

CHAPTER 4: RESULTS – AXIAL CODES

4.1 INTRODUCTION

To contribute towards a rich description of the results, it is important to include verbatim quotations to reveal how meanings are expressed in respondents' own words rather than the words of the researcher (Baxter & Eyles, 1997:510).

Firstly, in this chapter, I discuss what Charmaz (2006:57) refers to as 'focused coding', which implies the use of axial and selective coding. First, I report on my axial coding and the axial codes derived from open codes, and thereafter I report on the selective codes. The selective codes were used as a basis for the conceptual framework.

Secondly, this chapter contains the results from the interviews, with actual excerpts. I discuss the axial codes and relationship between axial codes, instead of the individual open codes⁵. While I was writing this chapter, it spontaneously emerged that I was describing and also interpreting results. Due to the nature of the topic, there will perhaps never be an end to a discussion such as this. Therefore I do not attempt to show all excerpts, but only a few to demonstrate the results and the relationships between axial codes.

⁵ As there are a total of 144 codes, I deemed it to be more effective to discuss sub-categories and relationships between sub-categories, as opposed to individual codes.

4.2 AXIAL CODING

Axial coding was already discussed in terms of its function and also how it was applied in Section 3.4.4.3. Axial coding implies the reassembling of data that were fractured during open or ‘initial’ coding (Strauss & Corbin, 1990:124). Table 15 displays axial codes in the form of sub-categories as it was related to the open codes, as well as a description of the category

Table 15: Axial codes

Sub-category	Open codes ⁶	Description of sub-category
Understand context	Connective intelligence	Understanding a complex context crucial to change leadership effectiveness
	Complexity	
	Connectedness	
	Make the connection	
	Understand patterns to understand complexity	
The challenge	Do not know	The challenge posed to leaders in a complex environment: they will not always know ‘the answer’ and cannot rely on past solutions
	Learn	
	Navigate	
	Paradox	
	Quantum realisation	
Sense of belonging and meaning	Authenticity	Specific aspects that create a sense of belonging and give meaning, which is a characteristic of the quantum organisation
	Values	
	We: relationships	
	Belong	
	Purpose	
Interdependence	Acceptance	Specific aspects that create an enabling environment for interdependence, which is a characteristic of the quantum organisation
	Co-create	
	Co-exist	
	Communicate	
	No ego	
	Let go	
	Stakeholders	
Networked	Network	Description of the quantum organisation as a network environment.
	Complexity	
	Connectedness	
Learning and thinking	Energy	Describing the importance of learning, which is a characteristic of the quantum organisation
	Going against convention	
	Learning organisation	
	Nimble, quick, responsive resilience	
Map to navigate	Map	A description of the function of a mental model of a leader in a
	Template	

⁶ An open code may appear in more than one sub-category



	Guide	quantum organisation
	Navigate	
Conscious/Unconscious	Unconscious	Unconscious element of the mental model
	Do not know that do not know	
	Awareness	
	Unawareness	
Culture	Success	Describing a mental model as similar to the phenomena of culture, but on a smaller scale
	Learn	
	Risk	
	Acceptable	
There is only one truth	One truth	Linear thinking that there is only one truth
	Fact	
	Aggressive	
	Conditioning	
	Decisions on own autonomy	
It is a predictable world	Rule book	Linear thinking that external world phenomena, including behaviour, are predictable
	Mechanistic	
	Predict future	
	Past patterns	
We are separate and disconnected from one another	Decisions on own autonomy	Linear thinking that external world phenomena and behavioural patterns are isolated happenings and events
	Discrimination and bias	
	Illusion	
	Disconnected	
	Separate	
Survival of the fittest	Aggressive	Linear thinking that there will be only a winner and a loser
	Conditioning	
	Left brain	
	Superiority and inferiority	
	Tangible value	
	Survive	
It is a connected world	Complexity	Quantum thinking that all external phenomena, including behaviour, are connected and interrelated
	Connectedness	
	Context	
	Do not know	
	Navigate	
	Interdependent	
We are all equal thinkers	Interdependent	Quantum thinking characterised by equality.
	Co-create	
	Problem solving	
	Equal	
	Diversity	
Co-existence of multiple truths	Co-exist	Quantum thinking in that multiple stakeholders hold multiple perspectives and therefore multiple 'truths'
	Interdependent	
	Stakeholders	
	Multiple perspectives	
	Multiple solutions	
Making sense of emerging	Complexity	Function of quantum thinking,



patterns	Connectedness	i.e. making sense of emerging patterns in a complex environment
	Connective intelligence	
	Make the connection	
	Understand pattern	
	Do not know	
	Navigate	
	Paradox	
Learning	Learn	Describing the process of learning of leaders in a complex environment
	Letting go	
	Resilience	
	Do not know	
	Navigate	
Meta-cognition	Thinking	Describing the process of thinking about and enquiring into one's own thinking process and assumptions
	Learning	
	Letting go	
	Do not know	
Awareness of present moment	Do not know	Shifting attention and awareness to the present on two levels, a) attention to present as future is unfolding in the now, and b) attention to present of self and of thinking in now
	Letting go	
	Mindfulness	
	Presence	
Acceptance of current reality	Accept	Acceptance of current reality with honesty and courage towards understanding current reality and influencing emerging future
	Acknowledgement, brutal honesty, current reality	
	Understand	
Questioning	Acceptance	Asking the right questions about current, external and internal (mental model) patterns
	Do not control	
	Let go	
	Meta-cognition	
	Pause, reflect	
	Possibility	
	Being	
	Values	
Challenge status quo	Accept	Challenging status quo and going against convention
	Courage	
	Move against convention	
	Influence	
Letting go	Change leadership effectiveness	Letting go of deep-seated assumptions
	Difficulty	
	Discomfort	
	Dipping into unconscious	
	Ego	
	Risk	
Awareness of not knowing	Complexity	Awareness by the individual leader that he/she does not know 'the answer'
	Do not know	

