RESEARCH ARTICLE:

Examining Leadership Traits to Succeed in a VUCA-Induced Environment in Eskom

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Abstract

Leading through a crisis and volatile environment requires very different and unique leadership traits. This research sought to understand if the leaders at a state-owned (SoE) utility in South Africa, Eskom, are equipped with the required traits to succeed in a volatile, uncertain, complex, ambiguous (VUCA) induced crisis environment like the Covid-19 pandemic and if there is an alignment between how leaders perceive how well they can perform their tasks with their employees' perceptions of their ability to do the task in this environment. Ineffective leadership response to such an environment and crisis due to leaders lacking the essential traits can cost the SoE direly in financial terms, market value, service delivery, brand equity, and employee attrition. Thus, establishing the key leadership traits that leaders at Eskom lack for leading in VUCA and crisis environments would assist Eskom in identifying the appropriate upskilling for their leaders. Using a quantitative research design, the study surveyed a total of 65 senior managers and 45 employees at Eskom, an SoE in South Africa, using an online survey platform. The study found that the senior managers at Eskom are equipped to some degree with the appropriate traits required to succeed in a VUCA environment. They could not perform all 32 tasks well as per the SCAILES framework but do display key traits that align to 6 constructs of the framework: strategic, complex, adaptive, learning, emergence, and systems.

Keywords: *change; Covid-19 pandemic; Eskom; leadership; VUCA*

Introduction

Black swan events like the Covid-19 pandemic have disrupted and changed business models and modes of communication. It is unknown when such an event would happen and how it would happen; it is threatening and requires high priority focus in a limited response time and is enveloped with volatility, uncertainty, complexity, and ambiguity (VUCA) (Mutch, 2020: 72). The Covid-19 pandemic, an event no one ever thought about or planned for, has forced organisations to review their business, systems, capabilities, and competencies. Leaders began to reassess how they think, act and lead. For some, the virus has had devasting effects resulting in organisation closures and retrenchments, while others that were able to weather the storm proved themselves to be more resilient, versatile, and agile. This is due to the quick responses by leadership and their teams to the fluid and ever-changing environment. Leaders had to rethink and re-engineer their operational strategies to deal with the Covid-19 pandemic and its effects in the short term and consider how their business would adapt to the changing world it would find itself in when it emerges from the storm. VUCA events bring about radical change. Change brings about uncertainty and anxiety. People are often resistant to change due to their ingrained mental models, the fear of the unknown, and the unknown impact it may have on their job and personal lives (Proches, 2020). This is normal; however, in the VUCA environment, the role of the leader is

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to manage this change effectively so that it reduces anxiety and fear of the team and ensures the organisation's deliverables are met.

These events are inevitably forcing organisations (both public and private) into a new era embellished with complexity and uncertainty (LDC, 2016). The shifting business landscape changes the roles and responsibilities, and decision-making processes of CEOs, C-suite executives, and line managers. Leading through such an environment requires a different set of skills than normal day-to-day leadership practices, writes Mutch (2020: 75). A crisis like the Covid-19 pandemic required immediate action to a very complex and ambiguous event that was extremely fluid as the situation and variables at play constantly changed. It required heightened decisive strategic direction to lead the team from the unknown to the known. An ineffective response to a crisis like the Covid-19 pandemic can cost organisations direly in financial terms, loss of customers, market value, service delivery, brand equity, competitive advantage, and employee attrition. Both public and private organisations operating in a VUCA environment require a new genre of leaders that are required to use different skill sets and techniques to lead, manage and grow their people while creating an environment that is conducive to innovation, creativity, collaboration, and development (LDC, 2016; Kok and van den Heuvel, 2019). A state-owned entity (SoE) like Eskom, a large SoE electricity generating and supplying utility in South Africa, was not immune to the effects of the pandemic.

Leadership at Eskom is complex due to its linear policies and frameworks that guide and govern the utility. The linearity of policymaking does not consider or accommodate feedback loops, time delays, cause and effect relations that are often distant in time and space that lead to policy resistance, unintended consequences, and counter-intuitive behaviour. These blind spots and gaps do affect leadership's behaviour, actions, and response time. "Hindsight biases" hamper the "retrospective analysis of policy failures in a crisis," writes Tourish (2020: 263). Policymakers and leaders fail to consider and factor in elements of uncertainty and contingency plans when making decisions. Post-crisis analysis reveals salient factors that were found to be the triggers in a crisis were omitted in their planning and effectiveness phase (Tourish, 2020: 263), thus, highlighting the importance of scenario planning, contingency activities, and collective thinking during strategic decision-making. Eskom's sustainability post the pandemic lies in the decisions and actions of its leaders and their followers that were taken amidst the Covid-19 crisis. This begs the question: Does this entity's leadership have the required skills to manage such a complex organisation in an environment plagued with uncertainty, political, global, environmental, and social-cultural challenges, as well as a catastrophic pandemic? Can they lead effectively in this height of uncertainty, fluidity, and pace? With all the policies and regulations that govern Eskom's decision-making, can they make quick, immediate choices regarding restructuring, restrategising and resource allocations? Do they have the skills to plan with various contingencies for the next crisis and to guide the employees of Eskom on the most probable eventual outcome as they navigate the pandemic? (McNulty and Marcus, 2020). Thus, the key objectives of this paper were:

- To determine if the leadership at Eskom possessed the required traits to succeed in a VUCA-induced crisis environment like the Covid-19 pandemic.
- To establish if an alignment exists between how leaders perceive how well they can perform their tasks and their employees' perception of their ability to do the task.

