

## ORGANISATIONAL ADAPTIVE LEADERSHIP FRAMEWORK THROUGH SYSTEMS THINKING

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### ABSTRACT

Leadership is a system that includes interconnected elements. Adaptive leadership is about enabling followers to handle adaptive challenges and to adapt to an ever-evolving environment. Organisations are experiencing the most dynamic era of the business environment owing to the influence of vulnerability, uncertainty, complexity, and ambiguity (VUCA). The VUCA nature of the environment presents adaptive challenges, which, unlike technical problems, need dynamic people-focused solutions. Current leadership frameworks are inadequate in practice, and a framework is needed to aid in creating adaptive organisations through systems thinking to succeed in a VUCA environment. This research approach starts with a systematic literature review to create a conceptual framework of adaptive leadership through systems thinking for a VUCA environment. The conceptual framework is validated through interviews with practising industry leaders to obtain their opinions and comments. The research provides a new perspective on using systems thinking in applying leadership practices to create an adaptive leadership framework to overcome the VUCA environment.

### OPSOMMING

Leierskap is 'n stelsel wat onderling gekoppelde elemente insluit. Aanpasbare leierskap gaan daaroor om volgelinge in staat te stel om aanpasbare uitdagings te hanteer en om aan te pas by 'n voortdurend ontwikkelende omgewing. Organisasies beleef die mees dinamiese era van die besigheidsomgewing as gevolg van die invloed van kwesbaarheid, onsekerheid, kompleksiteit en dubbelsinnigheid (VUCA). Die VUCA-aard van die omgewing bied aanpasbare probleme, wat, anders as tegniese uitdagings, dinamiese mensgerigte oplossings benodig. Huidige leierskapaamwerke ontbreek in die praktyk, en benodig 'n raamwerk om te help met die skep van aanpasbare organisasies deur stelsel denke om suksesvol te wees in 'n VUCA-omgewing. Hierdie navorsingsbenadering begin met 'n sistematiese literatuuoroorsig om 'n konseptuele raamwerk van aanpasbare leierskap deur sisteemdenke vir 'n VUCA-omgewing te skep. Die konseptuele raamwerk word bevestig deur onderhoude met praktiserende bedryfsleiers om hul menings en kommentaar te verkry. Die navorsing verskaf 'n nuwe perspektief op die gebruik van stelsel denke in die toepassing van leierskapspraktyke om 'n aanpasbare leierskapaamwerk te skep ten einde die VUCA-omgewing te oorkom.

## 1. INTRODUCTION

Organisational leadership is about selecting, equipping, training, and influencing followers who possess diverse abilities, skills, and traits. Leadership focuses the followers on the mission and objectives of the organisation by expending emotional, physical, and enthusiastic energy to achieve the vision [1]. In the dynamic world, where changes occur faster than ever, organisations need an adaptive leadership framework to cope with a business environment that is marked by vulnerability, uncertainty, complexity, and

ambiguity (VUCA). VUCA leads to unexpected circumstances in the business environment, which affects organisations. Adaptive leadership serves as the framework for riding the waves of the VUCA environment and thriving by adapting instead of being washed away [2]. ‘Leadership’ can be defined as a system [3]. The adaptive leadership framework for organisations is complex, but a systems thinking approach can unpack the complexity and identify the critical elements and their relationships in the framework.

Industrial evolution is happening faster than the current leadership styles, which are based on the rigid hierarchy of the 1900s [4]. Because followers’ traits are constantly changing, and because of the accelerating changes, leadership risks being outdated. Therefore, adaptive leadership could align itself with the future-shaping factors of behaviour, events, and technology [4]. Adaptive leadership allows leaders to go through continuous evolution to follow the traits of their followers, which are linked to the business ecosystem. Leadership has multiple elements: the leader, the follower, and the context [5]. These three elements can be identified as parts of the system in which we can analyse their behaviour and devise modifications to establish the most appropriate behaviour. Systems thinking does not only focus on each leadership element separately but also includes the interconnected relationships between the elements.