	Trust	
	Ego	
	Let go	
	Presence	
Talking about not knowing	Interdependence	Talking and testing 'not knowing' with others who do not necessarily know the answer, but know how to deal with 'not knowing'
	Trust	
	Test	
Trusting the knowing	Chaos, order	Trust what they do know. This includes certainties, e.g. it is a connected world, the existence of multiple truths
	Comfortable with unknown	
	Do not know	
	Let go	
Observing	Pause, reflect, observe	Observing the moment and in the present
	Let go	
	Paradox	
	Presence	
Sensing	Cognitive	Use intuition to make sense of emerging patterns
	Emotional	
	Intuitive	
Seeing	Making the connection	Seeing and recognising new patterns
	Context	
	Learn	
	Let go	
Identity	Self-awareness	Leader's sense of self
	Holistic	
	Purpose	
	Spirituality	
Behaviours	Listen and suspend judgement	Behavioural elements of a leader in a quantum organisation
	Serve	
	Facilitate	
	Trust	
	Navigate	

4.3 SELECTIVE CODING

Selective coding was discussed in Section 3.4.4.4. Selective coding is the final phase in data analysis as a whole and refers to the integration and refining of core categories, as set out in axial coding. Selective codes are shown in Table 16.

Table 16: Selective codes

Axial codes	Core category	Description of core category
Understand context	Complex context	Describing the importance and challenge of leading in a complex context
The challenge		
Sense of belonging and meaning	Quantum organisation	Properties of the quantum organisation
Interdependence		
Networked		
Learning and thinking		
Map to navigate	Mental model	The form and function of a mental model
Conscious/unconscious		
Culture		
There is only one truth	Linear thinking	Elements describing linear thinking
It is a predictable world		
We are separate and disconnected from one another		
Survival of the fittest		
It is a connected world	Quantum thinking	Elements describing quantum thinking
We are all equal thinkers		
The co-existence of multiple truths		
Making sense of emerging patterns		
Co-creation		
Meta-cognition		
Learning	Making sense of	What the sense-making process constitute of
Awareness of present moment		
Acceptance of current reality		
Questioning		
Challenge status quo		
Letting go		
Awareness of not knowing		
Talking about not knowing		
Trusting the knowing		
Observing		
Sensing		
Seeing		
Realising	Leader	Leader in the quantum organisation in a complex
Identity		
Attitudinal orientation		

4.4 THE CONTEXT: A COMPLEX ENVIRONMENT

The participants refer to the properties and dynamics of the context, a complex environment, as the 'quantum age'. They highlighted that the complex environment is a networked environment consisting of intangible properties such as relationships.

Participant 1:

The quantum world, unlike the linear world, does not yield to power.

Participant 5:

And guess what? The quantum age is all about relationships

Participants 1 and 2, in particular, alluded to the notion that the quantum world has always been there. However, a shift in awareness and consciousness has made leaders aware of the context, creating a false impression that the quantum age is a 'new' context, whereas the newness comes from the shift in awareness of the individual and not necessarily the context. In addition, they highlighted that the world is both quantum and linear, which implies embracing pluralism and complexity as opposed to binary thinking.

Participant 1:

And the world has always been linear and quantum, it has always been there. We are not conscious and aware of this, and we don't even know that we are living in it, because the quantum world has always been there.

Participant 2:

It is everywhere around us. It has always been there. Just look at the principles and laws of nature, for example.

4.4.1 Understand context

Within the context of the quantum age, all participants were in agreement that it presents complexity. They understand 'complexity' as unpredictable and consisting of multiple variables, as well multiple perspectives held by multiple stakeholders. It appears that understanding or 'making sense of' is equivalent to having the real upper hand and power in the complex environment. To understand complex patterns has also been introduced by participants as the ability to navigate. Power in the complex environment, according to participants, is based on understanding, making sense of patterns and navigating accordingly.

Participant 3:

I constantly remind myself that I need to be reflective and thinking deeply about making a decision, even understanding the complexity of itself, yourself and what it might mean, because there is no way that you can anticipate the repercussions. You know, because in the quantum world, you know that A doesn't go to B. So if you make this decision, you don't know where it is going to ripple through the system....

Participant 2:

We look at leadership - then we look at a very, very complex picture. Complexity in the sense of the multiple variables involved.

Participant 3:

Leaders need to think about and understand the context in which they operate.

Participant 6:

What is very, very important is 'to understand'. For me to understand why Black and White students are so angry, resentful about Apartheid, whilst they were born yesterday and they did not experience it first-hand. This calls for understanding at a deeper level. Because, if I can't understand, I can't influence. It is important to understand it, however unacceptable the behaviour, but to understand. I can understand their thought patterns, I can anticipate and influence. I can't lead on the surface; I must lead deeply.

4.4.2 The challenge in a complex environment

Participant #2 was convinced that his previous mental model, which enabled him to navigate through complexity, might not be sufficient for future challenges, as the variables and situation have changed and cannot be addressed by the existing understanding, insight and interventions.

Participant 2:

One thing that I believe very deeply (and that is a basic assumption that I have) is that the difficulty of mental models of most people and most leaders included, is that their mental models are developed from the past and it is used to look into the future. But the past is not the same as the future. Somebody once said: It is like driving somewhere looking in the rear-view mirror. And that is the difficulty with applying mental models.

Participant 4:

We are extrapolating the past experiences and conditions onto what happen in the future. We are trying to solve future problems of an emerging future with past solutions within a predictable framework.

4.5 QUANTUM ORGANISATION

Participants described the key properties of and dynamics within a quantum organisation as illustrated in Figure 17.

4.5.1 Sense of belonging and meaning

The first theme that emerged as an element of the quantum organisation is a sense of belonging and meaning.

Participant 1:

So the task of an organisation is to create a sense of belonging, is to say you belong.

Participant 5:

What is the thing that ties it all together? It is the central tenet of meaning. The central tenet of meaning is the values in the organisation.

Participant 6:

'I am my position' is part of giving meaning to not only what I need to do in my small part, but also how do I fit in the bigger group and the strategy.

4.5.2 Interdependence

The second theme that emerged as an element is interdependence and co-creation. Interdependence and co-creation refer to how outputs are generated. This, in turn, affects the decision-making practices which do not sit with one central individual. Decisions are taken and solutions are crafted in a distributed manner and responsibilities are shared. This, in turn, fosters a climate of trust.

Participant 1:

That leadership in the quantum organisation is defined of how can I get the right people and how can I access that space of co-creating. Would that be part of leadership effectiveness?