The dominant traits that emerged from the study were compared to the traits required to succeed in a VUCA environment. The findings of the study provided Eskom with key leadership traits their leadership team should hold as well as areas they require upskilling for leading in a VUCA environment and should another black swan event such as the Covid-19 pandemic or a crisis occur. The pandemic has changed the working environment, thus, equipping the leaders at Eskom with the appropriate skills for this "new world" is vital to ensure the entity's sustainability.

Literature Review

When leading in a crisis or a VUCA environment, it becomes very difficult to quantify responses or actions that were taken at that time, as the leader often would lead based on instinct, experience, information, and situations presented at that time, as well as insight from the team (Weinhold and Cowherd, 2016). These decisions are taken very quickly and put into action at a swift pace. Thus, crisis leadership can be defined as the way strategies are used by the organisation to deal with an event that places an undue threat on the organisation's financials, stakeholders, and the ability to deliver its service. It also relates to the ability of the leaders and employees to deal with the crisis event effectively (Klann, 2003: 12). Mutch (2020: 72) asserts that crisis management deals more with the operational aspects, while crisis leadership involves oversight of the operational aspects and providing direction; however, greater focus is on providing "vision, direction and the big-picture thinking." Thus, it is important to know what is happening on the ground level but focus needs to be placed on planning ahead and providing strategies to take the organisation through the challenge towards recovery and post-recovery.

Mutch (2020: 73) researched key traits and behaviours leadership should possess for managing a crisis and posits the following traits:

Traits or characteristics	Behaviours or processes
• Adaptable • Empathetic • Prepared • Resilient • Transparent • Trustworthy Gigliotti (2017)	• Recognising a crisis is coming • Mount a response • Develop a network of teams • Elevate leaders • Demonstrate empathy • Communicate effectively D'Auria and De Smet (2020)
• Relationship-oriented • Participative • Innovative • Problem-solver Alkharabsheh et al. (2013)	• Provide stability, reassurance, confidence and a sense of control Alkharabsheh et al. (2013)
• Trusted • Respected • Decisive • Calm • Visible • Accessible • Mission-focused • Visionary • Autonomous • Selfless • Committed • Confident • Positive • Strong • Knowledgeable • Experienced Porche (2009)	• Integration of prior knowledge, leadership acumen, and practical experience • Manage complex tasks simultaneously Porche (2009)
	• Manage their emotions • Make connections to shared values • Be proactive • Act positively, sincerely, and respectfully Rego and Garau (2007)
Formal leaders have: • decision-making skills • ability to remain calm • effective communication • Informal leaders have: • motivation to lead • autonomy • emotional leadership • and see crisis as opportunity Zhuravsky (2013)	• Understand the unpredictable nature of crises • Being able to lead a decision-making process • Communicating effectively • Taking the big picture into account • Looking for creative solutions • Being flexible • Having realistic expectations Kielkowski (2013)

Figure 1: Crisis leadership traits and behaviours (Mutch 2020: 73)

D'Auria and De Smet (2020) acknowledge that at times on the spot/immediate action is required; however, they do advise managers to be in a cycle where they constantly "pause-assess-anticipate-act" during a crisis. McNulty and Marcus (2020), however, argue that organisations

often fail during a crisis as most often the situation is over-managed and lacks leadership. The reasons why are three-fold:

- Leaders tend to take a narrow view of the situation.
- Managing becomes more appealing and takes precedence over leading.
- Due to the chaos a crisis creates, leaders are focused on the business side of the organisation and forget about the human element – the people.

Leadership in the VUCA environment must continuously view the world in novel ways and from different angles and lenses, thereby changing their thinking models. This would allow them to adapt and respond faster with informed, collaborative, decisive decision-making, and the ability to anticipate a future that is so uncertain and accelerating at an astronomical rate, one by its very nature approaching chaos (Moore, 2015).

Methodology

This paper reports on partial findings extracted from a doctoral study that examined "Leadership of state-owned enterprises in a volatile environment: a case study of Eskom" (Pramjeeth, 2021). The research methodology adopted for this study was quantitative in nature. The exploratory research design was guided by the post-positivist approach. Post-positivism postulates that all reality, observations, and opinions are imperfect with errors and that strategies premised on post-positivist thinking can be changed and adapted to suit the circumstances it finds itself in (Žukauskas, Vveinhardt and Andriukaitienė, 2018). Leaders do not remove their bias, experiences, and emotions from their decision-making. Leaders live and work in an imperfect world; thus, it is their goal as individuals to sieve through their imperfections in an attempt to find common ground that would form a base for new innovative thinking. Due to the environment's fluidity, changing, adapting, and readapting thinking and strategies are the norms to survive and break through the chaos caused by VUCA. This type of thinking is what is required in a VUCA environment like the Covid-19 pandemic.