According to Arnold and Wade [6], “Systems thinking is a set of synergistic analytic skills used to improve the capability of identifying and understanding systems, predicting their behaviours, and devising modifications to them in order to produce desired effects. These skills work together as a system”. Arnold and Wade [6] present the holistic, systematic view of systems thinking. The various systems thinking elements are crucial to understanding complex systems and the relationships and interconnectedness of the elements. The structured approach could assist in understanding the system’s elements, relationships, and functionality.

Organisations have a common goal of successfully achieving their vision [7]. To do this, leaders must forecast the future and steer the organisation through the high seas of the VUCA environment by adapting to changes. Because of the complexity of adaptive leadership, systems thinking should be deployed to create an organisational adaptive leadership framework.

The research objective of this paper is to create an adaptive leadership framework to complement the fast-paced evolution of the VUCA business environment by using systems thinking principles. The research question that guides this study addresses how an adaptive organisational leadership framework can be created through systems thinking for a VUCA environment:

- What are the elements of an adaptive leadership framework, and what are their relationships?
- How can systems thinking address the leadership challenges of a VUCA environment?

The research methodology is constructed by systematically reviewing the literature on key terms, and establishing a systemigram framework for adaptive organisational leadership through systems thinking. The framework is discussed and analysed against the research questions and the established hypotheses.

## **2. RESEARCH METHOD**

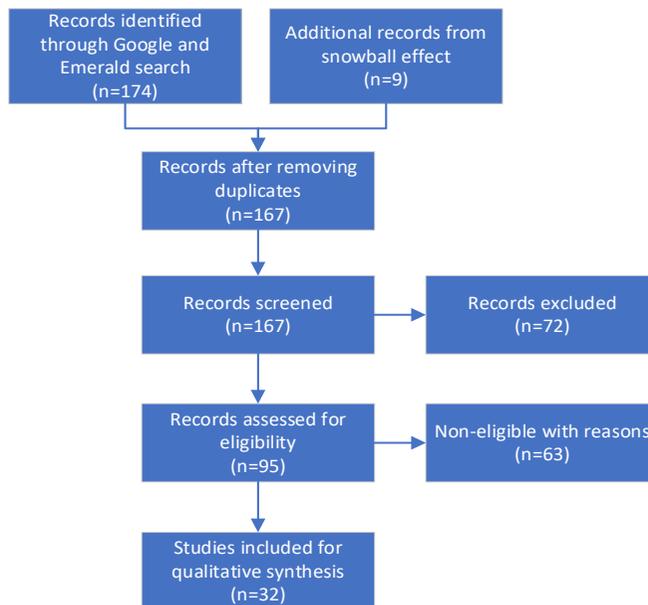
The research design is set up for a multi-method approach. The first part of the approach examines the available literature to unpack the foundation of the research questions by shedding light on the fundamental concepts. The second part focuses on creating an adaptive leadership framework through systems thinking. A systematic literature review (SLR) is conducted, and a conceptual framework is created. Future work will include interviews and analysis of the interview data to validate and improve the framework.

Creating a protocol is a crucial step in conducting a high-quality literature review, as it would define whether the review was narrow or wide, the location of the literature, and the screening method for inclusion [8]. A protocol must be drafted to detail the exact procedure steps for the review and to ensure that the researcher is trained to conduct the procedure [9]. Before establishing the protocol, it is crucial to understand that SLR is only valid if primary research has been conducted in the literature. The protocol of conducting the research would follow the process of a pre-determined methodology through multiple aspects:

1. Establishing the research questions. The research questions are established to guide the creation of the search terms.
  - “What are the elements of an adaptive leadership framework, and what are their relationships?”
  - “How can systems thinking address leadership challenges for a VUCA environment?”
2. The search terms. These are selected and structured to answer the research questions. Two separate searches are conducted with keyword phrases:
  - “Leader\*” and “VUCA” and “Future thinking” and “Adapt\*”.
  - “System thinking” and “Adaptive leadership” and “VUCA”.
3. Determine the information sources. Journal articles from the online libraries of Google Scholar and Emerald are consulted.
4. Eligibility criteria. For an article to be selected, the standard criteria must be met. For the purpose of this study, the criteria below are followed:
  - English language
  - Dates: 1950 - 2022
  - Highly related to the research topic to answer the research questions
  - Peer-reviewed articles are preferred, but the research should not be limited to peer-reviewed articles alone
5. Journal articles