Participant 2:

The mental models of the learning organisation are: I can't exist without you.

Participant 5:

Because here is the point; organisations that are quantum have to rely on individuals to make decisions on their own. Which means that those individuals need to be empowered to make those decisions and the only way that you are going to empower them is if you are going to trust them.

4.5.3 Networked

The structure of the quantum organisation refers to a networked environment which creates a set of boundaries that still allows for creativity and innovation.

Participant 2:

A network is one of the key qualifiers of a quantum organisation.

Participant 5:

In fact, the constraints were not constraints as we see in organisations today. The constraints were taken to a quantum perspective. Which is called chaordic, but what you have is bounded instability. What we need to do is to look at the concept of the pattern in which they operate and give a set of boundaries within - it is called bounded instability. Within these bounds do what you want. You can work from 3 pm until 3 am - I don't care as long as the output is there.

Participant 6:

It is a networked organisation and not a traditional, hierarchical organisation. It is networked because it sits within a networked environment, which is quantum and connected itself.

4.5.4 Learning and thinking

The competitive advantage of the quantum organisation is the orientation towards learning and thinking, which lends itself to innovation.

Participant 4:

Part of a successful organisation is its orientation towards learning.

Participant 6:

Learning is definitely part of the quantum organisation.

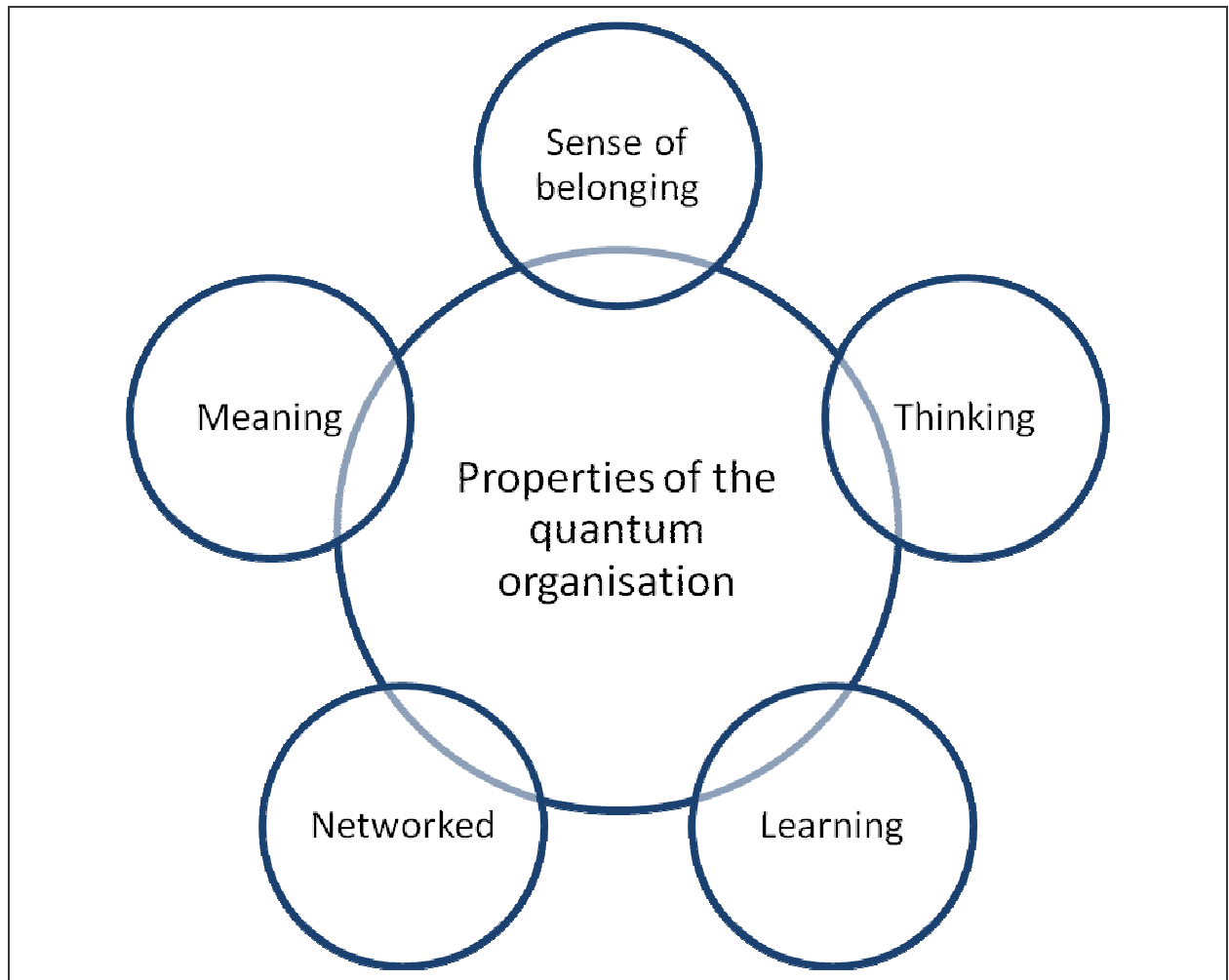
Participant 5

Now, quantum organisations innovate and grow faster than other organisations. Uh, the problem with that is that organisations then suddenly stop to innovate. It is because they stop thinking. And we give you a complex environment that is continually shifting. That allows, for now, the organisation to continually make decisions at the coal face and be able to move ahead of their competitors who might not be thinking the same way.

Participant 1:

So, a quantum organisation would be an organisation in which the right-brain capacity of the people in that organisation is high. A linear organisation would be one where that is low.

Figure 17: Properties of the quantum organisation



4.6 MENTAL MODEL

4.6.1 Map to navigate

Participants gave a broad description of their understanding of what a mental model is, using words such as 'map' and 'template' interchangeably. Also noteworthy is the sense that a mental model acts as a map to navigate in a complex environment and is made up of assumptions. However, the nature of a mental model is mostly unconscious and contains elements of which I am mostly unaware.

This refers to an unawareness of external elements (e.g. patterns and multiple variables and perspectives of stakeholders), as well as internal elements (e.g. limiting assumptions).