This study employed an exploratory research design as the researcher aimed to determine if the leadership at Eskom were equipped with the required traits to succeed in VUCA-induced crisis environments like the Covid-19 pandemic. This phenomenon has not been widely researched in South Africa. This research was structured on the SCAILES (Strategic, Complex, Adaptive, Innovative, Learning, and Emergent System) framework, a framework that provides the vital leadership traits required for succeeding in a VUCA environment (Moore, 2015), allowing the study to build on, explain and test the theory (Rahi, 2017). It was important to capture this insight as the managers had, at the time of the study, just lived and worked through this pandemic, thus shedding first-hand information on key leadership traits that were predominant for them as they led through the chaos and uncertainty. The leaders can use this information to identify gaps in their leadership, upskill themselves and build their team to thrive in the new world that is full of volatility and uncertainty.

The target population consisted of senior managers at Eskom and their subordinates. The senior managers were targeted as they are the key decision-makers and the individuals at Eskom who are instrumental in creating strategies to meet the strategic goals set by the executive team. With their leadership and direction, they ensure their teams meet the entity's strategic mandate. Using a simple random sampling methodology, where each senior manager had an equal probability of being chosen, 183 senior managers out of a population of 326 and 183 employees reporting to the senior managers out of a population of 7193 were targeted with an anticipated variability ratio of 20–30%. The Human Resources Department of Eskom sent an online questionnaire using MSForms to the selected participants. An online questionnaire was chosen as the most suitable instrument in terms of 1) the policy and regulations regarding research at Eskom prohibiting the disclosure of employee information and access to employees by individuals external from the organisation; 2) the sample population under study was not easily accessible due to the nature of

their roles and position in the entity and 3) the study was conducted during the peak of the pandemic when strict lockdown restrictions were in place prohibiting the movement of people. Data was collected between August and October 2020.

To assess if the senior managers at Eskom possessed the required leadership traits to succeed in a VUCA environment, the SCAILES framework (Moore, 2015) informed the questionnaire design. The questionnaire comprised 32 questions that addressed the seven key constructs in the SCAILES framework (Strategic; Complex; Adaptive; Innovative; Learning; Emergence, and Systems). Using a 5-point Likert Scale, senior managers had to indicate how well they felt they were able to do the tasks listed in their role at Eskom, with 1 being 'not well at all' to 5 being 'extremely well' while employees had to rate how well they perceived their managers' ability to do each task. In total, 65 senior managers and 45 employees reporting to the senior managers completed the close-ended questionnaire. The data were analysed using the statistical software package, SPPS. Inferential statistical analyses, namely a One-Sample Binomial test, One-Sample T-test and Exploratory Factor Analysis (EFA), were performed on the data. Ethical clearance was obtained from the Humanities and Social Sciences Research Ethics Committee of the University of KwaZulu-Natal (HSSREC/00001143/2020) and a gatekeeper letter from Eskom. Each participant in the study had to accept informed consent before participating in the study.

Results and Discussion

Senior manager leadership behaviour traits

A Binomial test was performed to find the cut-off rating where a significant number rated each trait (their ability to do a task). The summary of the findings is presented in Table 1 below. The Binomial test showed that items 1 and 5 were the leaders' best traits:

- o 1 – the ability to see the big picture and think holistically and

- o 5 – take into account a number of elements when thinking through problems to help create well-informed strategies and decisions

Item 17 – Encourage disruptive innovations that would establish completely new standards for improved efficiency and service delivery – was their worst trait.

Based on the Binomial test results indicating that managers performed 2 out of the 32 traits well for leading in a VUCA environment, EFA was performed on leadership traits to help describe the 32 trait items using fewer dimensions.

Table 1: Summary of leadership traits binomial test

Item	%	Their ability to complete a task is rated at least...	p-value
1 Ability to see the big picture and think holistically	65	Well	.025
2 Anticipate the future based on what is known and consider the possibilities and probabilities of each long-term outcome	77	Quite well	<.0005
3 Link the past to the present, as well as to the future, as a single continuum of dynamic interactions	72	Quite well	<.0005
4 Step back and think through plans and decisions, connecting future outcomes to today's planned actions, and develop a credible path to achieve a desired state	83	Quite well	<.0005
5 Take into account a number of elements when thinking through problems, to help create well-informed strategies and decisions	63	Well	.046
6 Navigate what is known while accounting for what might not be known	80	Quite well	<.0005