The experimental screening process is limited to reading the abstract of the literature to judge whether it could assist in answering the research questions. This process is subjective, with no right or wrong answers, but it must be justifiable [8]. The selection must be broad enough to include literature that can fruitfully answer the research questions, but narrow enough to discard unrelated literature. The literature selection process results are presented in Figure 1. The screening and selection processes are as follows:

1. Scan the article abstract and titles for relevance
2. Download the full article and screen it for eligibility and relevance
3. Upload relevant articles into Atlas.TI for qualitative analysis
4. Upload relevant articles into Mendeley for reference management



**Figure 1: Literature Selection Process**

For this research, a conceptual framework is created to combine the different elements of the SLR into one systematic conceptual framework. The framework needs to aid in answering the research questions. The adaptive leadership framework is created visually in SystemiTool software to show the elements of adaptive leadership and their interconnectedness through a systems thinking perspective [10] [11]. The interviews are based on a semi-structured qualitative and quantitative data collection setup. The participants are asked to rate the links between the elements for quantitative analysis, and their overall thoughts are captured for qualitative analysis. The data analysis influences the final version of the adaptive leadership framework to generate an inclusive framework of both literature and actual practice.

The SLR aims to provide the basis for the research question and to build an initial adaptive leadership framework for validation through interviews with industry leaders. The SLR synthesis is broken down into sections of the adaptive leadership framework.

### 3. ADAPTIVE LEADERSHIP

#### 3.1. Adaptive leader qualities

Adaptivity is the ability to create change in order to become more suitable for a specific environment. The process involves making changes that are based on a feedback loop through measuring and signalling the need for change [12]. Leaders possess various qualities; however, some are more compatible with the purpose of being adaptive leaders. The qualities below are deemed to be the most important to complement the objective of an adaptive leader:

- Identify as a system. Herbst [13] indicates that identity is crucial for a leader to ensure that they do not lose themselves in the details during VUCA challenges. Leaders need to identify themselves as a system by accepting that they have different qualities and by acknowledging the relationships between the qualities. Leaders need to examine their values and relationships with their heritage and others, acknowledge their shortcomings, inspire themselves by discussing their values, influence their followers, understand their role, and establish the authority and purpose of their journey to an adaptive organisation.
- Self-balance. The leader needs to balance the triad of heart, head, and hands. Leaders need to centre themselves on the three elements of emotions (heart), cognition and rationality (head), and behaviour and conation (hands). The triad requires an apex of direction for the leader to provide the context with emotional capacity, resilience, agility, effective communication, and open-mindedness [14]. According to Herbst [13], the psychological impact of VUCA can be counteracted by a balanced leader who provides an environment of trust, empowerment, and psychological safety for their followers.
- Emotional intelligence. Leaders need to have the ability to connect organisational change to the values of stakeholders, predict who will be reluctant followers, show emotional intelligence in order to influence and empower, resolve conflict, have patience for the change process, admit mistakes and reconfigure the strategy when needed, take calculated risks without fear, and proactively find opportunities [15].
- Promoting support structures. The road to being adaptive is tough, and it needs the capacity to listen to harsh criticism, admit failure, and humbly accept success [15]. Therefore, leaders need to have personal support networks and self-sanctuaries for restoration, and be able to restore themselves through personal resilience and by renewing their position after a shock.
- Complementing qualities. Various qualities need to be adopted and nurtured by the leader to complement the acts of adaptive leadership. According to Fleming and Millar [16], the leadership qualities needed during VUCA are resilience and agility, vision alignment, systems thinking, marketing, inspiration, continuous improvement, and stakeholder cooperation. Bashir [17] highlights awareness, an ethical mindset, emotional agility, big thinking, positivity, creativity, systems thinking, and adaptive intelligence. These various qualities would complement the principles of adaptive leadership.

#### 3.2. Adaptive leadership principles and behaviour

Creating an adaptive organisational environment needs certain principles and behaviours to be applied in order to tackle adaptive challenges effectively.