Participant 3:

So, I think your mental model serves as a map, finding the path that you are going to take to be effective in a quantum world where you are not in charge a 100%.

Participant 2:

Well, it is my basic assumptions about life, about the organisation. If I say organisation: What makes an organisation work? What makes an organisation successful? My mental model includes basic assumptions about the industry we are in, about people, about me.

4.6.2 Unconscious

One participant specifically emphasised the unconscious element of mental models, which is part of the problem - the assumptions are so deep-seated that leaders are not aware of the effect that they have on their change leadership effectiveness (external environment). All delegates agreed that mental models are deep-seated assumptions; but they differed in terms of the degree to which the mental model has an unconscious element.

Participant 2:

For me the mental model is the unconscious view of the world and the organisation that a person has that has been developed from many actions and many interventions and interactions. But I mean the main thing is that it is unconscious. The leader does not even know that he has a mental model or she has that mental model about the world, about the organisation, about the future, the present, etc.

Participant 2:

It is my basic assumptions about the world, about me, about life, which are tainted by political correctness, what I am expected to say, my espoused values, my espoused views of the world... I didn't even know I have those. So the first time you ask me about that and I tell you about it. I tell you what I think I should tell you. What I have heard from somewhere else, but that's not really what is inside, my own thinking. I am just too unconscious about it.

Participant 6:

A big part of the real mental model is not nice, not cute, and not beautiful. It is damn uncomfortable and unattractive. Who would want to face their unconscious?

It was acknowledged that once one becomes aware of what one was previously unaware of or unconscious about, the emerging contents is not attractive. This creates feelings of anxiety and can potentially be a disturbing experience.

Participant 7:

*The more I thought about it, the more I came to the realisation and it was a disturbing reality. Now I stand in front of the ugliness of my own arrogance, ignorance and other s**t. It is difficult.*

A mental model can change and shift as one becomes aware and makes conscious certain content.

Participant 7:

I think it is important to acknowledge that my mental model has changed over time.

4.6.3 Culture

Participants also drew comparisons and highlighted the similarity between the phenomena of culture and a mental model.

Participant 2:

But they will first repeat what they have heard from others and what they think is their thinking, because mental models are culture on an individual scale.

Participant 2:

Similar to culture, mental models are based on what made me successful.

Participant 6:

The mental models of leaders are not only their mental models; it becomes the mental models of the organisation. And it becomes institutionalised in the organisation, in work processes and thinking in organisations, systems, and it becomes the culture.

4.7 LINEAR THINKING

Continuing with the theme that deep-seated assumptions are an integral part of a mental model, I highlighted the assumptions embedded within linear thinking per sub-category. The central theme of power emerged throughout these assumptions; therefore I did not create a separate heading for 'power'. Power specifically refers to the individual leader experiencing loss of personal power and exerting power in an abusive fashion in an attempt to regain control in a complex environment.

4.7.1 Assumption #1: There is only one truth

Linear thinking is typically being characterised by the assumption that there is only one truth which is applicable to all stakeholder groups and all situations in the organisation, denying diversity and multiple perspectives. This often leads to feelings of frustration, anger and even aggression towards others, coercing others to comply with the 'one truth'. This reductionist thinking often creates even more complexity.

Participant 1:

The picture - there is only one picture of the truth. Then you become aggressive, malevolent and attacking that version of the truth, you can't help it.

Participant 2:

But if you go with that mental model into the conversation, you can't have a dialogue. You don't really listen; you don't accept the other person's view as an equal. And therefore, couldn't really tap into the resource that you have. I can't stand the fact that you have a different mental model.

This also has repercussions for the problem-solving capacity of linear thinking. It implies that there is only one solution because there is only one truth in the first place, denying possibility and diversity in thinking.

4.7.2 Assumption #2: It is a predictable world

A mental model aligned to linear thinking would have the assumption that it is a predictable and not a complex world. Such a predictable context can be controlled only by the linear application of policies and procedures.

Participant 3:

Newtonian zone, you see. Where people are searching for rules, they are searching for policies, they are searching for formulas.

Participant 5:

Because if you measure the thinking process they go through, they go: I need to analyse! So I am looking in my rear-view mirror and what has happened before - so that forecast the future. But forget about it, because the environment is what the future was, but I still forecast the future from that, because that is what I have been taught to do. Then I am going to put my plan and execute it. Simple!

4.7.3 Assumption #3: We are separate and disconnected from one another

A mental models embedded within linear thinking would have the assumption that all stakeholders, teams and individuals are separate and disconnected from one another and do not operate in a networked manner.

Participant 1:

I daren't connect, because if I connect I take on the responsibility and therefore I work from power.

Participant 1:

We are separate and disconnected from one another. So if we are separate and disconnected from one another then what happens to you doesn't bother me. We are detached from the realities of others. What happens to the oil doesn't matter to me as long as I have got enough for myself. What happens to the world doesn't matter as long as I am OK. Because I am not affected you see? If I change that picture to say that we are infinitely connected in such a way that the flapping of a butterfly's wings affects the weather patterns over Detroit, then I have got to stop and I need to ask: What am I doing when I flap my wings? Who am I hurting? Power gets things done. That is the ultimate. It is about punishment and reward.

Participant 5:

When I say that: one of your biggest problems in organisations is the fact that we have reduced organisations into parts in a supply chain. All separate in the chain and all with their own strategies; all with their own objectives in terms of how to achieve this big thing and none of them work together.

4.7.4 Assumption #4: Survival of the fittest

A mental model aligned to linear thinking would have the assumption that there is always a winner and a loser and only the fittest will survive, cultivating a false sense of superiority and inferiority.

Participant 1:

Darwin stated that this is a world of superiority and inferiority. If that is true and it is the survival of the fittest and I will in some other way slant this conversation to make an idiot of you. Because I must win and I will use gender and if you were Black, I will use colour and I will use any bloody tool I can to destroy your self-confidence and your ability. I could have written your PhD better than you could have written it. Now, that is so deeply ingrained in human behaviour because the picture is particularly re-enforced by the South African apartheid regime.

Participant 1:

For example, survival of the fittest is a linear strategy. There is only one of us that is going to survive and it is not going to be you, so it is going to be me.