7 Understand the networked nature of complexity in Eskom and how its various elements are interdependent	91	Quite well	<.0005
8 Adeptly sense environments and be aware of changes which may influence my actions and strategies	82	Quite well	<.0005
9 React effectively and efficiently to stay ahead of environmental changes	88	Quite well	<.0005
10 Reflect on my actions and decision and change things so that they work better	97	Quite well	<.0005
11 Consider the impact a change would have on people, processes, systems and goals and implement plans to support the change	89	Quite well	<.0005
12 Make sound decisions quickly under pressure or when facing tight deadlines	94	Quite well	<.0005
13 Easily and speedily identify and provide innovative efficient solutions to problems and inefficiencies in processes and systems	77	Quite well	<.0005
14 Think creatively and out of the box to catalyse new thoughts which result in novel ideas and concepts	71	Quite well	.001
15 Promote learning and the development of breakthrough ideas and concepts in my team	91	Quite well	<.0005
16 Routinely develop unique new solutions using input from various individuals	82	Quite well	<.0005
17 Encourage disruptive innovations that would establish completely new standards for improved efficiency and service delivery	100	Not really that well	<.0005
18 Encourage my team to unlearn behaviours and strategies that hinder growth and efficiency across and within our systems and networks	69	Quite well	.003
19 Encourage experiential learning, where knowledge is applied in context, i.e., hands-on	94	Quite well	<.0005
20 Encourage my team to set their own learning and development requirements	91	Quite well	<.0005
21 Encourage continuous learning through deep engagement and involvement in a collaborative setting	88	Quite well	<.0005
22 Create an environment that enables the unrestrained emergence of new ideas, concepts and perspectives.	85	Quite well	<.0005
23 Set the tone so that individuals feel encouraged and feel a sense of openness and trust so that meaningful dialogue and exchange can take place	89	Quite well	<.0005
24 Show a genuine interest in the generation of productive ideas and solutions and acknowledge the idea regardless of their source	97	Quite well	<.0005
25 Set the stage, create the right environment, ask the right questions, and then I 'let go'	89	Quite well	<.0005
26 Enable my team to rethink about old problems and strategies in new ways	85	Quite well	<.0005
27 Apply different lenses and backgrounds to solving a problem	80	Quite well	<.0005
28 Encourage and foster internal and external interactions across networks/departments	92	Quite well	<.0005
29 Think in terms of open and collaborative systems	92	Quite well	<.0005
30 Think and adapt in terms of interconnected and interdependent systems and departments	97	Quite well	<.0005
31 Consider a wide range of possibilities and their inherent probabilities and their potential implications	89	Quite well	<.0005
32 Allow others to brainstorm and propose solutions to problems in complex situations	92	Quite well	<.0005

Source: Primary data

Senior manager leadership traits: Exploratory factor analysis

EFA was performed on the 32 leadership traits, in Table 1, to explore its structure. The Kaiser-Meyer-Olkin measure of sampling adequacy (KMO) of .881 indicates that the data was reasonable for successful and reliable extraction. Four factors were extracted from the 32 items, see Table 2, which account for 69.15% of the variance in the data.

Table 2: Senior manager leadership behaviour trait factor analysis summary

Factor	Label	Items included	% Variance explained	Cronbach's alpha	CR	AVE	MSV
Strategic	STRAT	1-7	48.749	.923	.935	.619	.706
Collaborative	COLL	15, 17, 28, 29	8.760	.849	.832	.560	.585
Problem-solving	PS	23, 24, 27, 32	6.675	.883	.882	.654	.706
Learning	LEARN	19, 20	4.695	.867	.867	.766	.295

Source: Primary data

To verify the structure of the factors, a Confirmatory Factor Analysis was performed to test if there was a good fit of the constructs. Fit indices of ratio $\chi2$ /df, CFI, IFI and RMSEA all indicated a good fit. Analysis of the reliability and validity showed that reliability and convergent validity were achieved throughout; however, divergent validity was only achieved for the factor LEARN.

A One-Sample Binomial test was performed to find the cut-off rating where a significant number rate of each composite trait (their ability to do a category of tasks) was performed on the four factors. A significant proportion indicated that they could perform the trait at least 'quite well' for all these composite traits. The computed p values are <0.005, indicating great significance at a 95% confidence level, as per Table 3. A significant 74% indicated that they could perform the key tasks under the 'Strategic' factor either well or extremely well, p<.0005. Some of these key traits with a factor loading >0.7 were:

- Anticipate the future based on what is known, considering the possibilities and probabilities of each long-term outcome
- Link the past to the present, as well as to the future, as a single continuum of dynamic interactions
- See the big picture and think holistically about how different aspects affect one another
- Step back and think through plans and decisions, connecting future outcomes to today's planned actions, and develop a credible path to achieve a desired state
- Adeptly sense environments and be aware of changes which may influence my actions and strategies
- Navigate what is known while accounting for what might not be known

Table 3: Senior manager leadership behaviour traits binominal test results

Factor	Factor Name	Label	Binomial %	p-value
1	**Strategic**	**SM - STRAT**	**74%**	**< .0005**
2	Collaborative	SM - COLL	66%	.013
3	Problem-Solving	SM - PS	69%	.003
4	Learning	SM - LEARN	65%	.025

Source: Primary data

Moore (2015) advocates the importance of leaders being able to think strategically by planning ahead, and considering the present situation, with Adams and Beckert (2020) noting it is important to assess "what is most urgent now". Connor (2021) notes that managers who succeeded during the Covid-19 pandemic were more focused on the outcome and not the process. This is done most effectively by assessing the current environment and the situation and engaging

in constant collaboration. Leaders must be constantly planning, reviewing their plans and restrategise as they reprioritise, advises BDO (2020).

Employee perception of senior manager leadership traits

The study further sought to establish the employees' perceptions of their senior manager's ability to do the task. The One-sample T-test was applied to the data to test for significant agreement/disagreement on how employees rate their managers on the perceived ability to do each task. The employees were asked to rate their managers on the exact same scale as the senior managers. The results were checked using the Wilcoxon signed ranks test. No differences were found in the concluding results. The results show significant agreement for 29 out of 32 items (p values <.005) as per Table 4.

