual, as well as when a manager is appointed, or when an individual is promoted as manager. Two types of training should be included: firstly, soft-skill training, including listening, verbal communication and written communication skills. The training regarding communication should focus on what needs to be achieved with the message, and how to convey the intended message so that the likelihood of all individuals receiving the same intended message is improved. Secondly, additional technology training should be included. This training should highlight tips and tricks in getting the most from the communication tools available.

If one extends the organisational context to management and leadership training at higher education institutions, it would be prudent to include more aspects of e-leadership in current curricula, to better prepare managers for work situations where they do not see the individuals reporting to them. Group projects could be allocated to geographically dispersed teams, and part of the submission could be reflections on how the virtual situation was experienced.

8.5.1.3 Organisational hubs to overcome technology (and socialisation) limitations of home work

A recommendation that is closely related to Theme 4, in which the importance of the visual was reiterated, and also linked to the concept of Telework Centres (Cascio, 2000; Geldenhuys, 2010), is that of creating organisational hubs closer to the residential areas where individuals live. This would address issues of limited technology available at the individual's house, as well as the need that most individuals have for social contact with others. It would also allow individuals flexibility by working close to the office, and give the manager fewer "points of contact" to visit (by not having each individual sitting at a different location). These hubs should be interlinked with high-speed communication and video links, so that it would be easy to have online discussions using information-rich media. The hubs could also be used to co-locate team members who need to collaborate on specific activities.

In this regard, organisations also need to consider the question "What are the expectations of individuals from organisations today?" Do they need a place to socialise, for additional resources (such as printing and internet access), a place for collaboration?

8.5.1.4 Recommendations for the HR and IT departments

Both the IT and HR departments need to take cognisance of the urgency of requests coming from the line managers regarding the management of virtual workers. This could relate to HR requirements such as appointments and disciplinaries, or it could relate to additional connectivity requirements, or tools required. IT departments also need to understand that there is a greater need for desktop sharing and video conferencing in a remote situation, which requires additional bandwidth.

8.5.2 Recommendations for the Manager

A conceptual framework consisting of various elements has been created that could assist managers in defining an individualised framework for managing the performance of their specific team of virtual workers.

8.5.2.1 Starting the virtual work arrangement

When starting a virtual work arrangement, managers need to firstly understand who they themselves are as a person, their assumptions on remote work, and preferred management style. Then managers need to understand why the remote work is needed. Also, where possible, the manager should select individuals who have the necessary skill and appetite for virtual work. Furthermore, the manager needs to evaluate the specific context for the virtual work, and what the actual virtuality of the individual will be, so that the relevant activities to optimally enable individuals can be put in place. Managers need to accept that frameworks may differ between teams or even between individuals.

8.5.2.2 Managing performance and performance management

Managers should aim to enable their employees, rather than manage and control them. This is especially true for employees who are already performing. Trusting the individual to deliver autonomously plays an important part in this.

Managers should have regular sessions or contact with the individuals to relay individual feedback, and not only wait till there are problematic issues. Some managers found that management by exception worked, especially where there were too many and too large teams to be able to have personal contact on a regular basis.

Managers need to have a formal performance discussion with the individual at least once a year (especially if the performance is linked to increases), to share concerns, set guidelines for, and especially praise the individual. Ensuring that the relationship with the individual is solid will make it easier to share difficult messages, because they can be shared in an atmosphere of mutual trust – the individual can trust the

manager to give feedback to improve the individual, and the manager can trust the individual to reflect on the message, and ask additional questions if there are uncertainties or if the individual disagrees.

8.5.2.3 Why measure?

Managers always need to ask themselves: What are the underlying reasons for measuring? In doing so, the manager needs to ensure that only a few key measures are identified, and that the effort needed for measuring is always much less than the effort needed to perform productive work. If the manager has specific concerns about virtual work in general, or an individual in particular, the manager should rather address these concerns than try to measure the individual through unreasonable administrative deliverables.