- Apply systems thinking in the process. Systems thinking is critical in adaptive leadership, in which leaders apply systems thinking processes through discovery, framing, and action [18]. Such a process fits well within the adaptive leadership steps of observing, interpreting, and intervening [15] and the ‘probe, sense, act’ method of Alexander *et al.* [19]. Therefore, incorporating systems thinking allows the leader to conduct the adaptive process while considering the interconnectedness of the adaptive challenge elements. Moreover, in urgent crises, systems thinking allows for the reverse of the process in which urgent action takes place; instead, it senses the feedback from the act and discovers a long-term solution that resolves the crisis. According to Lane *et al.* [20], resuscitation should be applied to actions that enable the followers to innovate so that they are incentivised to conduct fast cycles of learning and adaptation to stabilise the challenge. According to Heifetz *et al.* [15] and Northouse [21], a systems thinking approach involves getting on the balcony, identifying the political landscape, and making adaptive challenges. A holistic birds-eye view of problems is crucial to discovering the elements or relationships that are affected and the whole context while considering all of the factors and their interconnectedness - including the political landscape, which consists of connected stakeholders and their expectations. Identifying adaptive challenges is critical to eliminating the noise of technical difficulties. According to Heifetz *et al.* [15], the characteristics of adaptive challenges include having a non-linear input and output, not having enough formal authority to resolve them, each aspect of the problems needing a different outcome, and previously successful methodologies being deemed ineffective. According to Johnson-Kanda and Yawson [22], the construct of ‘adaptive challenges’ incorporates systems thinking to identify and evaluate a strategy and to create learnings from challenges, owing to their non-linear nature. The systems thinking approach includes conceptual modelling for understanding and managing the challenges by applying different changes. Systems archetypes are general but could assist in understanding the adaptive situation. After that, system analysis can be applied to implement solutions.
- Influencing the followers to adopt an adaptive change process. The adaptive leadership process involves effectively observing the multiple angles of the adaptive challenges before interpreting them and intervening with action. The leader must create an environment and inspire the followers to apply the adaptive change process to cope with adaptive challenges [15]. An adaptive environment allows open communication between followers and leaders, which allows followers to conduct adaptive work [21].
- Giving the work and voice back to the followers. Northouse [21] and Heifetz *et al.* [15] argue that providing the most knowledgeable followers with responsibility and autonomy to resolve challenges is vital. According to Cristina *et al.* [23], leaders’ understanding of status, certainty, autonomy, relatedness, and fairness (SCARF) would enhance their ability to give back the work through communication and speedy responses, and support the growth of the followers. According to Northouse [21] and Heifetz *et al.* [15], giving their voice back to followers as significant challenges and solutions arise in an adaptive environment makes their voices valuable. The leader must provide an environment in which clear, open communication with the followers can thrive. Herbst [24] notes that balancing the power between stakeholders, followers, and leaders is critical to having organisational control through co-creation to resolve VUCA challenges.
- Adopting an agility and resilience culture. According to Francis [25], leaders must enable agility in their organisation through effective integration, quick decision-making, exploiting opportunities, and maintaining effective communication. Cristina *et al.* [23] defined a crisis management approach by developing capabilities via resilience and agility. An agile organisation enhances its resilience in order to bounce back from an impact by resisting, recovering, and adapting [26]. According to Klockner [27], mindfulness is the anchor of resilience. Leaders must create a mindful organisation by leading and empowering their followers with a culture shift to manage failures and problems.
- Adaptive change management. This involves coaching and guiding followers to deal with stress, adopting change, and providing a change-friendly environment. According to Heifetz *et al.* [15], managing adaptive changes requires the leader to create a culture shift of raising uncomfortable issues, nurturing shared responsibility with their followers, being independent in their judgements, encouraging followers to become leaders, and engaging in reflection and continual learning. The change is not limited to people: the organisation and its supply chain (its connectedness with the business ecosystem) are also affected, requiring digitisation and reconfiguration to deliver in VUCA situations.
- Future thinking is a crucial tool for an adaptive leader. Future thinking is an integrated and holistic approach that discerns the future and the potential opportunities that it brings by addressing four

levels: the possible future, the plausible future, the probable future, and the preferred future [4]. The aim is to have a strategic vision for leaders to manage the present and lead it towards the future vision. The future thinking process follows these steps [4]:

- Review the future from the context of the future-shaping factors of technology, events, and behaviour.
- Conduct a relevance review to compare the probability and impact of different futures.
- Spinning the triangle to define the inter-factor influences leads to different future scenarios.
- A future-thinking lens can be used to select the preferred future.
- The business strategy is shaped to complement the desired future.
- **Maintain disciplined attention.** Attending to adaptive challenges and the change process is vital in adaptive leadership [15]. The followers have different personalities and need holistic guidance from the leaders, creating a disciplined environment.

### 3.3. Systems thinking adaptive change process

The adaptive change process for organisations involves the three steps in Heifetz’s [15] adaptive leadership framework, Alexander *et al.*’s [19] Cynefin framework for decision-making, and Davis’s [18] systems thinking leadership model, while incorporating the strategic planning process from [28]. The resulting steps are:

- **Observe/probe/discover.** Scanning the environment for boundaries, inclusions, exclusions, and stakeholder engagement through system diagnostics of the incident.
- **Interpret/sense/frame.** Identifying the adaptive challenges, mapping the patterns and feedback loops, identifying leverage points, defining the decision-making process, setting up the change framework, and preparing interventions to tackle the adaptive challenge.
- **Intervene/act/action.** Including all stakeholders, promoting communication with and collaboration of organisational networks, enduring the change process, and ensuring that all resources are aligned by setting the direction and executing to reach the vision.

Endsley [29] defines ‘situation awareness’ as perceiving elements in an environment, comprehending their meaning, and projecting their status into the future. The model in Figure 2 illustrates situation awareness: the state of the environment feeds into the situation awareness at different levels of perception of the current situation, leading to comprehension of the situation and to future projection to aid decision-making and taking action.

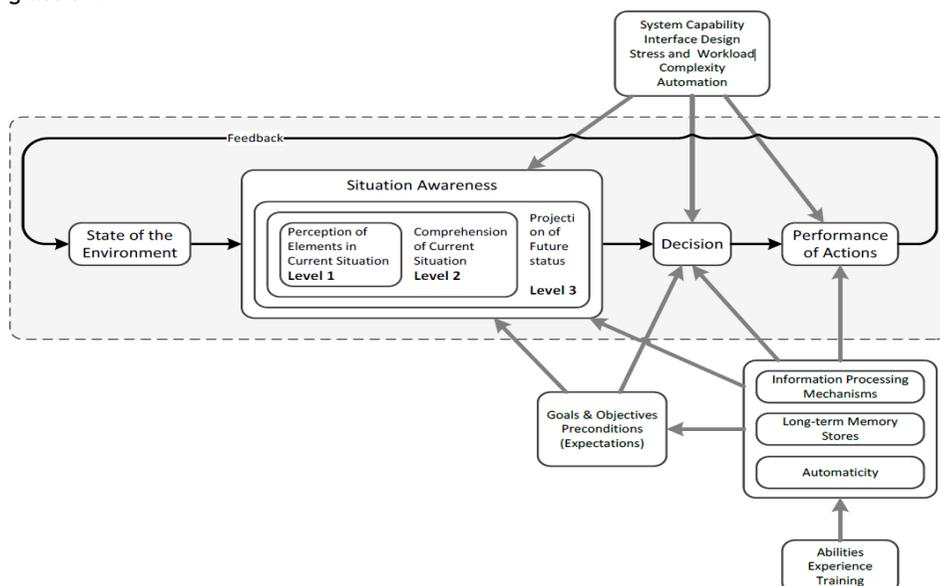


Figure 2: Situation awareness model [29]

The first step of observing/probing/discovering could be reactive or proactive. Organisations need to adopt a proactive approach through future thinking and foresight to reach a competitive advantage faster. According to Voros [30], the foresight process involves gathering input from information sources and conducting the foresight processes of analysis, interpretation, and prospection to reach an output of action plans. The action plans form part of the organisational strategy for implementation. However, VUCA situations and sudden crises are like the business environment, which could need a reactive approach to adaptive change.