There was no significant agreement that the managers could do the following task well:

1. The ability to think creatively and out of the box to catalyse new thoughts which result in novel ideas and concepts (M=3.6), p=.360.

2. To routinely develop unique new solutions using input from various individuals (M=3.27), p=.083.

3. Encourage disruptive innovations that would establish completely new standards for improved efficiency and service delivery (M=3.27), p=.083.

Senior managers also rated *Encourage disruptive innovations that would establish completely new standards for improved efficiency and service delivery* as their worst trait (see Table 6). The traits above are key when managing and leading in a volatile environment. The black swan event, like the Covid-19 pandemic, required leaders to be creative in their strategic planning, and develop novel ways of solving the challenges that the pandemic had presented. Encouraging disruptive thinking is a skill that not many managers have mastered or are accustomed to. The tried and tested ways are always favoured. Eskom's current leadership model of Responsible and Ethical Leadership does not focus on disruptive thinking and innovation but rather on the principles of leading in an ethical and responsible manner. The public sector is typically viewed as having little interest in innovation, being overly regulated, fearful of taking risks and acting as a monopoly (Argothy and Álvarez, 2019, citing Bernier, 2014). However, Gershman, Roud and Thurner (2018: 199) in their study "Open innovation in Russian state-owned enterprises", found that the SoEs can be innovative, creative and engage in collaborations that encourage disruptive thinking because creativity and innovation are driven by government, and it makes use of SoEs to achieve its goals of science, technology, and innovation.

Table 4: Employee trait – one-sample test

Traits My manager….	t	df	Sig. (2-tailed)	n	Mean	SD
ST1_1 Is able to see the big picture and think holistically about how different aspects affect one another	3.903	44	.000	45	3.60	1.031
ST2_2 Is able to anticipate the future based on what is known and considers the possibilities and probabilities of each long-term outcome	4.069	44	.000	45	3.51	.843
ST3_3 Is able to link the past to the present, as well as to the future, as a single continuum of dynamic interactions	3.611	44	.001	45	3.53	.991
ST4_4 Is able to step back and think through plans and decisions, connecting future outcomes to today's planned actions	4.526	44	.000	45	3.60	.889

C1_5 Takes into account a number of elements when thinking through problems, issues or situations, to help create well-informed strategies, plans and decisions	3.630	44	.001	45	3.51	.944
C2_6 Is able to navigate what is known while accounting for what might not be known	4.118	44	.000	45	3.58	.941
C3_7 Knows the networked nature of complexity in Eskom and how its various elements are interdependent	4.409	44	.000	45	3.64	.981
A1_8 Is able to adeptly sense environments and be aware of changes which may influence his actions and strategies	4.896	44	.000	45	3.64	.883
A2_9 Is able to react effectively and efficiently to stay ahead of environmental changes	3.617	44	.001	45	3.42	.783
A3_10 Is able to reflect on his actions and decision and change things so that they work better	3.017	44	.004	45	3.40	.889
A4_11 Considers the impact a change would have on people, processes, systems and goals and implements plans to support the change	4.000	44	.000	45	3.53	.894
A5_12 Makes sound decisions quickly under pressure or when facing tight deadlines	2.847	44	.007	45	3.47	1.100
A6_13 Is able to easily and speedily identify and provide innovative efficient solutions to problems and inefficiencies in processes and systems	3.108	44	.003	45	3.40	.863
I1_14 Is able to think creatively and out of the box to catalyse new thoughts which result in novel ideas and concepts	.926	44	.360	45	3.16	1.127
I2_15 Promotes learning and the development of breakthrough ideas and concepts in the team	5.630	44	.000	45	3.69	.821
I3_16 Routinely develops unique new solutions using input from various individuals	1.773	44	.083	45	3.27	1.009
I4_17 Encourages disruptive innovations that would establish completely new standards for improved efficiency and service delivery	1.773	44	.083	45	3.27	1.009
L1_18 Encourages individuals to unlearn behaviours and strategies that hinder growth and efficiency across and within our systems and networks	2.406	44	.020	45	3.33	.929
L2_19 Encourages experiential learning, where knowledge is applied in context, i.e., hands-on	5.851	44	.000	45	3.71	.815
L3_20 Encourages individuals to set their own learning and development requirements	6.589	44	.000	45	3.69	.701
L4_21 Encourages continuous learning through deep engagement and involvement in a collaborative setting	4.392	44	.000	45	3.53	.815
E1_22 Creates an environment that enables the unrestrained emergence of new ideas, concepts, and perspectives	2.787	44	.008	45	3.40	.963
E2_23 Sets the tone so that I feel encouraged and feel a sense of openness and trust so that meaningful dialogue and exchange can take place	2.548	44	.014	45	3.40	1.053
E3_24 Shows a genuine interest in the generation of productive ideas and solutions and acknowledges the idea regardless of their source	2.602	44	.013	45	3.40	1.031