Participant 1:

I dare not take chances in an unfriendly world. I live in fear and I daren't come second, because second is coming last.

4.8 QUANTUM THINKING

Continuing with this theme that deep-seated assumptions are an integral part of a mental model, I highlighted the assumptions embedded within quantum thinking that is appropriate for leading change effectively in a complex environment.

4.8.1 Assumption #1: It is a connected world

A mental model aligned to quantum thinking would have the assumption that all stakeholder groups, teams and individuals operate in a networked environment and are therefore connected, which reiterates the sub-category of interdependence and co-creation.

Participant 1:

That is, everything is connected to everything else and even in our own tradition of ubuntu there is a fundamental understanding that nothing can be seen in isolation of other things.

Participant 3:

That you say that leaders need to think about the context in which they operate, but they have also acknowledged the interconnectedness, as well as the interdependency; interconnected/interdependent.

Participant 6:

I dare not behave from a vacuum.

4.8.2 Assumption #2: We are all equal thinkers

A mental model aligned to quantum thinking would have the assumption that all stakeholder groups, teams and individuals are **equal as partners in a co-created thinking** process.

Participant 2:

I don't have to do it consciously, because I see every other person not as a thing, but as an equal and together we can do more. I am therefore not afraid to involve another person or I am not afraid to throw away my pre-conceived ideas and accept somebody else's which stands in the way of co-creation. If I get stuck on my ideas, that is not co-creation. It is just building a little more on what I have. I think in terms of quantum thinking, co-creation lives in that mental model.

Participant 2:

Uhm...I think in terms of your question the ability to tap unconditionally into other people's thinking and to regard them as equal sources and resources are fundamental to what you call a leader in a complex environment of quantum thinking in leadership.

This introduced an interesting paradox in itself. Equality does not reduce diversity but harness diversity in background, ethnicity and thinking, because of the very diverse nature of the networked environment.

Participant 6:

I work with people. They are not Black people or White people. They are all people.

4.8.3 Assumption #3: The co-existence of multiple truths

A mental model embedded within quantum thinking would have the assumption that all stakeholder groups, teams and individuals have multiple perspectives and therefore multiple truths.

It was also highlighted that multiple possibilities can co-exist. This significantly and fundamentally impacts on problem solving as there are multiple truths and multiple solutions in the system. This is a major shift in the distribution of power from one leader with all the information as the 'knower' of the 'one truth' towards a sense maker of multiple truths and facilitator of problem solving amongst stakeholders.

Participant 2:

Well, many pictures and many different truths can co-exist because it is a quantum world!

Participant 3:

And have the right mental model that they can, uhm.... (silence for 5 seconds)that they can construct for themselves out of the multiple dimensions around them - what is it that is going on - out of that for a balanced view and the right decision.

Participant 4:

The truths for you are not necessarily the truths for me.

Participant 5:

When it comes to making a personal decision they have to see both sides of possibility, not just one possibility of one truth.

4.8.4 Making sense of emerging patterns

Within the context of the quantum age, all participants were in agreement that the mandate of the 21st-century leader in a complex environment is the ability to make sense of emerging patterns as part of quantum thinking.

Participant 2:

So you are never going to get it, understand it totally. But the most important thing: do not understand elements, but rather the patterns between them. Understand the patterns that those elements create. And once you understand patterns, you can understand complexity and then you can manage the problem.

Participant 3:

So, when somebody has an understanding of the environment around them and has the right mental model that they can, uhm..... (Silence).....that they can construct for themselves out of the multiple dimensions around them - what is it that is going on - out of that for a balanced view and the right decision.

Participant 3:

Reflecting about and thinking deeply about making that decision, even understanding the complexity of itself yourself and what it might mean and there is no way that you can anticipate the repercussions, you know, because in the quantum world, you know that A doesn't go to B. So if you make this decision, you don't know where it is going to ripple through the system.

Participant 4:

We actually saw the processes and macro-patterns that occur between things.

Participant 6:

Strip the self from subjectiveness in the situation and tape into experiences objectively; however not possible. In order to understand the situation objectively - what is really happening, what is driving the system - and not the event.

Participant 7:

But if I can analyse a situation much more objectively - what is really happening, what is the system that is driving this situation.

4.8.5 Co-creation

Within the context of the quantum age, all participants were in agreement that co-creation during problem solving and viewing all stakeholders as interdependent and equal partners are fundamental to quantum thinking and a central theme of the mental model of a leader in a complex environment.

Participant 1:

Because one person doesn't have the answer, but all of us together do. Between us.

Participant 2:

I think the quantum thinker has a mental model of co-creation - therefore co-creation happens spontaneously. I don't have to do it consciously, because I see every other person not as a thing, but as an equal and together we can do more. I am therefore not afraid to involve another person or I am not afraid to throw away my pre-conceived ideas and accept somebody else's - which stands in the way of co-creation. If I get stuck on my ideas, that is not co-creation. It is just building a little more on what I have. I think in terms of quantum thinking, co-creation lives in that mental model.

Participant 3:

If I am interdependent on you to create a solution together for this complex situation, in other words, we co-create.

Participant 5:

Because here is the point; organisations that are quantum have to rely on individuals to make decisions on their own.

Participant 5:

In the quantum world, it is interdependence and therefore you make sure that you don't let them down and they won't let you down.

4.8.6 Meta-cognition

Meta-cognition describes the process of thinking about and enquiring into one's own thinking processes and assumptions. Participants referred to the ability to think about their own thinking as part of the ability to test assumptions. When enquired about what enables a leader to become aware and shift deep-seated assumptions in order to optimally engage in quantum thinking, consensus was reached that meta-cognition and a continuous process of learning ensure a shift in mental model and, as a consequence, a shift in reality.

Participant 2:

OK. Very few leaders, very few people think about their thinking and leaders are in a very practical world, because they very seldom think about their thinking. They think about doing. But they don't think about their thinking. They accept truths and they accept what it is doing, but they don't think about the thinking that they have created.

Participant 4:

Sometimes I argue with myself and I try to play the devil's advocate game and very often the game is like a chess game, because I keep on saying: the moves you make now, is going to determine the end game.

4.8.7 Learning

The complex process of learning-unlearning-relearning is not a state to be achieved, but a trait of a leader in a complex environment.