The observe-orient-decide-act (OODA) loop is designed initially to create winning tactics through strategy development and execution [31]. The OODA loop has been developed further by Brehmer [32] into a dynamic DOODA loop, as in Figure 3, where it includes the process of observation through information collection, orienting through sense-making, deciding through a planning and decision-making process, and acting through execution. The model includes exit conditions when the objectives are achieved.

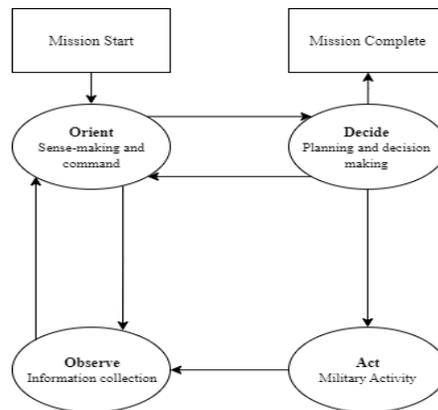


Figure 3: DOODA diagram, adapted from Brehmer [32]

According to Pregmark [33], the adaptability of organisations is a competitive advantage on its own. Hofmann *et al.* [34] consider adaptability to be effective when it challenges industry standards by focusing on customer-centricity, the interconnectedness of the business ecosystem, technology, transparency, and proactive decision-making. There are multiple ways to obtain a competitive advantage, but ultimately it relies on effectively adapting to the market's requirements.

During the interpreting stage, Barlach and Plonski [35] discuss the importance of noting the Einstellung effect (the negative effect of previous experience when solving new problems) in order to avoid the error of applying old solutions to dynamic environment challenges. The Einstellung effect states that solving solutions without previous knowledge leads to better results through understanding the problem elements and their interconnectedness. Peschl [36] applies it to unlearning and applying solutions while not considering the past to enhance cognitive flexibility when facing VUCA challenges. The ability to unlearn would help to resolve known problems with unknown solutions, as well as unknown and unknowable future scenarios, such as the VUCA environment, to gain a competitive advantage through innovative solutions.

An impact on the organisational mental models supports adaptive change. A mental model is a simulation that enables the curious to be aware of the surrounding world and the self in the world [37]. Mental models are the organisation's implicit models or structures for the assumptions of reality. Mental models comprise the entity's preconceived ideas, meanings, beliefs, values, and philosophies [38]. Such models are dynamic and can change over time. Mental models limit curiosity and the system's capacity to change. The organisational mental model system's structures are driven by the stakeholders' mental models, which can include multiple perspectives. The system structures include cultural, political, infrastructural, and regulatory components. The different levels of the iceberg model of Meritt [37] represent:

- Events. The visible results of the iceberg.
- Pattern trends. Showing what is happening over time.
- Structures. Shows what the influences are behind the repeated behaviour.
- Mental models. The base represents the stem of the iceberg, where the beliefs drive the structure, which in turn influences the pattern to create the events.

### 3.4. The followers

Leaders direct and guide the followers in adapting to the VUCA challenges that face the organisation by creating an adaptive environment using the adaptive leadership framework. Adaptive change causes tremendous stress for followers, which ignites the need for trust in leaders who reduce the stressful impact on the followers. According to Fleming and Millar [16], followers become empowered and take more leadership roles when they believe in their leader and their leader's vision. Followers need their leader to be present, compassionate, and accepting, and to act as a catalytic healer during the impact of adaptive change [16].

According to Burrell *et al.* [39], followers must fully align with the organisational vision through measurement, a reward system, and empowerment. Waller *et al.* (Waller, Millar, & Culpin, 2017) emphasise the need for leaders to acknowledge the psychology and hormonal composition behind the reward system, as it is critical in improving followers' productivity, promotion, engagement, agility, resilience, and collaboration. A reward system without autonomy and empowerment could lead to micro-management, which would work against the organisational effectiveness of achieving the vision. According to Maran *et al.* [41], autonomy and empowerment are essential to simulate the cognition of the followers by specifying the goals of the followers' actions and their meanings for the overall strategic organisational vision. Autonomy has an immediate effect on performance. Granting autonomy catalyses goal-achievements, but its pre-requisite is a vision 'umbrella' to keep the autonomy goals within the organisational vision.