E4_25 Sets the stage, creates the right environment, asks the right questions, and then 'lets go'	2.701	44	.010	45	3.36	.883
E5_26 Enables me to rethink old problems and strategies in new ways	3.317	44	.002	45	3.47	.944
E6_27 Applies different lenses and backgrounds to solving a problem	2.492	44	.017	45	3.36	.957
SY1_28 Encourages and fosters internal and external interactions across networks/ departments to create dynamic learning and innovative social environments	4.069	44	.000	45	3.51	.843
SY2_29 Thinks in terms of open and collaborative systems	3.953	44	.000	45	3.56	.943
SY3_30 Is able to think and adapt in terms of interconnected and interdependent systems and departments	3.773	44	.000	45	3.49	.869
SY4_31 Considers a wide range of possibilities and their inherent probabilities and their potential implications	3.944	44	.000	45	3.51	.869
SY5_32 Allows others to brainstorm and propose solutions to problems in complex situations	5.880	44	.000	45	3.73	.837

Source: Primary data

Analytical comparison of rankings for the traits by the two groups

The study sought to determine if an alignment exists between how leaders perceive how well they can perform their tasks and the employees' perception of their ability to do the task. The employees rated their managers on the perceived ability to do each task using a rating scale of 1 being Strongly Disagree to 5 being Strongly Agree, and the manager rated himself/herself on each task in terms of how well he/she perceives they can accomplish the task using a rating scale where 1 is 'not well at all' to 5, 'extremely well'. A total of 32 trait items were assessed.

A Mann-Whitney U Test comparing the mean scores for employees and managers on the traits was performed as depicted in Table 5 below. Only two traits (ST2 & A3) that were found to be significant are reported. Results from the Mann-Whitney U Test indicated:

1. Employees rate their managers significantly higher (M=3.51, p=0.013) on their ability to "anticipate the future based on what is known and their consideration of possible long-term outcomes" than the managers rated themselves (M=3.40, p=0.013).

2. That managers rated themselves significantly higher (M= 3.83, p=0.022) on their ability to "reflect on their actions and decision and change things so that they work better" than their employees rated them.

Thus, a significant difference was found to exist between the leaders' perception of how well they could perform their tasks and the employees' perception of their ability to do the task, as p<0.005. No significant differences were found between employees and managers on the other 30 traits.

**Table 5:** Mann-Whitney U Test – Employee and Senior Manager Traits

Test Statistics[a]		
Traits	**ST2** Is able to anticipate the future based on what is known and considers the possibilities and probabilities of each long-term outcome	**A3** Is able to reflect on his actions and decision and change things so that they work better
Mann-Whitney U	1077.500	1104.500
Wilcoxon W	3222.500	2139.500

Z	slyk-2.474	-2.299
Asymp. Sig. (2-tailed)	.013	.022

Source: Primary data

During a crisis like the Covid-19 pandemic, Lampinen and Fifield (2020) and McNulty and Marcus (2020) argue that leaders need to switch their approach to focus on future planning and anticipation of what is to follow. Theory U advocates for the leader to self-reflect and let go of the past, so that focus on the future can take precedence (Scharmer and Kaufer, 2013: 20). As the future begins to take priority, the leader must crystallise and catalyse the energy in the group by creating an enabling working environment that fosters constructive discussions, idea generation, creativity and collaboration that serves the current environment (Scharmer and Kaufer, 2013: 20-24).

Figure 2 below depicts the results of the ability to do a task: Employee's perception vs Manager's perceived ability. An Independent Sample T-test was performed on the data. The p-value for all items is significant, $p < 0.005$. In Figure2, traits on or near the diagonal line are ranked equally/similarly by both parties. Traits above the line are the tasks for which the employee ranks the manager higher/better than he/she ranks him/herself. Traits below the line are those tasks for which the manager rates himself higher/better than the employee does.
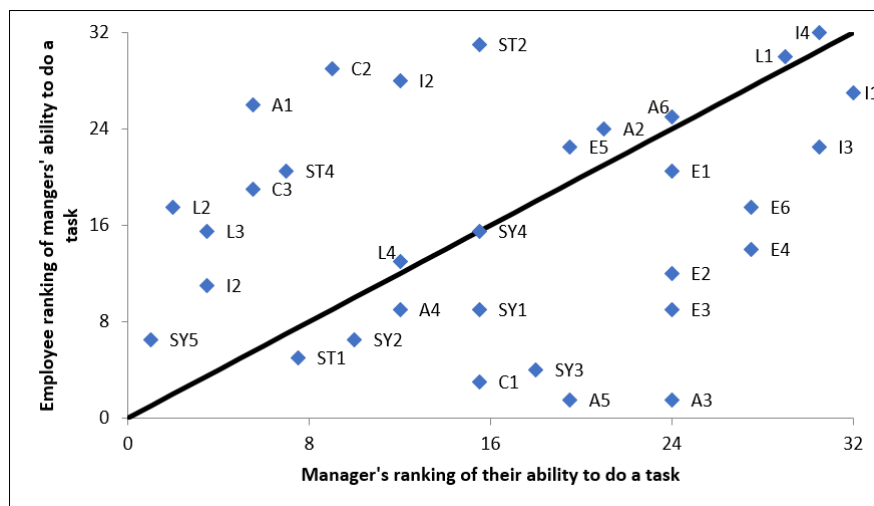
Figure 2: The ability to do a task: Employee's perception vs Manager's perceived ability