Participant 2:

Now, to first unlearn, I first need to know what I have learnt, and the difficulty with a mental model, because it is unconscious, is that I don't know that I have to unlearn it; I don't know what to unlearn.

Participant 4:

Learning itself is a complex endeavour.

Participant 5:

You said there is no certainty on where we are going and we need to learn about this.

4.9 SENSE MAKING PROCESS

Participants agreed on the following elements which forms part of the sense making process. Within the sense making process a change in the content of their mental model naturally occurs due to new emerging insights. The following sub-categories describe the change process of the mental model.

4.9.1 Awareness of present moment

Shifting attention to the present moment occurs on two levels, a) awareness of present as the future is unfolding in the now, and b) awareness of present self and thinking of thinking in the now. This awareness includes, but is not limited to, a general awareness of strengths and liabilities.

Participant 2:

They must already know to a certain extent what they do know and they don't know. So there must be at least a level of knowing of and awareness of their unconscious.

Participant 4

Life is constantly a set of circumstances like - you read a book, you talk to somebody, you go to a lecture, something happens, you read something and you make the connection. You just need to be awake.

Participant 4

You yourself are being responsible to be aware of the moment, because life will give you pieces of information which you will need afterwards to connect - you need to be aware.

Participant 6:

This newly found awareness is not just 'unpacking' and 'processing' of insights. It includes a shift in attention to new things and, as a result, a different way of being.

Such awareness introduced another paradox, as the very act of thinking about your thinking and nature of your mental model requires the leader to step out of the cognitive space and integrate feelings and intuition.

4.9.2 Acceptance of current reality

Consensus was reached that accepting the current reality is important, but does not mean a passive acceptance of the status quo. This acceptance is an active movement towards facing and understanding the current reality, as it has already been established that understanding is the very first part of the change leadership process under another sub-category.

Participant 4:

And it is in the tackling of this....the other model is to embrace the problem, don't run away from the problem - so when you embrace the problem you have got to be with it.

Participant 4:

Then you embrace it. Because for me, that is the start of it. Because if you want to start running away from the problem, then you already have lost the battle.

Participant 6:

Your assumption will not go away. Regardless of what you do, it will not go away. The only way is to face it.

4.9.3 Questioning

All participants and the researcher agreed and experienced that one needs to ask the right questions regarding external phenomena, but also to question one's own thinking and assumptions. This links back to the sub-category of meta-cognition – thinking and questioning your own thinking (Section 4.8.6).

Participant 2:

I am questioning what I already know and what I do not know - quantum thinking - questioning the current paradigm. That would be the first level of awareness. I have to question this paradigm which I operate with.

Participant 4:

The quantum thinker would start with a lot of questions and your focus would be much more around questions - that would be the first thing.

Participant 6:

If you say questioning, uhm.....I want to bring in then the construct of meta-cognition, in other words, I am questioning what I am thinking.

4.9.4 Challenge status quo

The very courageous act of challenging the status quo highlighted also the notion of risk in a complex environment.

Participant 2:

That is an immense maturity and a willingness to go against the conventional. The individual will have to move away from the norm to be successful.

Participant 3:

He went against the wishes of the xx⁷, of his employing government, to do certain stuff, knowing very well it is going to come back and haunt him. But he has been doing that for many years. Even when he was with xx, he was not being politically correct in people's eyes. Because he had the guts - that is what made him successful.

Participant 4:

The individual will have to move away from the norm; that to be successful I have to be a 5 merit; but to have enough maturity and self-esteem to say: This is what I believe; this is what I am going to do. This is going to hurt me financially, it is going to hurt my status, it is going to hurt my job level, but I am not going to do that. Or it might hurt him; it is not necessarily going to hurt him.

Participant 6:

It is my responsibility to go against the stream. I have to...I have to...(5 seconds' silence whilst looking down).

4.9.5 Letting go

It is important to understand 'letting go' in a broader and holistic context than just to let go of previous assumptions. The conscious act of letting go implies also letting go of identity in that context, which requires a lack of ego.

Participant 2:

It means to strip myself from my subjectiveness in a situation.

Participant 2:

Because I build my mental model on success and if I let it go, I am letting go of my success, of my sense of self, of my identity.

Participant 3:

Someone said: What is the difference between quantum thinking and then just sitting back and letting go. So, I haven't thought about it as trust, but I think that quantum thinking is not so much worrying about, trying about getting order.

⁷ Xx are inserted to protect crucial information which might reveal the identity of the participant

Participant 6:

People ask me: 'Aren't you angry?' I just reply that I am not angry, because in the greater scheme of things this incident does not matter. I have already let go of this.

Participant 5:

They chuck the rule book out of the window. They said: This is how we have done it before - we are not interested in that anymore.

4.9.6 Knowing that not knowing

Participants also specifically referred to the difficulty of letting go and knowing that they do not know, with specific reference to uncomfortable feelings such as anger, shock, being scared, despair, and feeling insecure because of 'not knowing'.

Participant 2:

My mental model is that those are the things that will make me successful going into the future. Now you are asking me to unlearn the stuff that made me successful. You are crazy!!! Similar to culture. Because mental models are based on what made me successful, and now you are asking me to unlearn the very phenomena that made me successful.

Participant 5:

It is very scary, because this is all I know, this is all I know.

Participant 2:

I am scared, because everything was so cut-and-dry and some things were right and some things were wrong, but going through this process I have realised that things are not that simple. What now? I feel insecure about all this. I feel I have failed. The truth of the matter is that they didn't understand and referred me away. I feel insecure about all of this. I feel I have failed. Uhm... (Sigh). And then I sit with the question....That is uncomfortable.

Participant 6:

I feel frustrated. Not because I don't know, but because I don't know how to behave, because suddenly my reality has changed.

The sudden awareness and knowing that they do not know even brought on questioning and thoughts fuelled by doubt.

Participant 2:

For someone to say: I don't know. They must already know to a certain extent what they do know and they don't know. So there must be at least a level of knowing of and awareness of their unconscious.

Participant 5:

So you are never going to get it, understand it totally. It is very scary, because this is all I know, this is all I know.