8.5.3 Recommendations for the Individual

Individuals need to make sure that their work and activities are transparent to their manager. This will allow the manager to quickly act when issues occur, and also to have answers ready when other managers (or the customer) ask about what the team is busy with. This could equate to a daily call, copying on emails, updating timesheets or central task lists, regular calls, and many more. The important thing is to be parsimonious, to prevent information overload.

A second important aspect is that individuals need to be able to reflect on their own performance, especially when they feel that managers have been unfair. They need to realise that managers do not always find it easy to convey difficult messages, and that some context will be lost when working via electronic communication media.

Individuals should get their peers involved in evaluating their performance – especially if the specific deliverable is difficult to measure. They could learn from their peers by asking them to review documents or reports that are meant for the manager, especially if they are still unsure as to what the manager requires.

8.5.4 Future Research

First and foremost, future research could be used to test the propositions of Chapter 7 in order to arrive at a predictive performance theory of virtual knowledge workers. In addition, the study has not investigated the improvement of performance per se, and future studies could investigate the extent to which each proposition has a positive effect on performance improvement.

In terms of the *organisational parameters*, more information could be obtained to link the organisational structures and design components that support the enablement of the performance of virtual knowledge workers. This could include the investigation of how the design of the organisation could improve the performance of virtual knowledge workers.

Another aspect that has not been considered directly is *stages of team development* (team theory) in relation to work that needs closer co-operation, as opposed to other stages where individuals could work on their own. A mapping could be done between the theories relating to stages of team work that could more easily be done remotely as opposed to co-located, and compared with the findings in this study.

Further investigation regarding *generational theory* may also be necessary in the context of the need for the visual that was so pertinent in the current study. The question arises: Will the next generation of managers, who have perhaps grown up with gaming in virtual worlds, be better adjusted to not seeing their team members at all, and will the need of the team members for socialisation also be reduced because of their online experiences? Or will there always be a human element remaining – the need to see in order to connect, and the need for organising and belonging? Also, what are the expectations of individuals from organisations today?

Lastly, although the study was completed as a *cross-sectional and not a longitudinal timeframe study*, it has the potential for following up on recommendations made by the managers of how they would have liked to change their management style, and to determine if the situation of virtual work policies, guidelines or occurrence had changed since the initial data collection.

8.6 CLOSING REMARK

A quote that was apparently chalked up on a blackboard in Einstein's office in Princeton), read as follows: "Not everything that counts can be counted, and not everything that can be counted counts" (Harrison, 1995).

This statement highlights the fact that managing the performance of both virtual and co-located workers is an art that constantly has to be learnt and re-learnt. An important finding of this study, however, was that managers indicated that they did not distinguish between their management of the performance of these two groups of workers. The same deliverables were expected and the same measures were used. However, more trust was needed, since technology had become the mediator of both the manager's and the individual's activities.

The assumptions and parameters contributing to the field of organisational behaviour are ever-changing. As indicated by the research of Weick (1998:545; 2001:1), organisations have to continually make sense of cues in the environment, and improvise (i.e. continually change) by applying previous lessons they have learnt in a new way. This is in stark contrast to the organisation as "*a* structure" and "*a* design" – terms which seems to indicate that there is only one right way, and that once the "right" structure has been achieved, it should be kept that way. Managers in this study have demonstrated that when managing the performance of virtual knowledge workers, there is not one right way to do so. As stated by Weick (2001:1) in his discourse on events that do not make sense initially, "Part of leading is to accept what has happened so that it is possible to take a small next step in the direction of recovery. And part of acceptance is the realization that people often go through at least three stages when they deal with the inexplicable: superficial simplicity, confused complexity and profound simplicity."

This research forms part of the ever-continuing search for profound simplicity in organisational behaviour and, specifically, the enablement of the performance of virtual knowledge workers in the constantly expanding virtual workplace.