Figure 2 shows certain constructs from the SCAILES framework coming through more clearly than others. For example, the "L's", which is Learning, are above the line, while most of the "SY's", which is System and "E's", which is Emergence, are below the line. Traits near the origin are better ranked than those at the end of the line (right) that are ranked lower/worse. It is evident from Figure 2 that employees perceive the managers to do better in tasks that allow the team to brainstorm and propose solutions to problems in complex situations (SY5) and promote learning and development within the team, namely:

- I2 - Promote learning and the development of breakthrough ideas and concepts in my team
- L2 - Encourage experiential learning, where knowledge is applied in context, i.e., hands-on
- L3 - Encourage my team to set their own learning and development requirements
- L4 - Encourage continuous learning through deep engagement and involvement in a collaborative setting

A VUCA environment is continuously changing, and the staff need to be equipped with vital skills, as postulated by Moore (2015). Managers must encourage continuous learning and create an enabling environment that allows for learning to take place. Having leaders and staff with the right skills, experiences, knowledge, and training are critical for surviving in a volatile

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environment (LDC, 2016; Kok and van den Heuvel, 2019). Moore (2015) postulates that knowledge and experience attained through experiential and immersive learning are far greater than textbook information. Education for Life report indicates that "many, if not most people, would need to retool and learn new skills several times during their working life" (Riad, 2017). The report says business models are shifting, hence dictating a change in required skills, leadership competence, vision, and business strategic thinking, problem-solving, and planning. According to the Future Jobs Report 2020 (World Economic Forum, 2020: 35) ensuring active continuous learning takes place should be prevalent amongst tomorrow's leaders. Traits such as SY4 – Consider a wide range of possibilities and their inherent probabilities and their potential implications – and L4 – Encourage continuous learning through deep engagement and involvement in a collaborative setting – are near/on the diagonal line indicating that both parties ranked these two traits equally or similarly. The mean score for SY4 for the employee was 3.51, and the senior manager's mean score was 3.6, and for L4, it was 3.53 and 3.65, respectively.

In terms of ranking of the traits by the employees and the managers, the employees ranked trait SY5 – Allow others to brainstorm and propose solutions to problems in complex situations – as being best performed by their managers while the managers' ranking for the same trait came in at 6.5, (see Table 6). Senior managers felt the tasks they were best at performing were A5 – Make sound decisions quickly under pressure or when facing tight deadlines – and A3 – Reflect on my actions and decision and change things to work better. At the same time, the employees ranked it at 19.5 and 24, respectively. A crisis and a VUCA event require immediate action with limited information, writes Mutch (2020: 72). Moore (2015) highlights the importance of leaders creating an enabling working environment that would encourage agility and collaboration as it invites engagement, brainstorming, creativity, and innovation. According to D'Auria and De Smet (2020), immediate action is required from leaders, but that they should also pause, assess, anticipate, and then act during a crisis. Covid-19 has "opened cracks in our mental models and existing systems" (Geerlof, 2020: 4) and has taught society the importance of discarding old ways/habits, leadership approaches, thinking and broadening their perspectives.

Senior managers felt the tasks they could not perform well were I4 – Encourage disruptive innovations that would establish completely new standards for improved efficiency and service delivery. However, employees felt that their managers lacked the ability of thinking creatively and out of the box to catalyse new thoughts which result in novel ideas and concepts (I1). In terms of innovation and creativity, senior managers lack the required skills vital in a VUCA environment. Moore (2015) propagates the vitalness of creativity, innovation, vision, and out-of-the-box thinking to succeed in a VUCA environment, with critical, analytical and problem-solving thinking skills that incorporate originality, innovation and creativity as the skills required for the future. However, for SoEs like Eskom, this may be difficult. As noted by Mugisha and V. Berg (2008: 305), government control, policy and regulations can inhibit innovation and creativity amongst state-employed leaders. The requirement for public servants to be innovative, creative, and disruptive in their thinking and leadership is not a norm. Rather, servant, ethical and responsible leadership qualities are expected.

Table 6: Leadership traits ranking comparison – senior managers and employees

	Trait	Emp Mean n=45	Emp rank	SM Mean n=65	SM rank
32	SY5	3.73	1	3.72	6.5
19	L2	3.71	2	3.58	17.5
15	I2	3.69	3.5	3.68	11
20	L3	3.69	3.5	3.6	15.5
7	C3	3.64	5.5	3.54	19
8	A1	3.64	5.5	3.4	26
4	ST4	3.6	7	3.52	20.5
1	ST1	3.6	7.5	3.75	5
6	C2	3.58	9	3.28	29
29	SY2	3.56	10	3.72	6.5

3	ST3	3.53	12	3.32	28
11	A4	3.53	12	3.71	9
21	L4	3.53	12	3.65	13
2	ST2	3.51	15.5	3.14	31
5	C1	3.51	15.5	3.82	3
28	SY1	3.51	15.5	3.71	9
31	SY4	3.51	15.5	3.6	15.5
30	SY3	3.49	18	3.8	4
12	A5	3.47	19.5	3.83	1.5
26	E5	3.47	19.5	3.49	22.5
9	A2	3.42	21	3.46	24
10	A3	3.4	24	3.83	1.5
13	A6	3.4	24	3.45	25
22	E1	3.4	24	3.52	20.5
23	E2	3.4	24	3.66	12
24	E3	3.4	24	3.71	9
25	E4	3.36	27.5	3.63	14
27	E6	3.36	27.5	3.58	17.5
18	L1	3.33	29	3.23	30
16	I3	3.27	30.5	3.49	22.5
17	I4	3.27	30.5	3.02	32
14	I1	3.16	32	3.35	27