4.9.7 Talking about not knowing

Participants shared that they prefer to talk about the fact that they do not know, and use others as a sounding board, accepting guidance from others who have shared a similar experience. This also included talking with others who did not necessarily know the answer, but who knew how to deal with 'not knowing'. This in itself is an answer!

Participant 4:

I go to those who have walked this path before and just talk.

Participant 6:

I talk to people who know and think deeply with me.

4.9.8 Trusting the knowing

Delegates reported that, although they do not know 'the answer', there is a set of certainties which they trust and know to be true in a complex context (e.g. it is a networked environment; a solution does exist; there are multiple truths and therefore multiple solutions from stakeholders; they are dealing with an emerging future; not knowing is part of leading in a complex context).

Participant 1:

So, if you as an organisation operating in a quantum, or even as an individual - then I am really not seeking equilibrium. I am not seeking equilibrium. The chaos and the turmoil don't bother me, because I know somehow it will come together.

Participant 2:

The way that quantum comes in there for me...You know what? It is a connected world. If I make decisions that resonate with my basic values, in the end, it will be OK. It will be OK.

Participant 3:

I know I am going to be OK. And that for me translates into trust. Whether it is trust in the system, in the universe, trust in self or trust in my values, maybe trust in the quantum world...knowing that we are interconnected and that I, rather my behaviour right now, will have an impact later because we are interconnected and I will be OK.

Participant 5:

In this chaos and knowing that it will go to order and go back to chaos. You know...there has to be chaos for something new to come, a new form to come. There has to be chaos.

Participant 6:

It is knowing what you know; it is at a different level of knowing. It is a wisdom, wise way of being, and it comes frommmmm.....you know what it is? Knowing what to do in a situation when you don't know.

Participant 7:

I have learnt to trust my gut feeling about listening to others and letting them think with me.

4.9.9 Observing

Participants shared instances where they actively observe the present, expecting solutions to emerge. This includes pausing and observing patterns.

Participant 4:

Well, you know, a lot of breakthroughs come through observing life and from being aware.

Participant 3:

I think we all have to step outside in a metaphysical way and look back into the bigger question.

Participant 2:

You have to reflect, you have to watch yourself doing it, as you are doing it.

Participant 4:

*They don't stop and think about what is happening **now**?*

Participant 5:

It is gone - they stop, pause and be in the moment, where they start to make the connections and realise, ah...

Participant 6:

I think I can learn to deal with that - I am talking about that presence and sit with that.

Participant 7:

You will realise if you pause and sit down and think.

4.9.10 Sensing

Sensing includes using not only cognitive functions in quantum thinking, but also deep-seated sensory emotions and intuition.

Participant 3:

You have to come out of the head, you know...it is not only the cognitive, but it is also getting in touch with the intuitive part of yourself and feelings.

Participant 6:

Feelings and I think something else, kind of, some of the sensory things, those deep-seated sensory emotions, and I don't want to use the cliché, emotional intelligence.

4.9.11 Realising

During conversations, realisation was referred to as 'enlightenment' or an 'a-ha moment', but it was a definite moment in time which brought clarity and focus that emerged from the 'not knowing'. Two participants also spoke about the suddenness and instantaneous moment of clarity when a realisation emerged.

Participant 1:

There is an awareness that comes from it. Awareness comes from enlightenment.

Participant 5:

*That realisation **suddenly** made him very small, in a very big way.*

Participant 5:

***Suddenly** you realise that this isn't what life is about and it is really those people around you and the team, and so it flows and so the circle widens....*

Participant 6:

Something happens dramatically and suddenly when you gain a new perspective about the context and the people involved. I was completely disorientated. I cried....I realised with how much hate, disappointment and pain I sat due to my own set of assumptions about Apartheid. Suddenly, I could make sense of all the happenings around me. It just suddenly all made sense.

Participants all spoke about the lightness and freedom that came with realisation, escaping from their own imprisonment of assumptions and actually seeing the patterns, instead of seeing what they believed.

Participant 7:

I was free. Just for a short while after 50 years of mental imprisonment. It was an unbelievable experience. The lightness of just being in the moment!

Participant 3:

I always start with myself. What were the people trying to tell me that I didn't hear? Is there anything that I can do? What is happening here? In those moments, the clarity comes and this is what I need to do different and I need to re-open this issue and don't understand this issue well enough and I am connected to someone who had a similar problem because I am sure they can help to solve it or as a sounding board.

4.10 LEADER IN A COMPLEX ENVIRONMENT

An interesting conversation emerged when I asked: 'Who is a leader in the quantum organisation?' Delegates were in agreement that **leaders are recognised by their thinking and not positions**, which implies that a leader can be anyone in the networked organisation and not necessarily an individual in a formal leadership position.

Participant 2:

You see, in the real quantum environment your leader in a complex environment will not be the hierarchical leader. The hierarchical leader will be the more charismatic person, the more traditional kind of person who will be successful because of the leaders in a complex environment are underneath him or her. Who does the thinking, networking, the real cutting up of issues in an objective way to get to new, novel answers?

Participant 3:

Leadership can truly come from anywhere in the organisation because you have every single person leading and growing the organisation.

Participant 4:

I think if we get down to the real stuff, it will not be romantic.

Participant 6:

This leader will not always be the 'good guy'. Whether you like them or not, the fact of the matter is that they make a quantum difference. They embody change in a radical manner.

Participant 7:

You have every single person leading and growing the organisation.

4.10.1 Identity

We started to speak about identity spontaneously and it emerged that a leader embodies multiple identities simultaneously, e.g. coach, mentor, motivator, facilitator and sense maker. However, the construct of identity of a leader in a complex environment could not be defined nor objectified as singular, but rather be represented in a holistic manner.

Participant 6:

I walk around asking myself: Who am I without an office, business card, email address or even a job title? I ask myself who I am regardless of a CV and I find comfort in saying: I am the mom of X⁸, X and X.

Participant 3:

So, in essence, what we are talking about right now is that leaders play multiple roles. Before this very simple Newtonian approach of who is the leader, is the hierarchical person in charge. And that is the major identity issues that function in an organisation. Now, Warren Bennis talks about a leader being a coach, facilitator, father, and mother. You are playing many, many roles and the thing that you would realise from a quantum point of view is that those identities are complex, they interrelate and they are fluid. They change.