Source: Primary data

It must be noted that a VUCA-induced crisis environment like the Covid-19 pandemic compelled senior managers to move one step up in their thinking and leadership approach to employ out-of-the-box and holistic thinking and problem-solving approaches to remain relevant and applicable to the prevailing business environment. It is, however, critical to note as evidenced by the One-Sample Binomial test results, One-Sample T-test, Factor Analysis, and the independent sample test, that Eskom managers are equipped to some extent, based on the SCAILES framework, with the required skills and qualities to succeed in a VUCA environment.

Conclusion and Recommendations

The study found that the senior managers at Eskom are equipped to some degree with the appropriate traits required to succeed in a VUCA environment. They could not perform all 32 tasks well as per the SCAILES framework but do display key traits that align to 6 constructs of the framework: strategic, complex, adaptive, learning, emergence, and systems. Eskom managers urgently need to focus on the traits Innovative and Complex within the SCAILES constructs, in addition to out-of-the-box and holistic thinking and problem-solving. The pandemic has provided leaders, especially at Eskom, and researchers an excellent opportunity to learn from their mistakes, build on their weaknesses, convert them to strengths, and create new processes, systems, and structures that would allow them to be in a better position to face the future unknowns. Eskom leaders must shift from a "wait-and-see mindset to a test-and-learn approach to business" (Connor, 2021). Eskom leaders who anticipate and plan for change while constantly looking into the unknown underpinned with a human-centred approach would be well prepared for future VUCA events. Dynamic, innovative, future-focused leaders solve complex business challenges by critically evaluating, reflecting on and reassessing challenges within and external to the organisation, and in this case Eskom. Other key points noted were the importance of learning, the symbiotic and synergistic relationship between team members and other stakeholders within the department and across departments, and the creation of an enabling supportive working environment.

Leaders and managers can only grow, embrace change, and change their mental models if they begin to adopt the principles postulated by the WELSPITL leadership framework for leading a VUCA environment (Pramjeeth and Mutambara, 2022: 5), thereby becoming more resilient and

agile, enabling a positive response to changing environments. Pramjeeth and Mutambara (2022:4) advocate that The WELSPITL framework is a composite of key characteristics from leadership theories and vital traits and qualities that have been found to be relevant for leading in a crisis and volatile environment like the Covid-19 pandemic. The eight key constructs of the framework are:

1. **W** - Working with people
2. **E** - Emotional intelligence
3. **L** – Leading
4. **S** - Self-Care
5. **P** - Problem Solving & Strategy
6. **I** - Innovation & Creativity
7. **T** - Technology
8. **L** - Learning and Development

The authors advise that the WELSPITL framework proposes vital leadership qualities and traits that allow for collective thinking, ideation and solution forming while factoring in greater reflection, accountability, monitoring and control mechanisms, with the strategies being formed based on root-cause analysis and are evidence-based. This leadership framework is relevant to the current environment that Eskom operates in as it moves away from the top-down bureaucratic task-orientated approach to one of participation, inclusivity, and collective and result-orientated leadership. Leadership is not a person or entity but more of a relational process between a networked, interdependent, integrated organisation of systems, processes, and people. Thus, it allows leaders to function in a complexity mindset, where they can comfortably think, act, and lead in a VUCA environment while unifying their team's experiences and knowledge towards a shared vision in a flexible, agile manner. The framework would help Eskom identify the key leadership qualities and traits their leaders should possess to successfully manage and lead their respective departments. Leaders who do not possess these qualities and traits should undergo management development programmes to build these key traits.

The following recommendations are put forward. The study has found that the environment in Eskom is not conducive to igniting creativity, innovation, and the emergence of unrestrained ideas amongst the leaders and employees. Thus, it is proposed that creativity brainstorming pods are created in the various departments to allow leaders and team members to brainstorm ideas, do scenario planning and explore innovative ways of improving the processes and systems. Further, leaders need to dedicate time to the staff's work schedule to allow them to engage in these creative and problem-solving sessions and create mechanisms to support and back up the teams' meeting sessions. Also, the business and work environment has evolved and changed dramatically after the Covid-19 pandemic. This changed environment requires leaders to upskill themselves and equip themselves with the necessary leadership skills required for leading in a VUCA environment. Leaders must undertake continuous training and development at Eskom to ensure that they possess the relevant skills and qualities for their context. The training must help disrupt the leaders' current mental models and ways of doing things and help them self-reflect, unlearn, and relearn new ways of doing things to improve strategy development, problem-solving, and team leadership. They need to upskill and reskill to build on their strengths and improve on their limitations, knowledge, and leadership gaps.

It is worth noting that this study was limited to a single country, South Africa, and a single SoE, Eskom. Thus, similar studies must be conducted on other SoEs in South Africa and abroad to determine if a correlation in the findings exists and increase the generalisation of the findings. Further to this, the study sample population response rate was below 50%; hence, replicating the study with a larger sample size will add greater generalisation to the study.

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