Participant 3:

I am a leader in my organisation, I am a leader at home, and I am a leader in my community; so once again...leadership comes in various guises.

⁸ Names of children have been omitted to protect identity of participant and adhere to confidentiality agreements.

Participant 6:

I was always a leader as I think everyone is a leader. You are a leader if you are a mom or dad. You are a leader at school, church, as captain of the soccer team.

Participant 3:

I think, from a quantum point of view, that one would think about the complexity of my identity - I occupy many identities at the same time.

4.10.2 Attitudinal orientation

This category describes the attitudinal orientation of a leader in a complex environment.

3.3.1.6 4.10.2.1 *Sense of responsibility*

Participants shared a deep sense of responsibility, not only towards the cause for transformation but also towards others such as team members, stakeholders and employees. This sense of responsibility is characterised by compassion and caring for others.

Participant 2:

I am the leader; I need to take responsibility here.

Participant 5:

I had a relationship with every single employee to the point of feeling responsible for them, and had an incredible sense of duty.

3.3.1.7 4.10.2.2 *Spirituality and purpose*

Delegates shared personal experiences characterised by a deep sense of purpose in life, not only towards their organisation and people.

Participant 3:

For me the depth in my value system is a spiritual card, and that speaks strictly of who I am.

Participant 4:

I think, in conclusion, the things all test true to what you are telling. You have to have a meta-physical dimension where great leaders live a very strong purpose-driven life.

Participant 6:

I think we all have to step outside in a metaphysical way and look back into the bigger question. This is spiritual in the sense of what drives me.

Participant 7:

What is the thing that ties it all together? It is the central tenet of meaning. The central tenet of meaning is the values in the organisation.

3.3.1.8 4.10.2.3 Authenticity

Authenticity had a specific meaning shared by participants. In this context, authenticity meant to be able to go into their mental model and to understand what their mental model is, and to work with it even if it is not perfect. It is an unconditional acceptance of who they are - warts and all - and not living under false pretences and living up to expectations of what a leader is supposed to be. Authenticity in this context implied having the courage to face and be with a **real sense of self**.

Participant 2:

The difficulty when you talk to leaders and you want to use that, is they will give you a situation where they feel comfortable and that fit the kind of mental model that we expect from them.

Participant 2:

Seeing and staying true to my real mental model.

Participant 3:

All I can say is that it means that I came to - and it is terrible. TO THY OWN SELF BE TRUE. To thy own self be true.

3.3.1.9 4.10.2.4 Optimism

Participants reported on having an optimistic outlook on themselves and others.

Participant 4:

There is a kind of sense that you can draw strength from the fact that you face problems. People have always problems and you can overcome these challenges, and so it is... maybe there is a certain kind of optimism.

Participant 5:

...and I have been accused of being too optimistic and ...so I said: That's fine because I prefer to be an optimist rather than to be pessimistic.

3.3.1.10 4.10.2.5 Resilience

Resilience carried a very specific meaning during conversations in the context of a complex environment. Resilience was referred to as the ability to let go and then again influence, at critical moments. Resilience was also discussed in terms of, a) the function and, b) the form. This also shows a strong relationship with the sub-category of letting go (Section 4.9.5).

Participant 6:

I was never overcome by fear, because my belief in the cause was more powerful and it was not about what needed to happen. Regardless, I knew I was going to achieve this. What was perceived to be difficult is no longer difficult. I let go of my fears and my belief was stronger.

Participant 2:

You will have to be very strong, very resilient. You are going to introduce another reality which might be uncomfortable for others. You will have to first be comfortable and resilient yourself. Leading is being, not doing.

4.10.3 Behavioural orientation

This category describes typical behaviours of a leader in a complex environment.

3.3.1.11 4.10.3.1 Listen and suspend judgement

The power of listening and the suspension of judgement with the intention to understand were highlighted.

Participant 1:

When we put those two together, if we have the capacity to listen, we have an unbelievable potential!

Participant 2:

And then the mental models of people came out. The one guy: It is wrong! Yatta....yatta....yatta..... and after a while they started to open up, to listen, to suspend their judgements.

Participant 6:

"I lost my grip once I heard the heart of the people."

3.3.1.12 4.10.3.2 Facilitate

It was also highlighted that a leader facilitates problem solving and conversations amongst stakeholder groups in order to facilitate co-creation. This shows a strong relationship with the identity of being a facilitator of multiple stakeholders and perspectives (Section 4.10.1).

Participant 2:

They will bring the things together behind the screens.

Participant 5:

The leader is the one who takes the place of the least and is being elevated by the others to the most. It is the guy steering from the back and keeping everybody aligned.

3.3.1.13 4.10.3.3 Serve

Participants felt that a leader also serves, driven by a sense of purpose.

Participant 5:

But how come that makes a difference? That makes a difference because they start to think about it and move from being egotistical to serving others.

Participant 5:

How can I support you in this? How can I keep you moving? It is not the charismatic leader! Those are not the ones that build enduring companies, leave a legacy or make a difference in this world. In fact, they are typically the ones that break companies and destroy them because it is all about themselves - all about ego. Quantum leaders are about others.

3.3.1.14 4.10.3.4 Trust

Conversations highlighted that effective leaders trust themselves and others.

Participant 5:

He empowered them because he trusted their judgment and he allowed them to make decisions. They never had that before.

Participant 5:

Which means that those individuals need to be empowered to make those decisions and the only way that you are going to empower them is if you are going to trust them.

3.3.1.15 4.10.3.5 Navigate

Change leadership effectiveness in a complex context was described as ‘navigating’ due to not always knowing what to do.

Participant 1:

Latest thinking is that people spend too much time in strategic planning and they actually have to spend more time in strategic navigation.

Participant 3:

‘We make the road by walking’.

Participant 4:

But you know, sometimes it is very difficult, and muddling through is also a strategy. ‘Muddling through’ is as much part of leadership and co-creation.

Participant 6:

Finding a path that you are going to take to be effective in a quantum world where you are not in charge a 100%.

4.11 CONCLUSION

In this chapter I used excerpts and quoted the words of the leaders themselves, which enabled me to present their first-hand experiences and perspectives. The categories I presented in this chapter inform the literature review and the foundation of the conceptual framework.