Followers must be sustained in performing their duties without risking their work-life balance and health. Mellner *et al.* [42] indicate the importance of the leader's stress management and interpersonal skills to achieve follower sustainability. Mindfulness is a crucial aspect of sustainability, and followers need to be guided on how to be mindful and to enhance their capacity to reflect in the present moment in order to understand the connections between thoughts, emotions, and behaviour. The VUCA environment's effects on followers could be managed well through mindfulness, as it enhances the management of job demands, psychological detachment, sustainability, and building boundaries.

### 3.5. The context

According to the Oxford Dictionary, an organisation is an organised group of individuals who share a particular purpose. This definition indicates that a group of people share a goal or a vision that brings them together to achieve their goals. The current global trend is to move towards organisational structures of less control and more flexibility and creativity in facing VUCA events [22]. Leaders are expected to operate in the 'new normal' environments of constant change from external and internal sources [16]. During the 1960s, the lifespan of an S&P 500 company was 60 years; today, it is 20 years [33].

VUCA - volatility, uncertainty, complexity, and ambiguity - usually refers to a combination of 'unwanted surprises' that work against the current business strategy. Figure 4 is adapted from the *Harvard Business Review* [43], and represents a graph grid to place each VUCA element on the axes of predictability and knowledge.

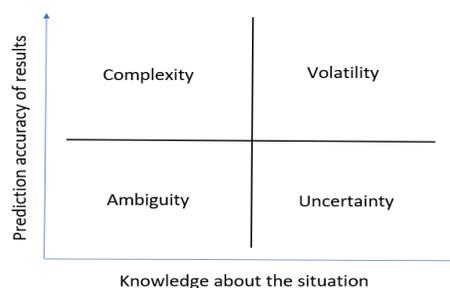


Figure 4: A guide to approaching VUCA events, adapted from Bennett and Lemoine [43]

Given the VUCA nature of the environment, it has become vital for leaders to manage different skill sets, to convey purpose, and to create trust and positive emotions. The high flexibility of the new norm, and the expected ability of organisations to face constant change, are vital for survival during VUCA. Leaders need to understand the fundamentals of the organisational context, VUCA, and the business environment to

enable them to lead their followers to success. The context of adaptive leadership is primarily the organisation and its environment. Moen [44] notes that organisations comprise structure, human resources, politics, and symbolics. Leaders must comprehend the organisational setup and its interconnectedness to apply adaptive leadership effectively in the face of the VUCA business environment.

#### 4. PROPOSED CONCEPTUAL FRAMEWORK

The conceptual framework of Figure 5 is a systemigram, a systems thinking tool. The systemigram is created using the software SystemiTool to represent an adaptive leadership framework. The conceptual framework's components and their interconnectedness are discussed to describe the systemigram. There are multiple components in the presentation of the conceptual framework in Figure 5, and they can be grouped into the key aspects:

- Adaptive leadership elements. The three major elements of adaptive organisational leadership are the leader, the followers, and the context. The context itself comprises the organisation and the business VUCA environment. The leader and the followers are part of the organisation.
- Adaptive leadership qualities. These are the qualities that are adopted and nurtured by the leader. There are various qualities, the most relevant of which are mentioned in the systemigram to complement the systems thinking principle.
- Key principles. Most of the links in the systemigram are connected through applying the principles. However, the fundamental principles of systems thinking, future thinking, and adaptive change management are included as elements.
- Systems thinking adaptive change process. The adaptive change process is established to include the elements of observing, interpreting, and acting. The processes are interlinked, and embody the DOODA principles.
- Adaptive organisational leadership objective. The goal is to survive and thrive in the business environment by becoming an adaptive organisation to achieve a competitive advantage.

The conceptual framework of adaptive organisational leadership has various elements, as presented in Figure 5. These elements are the leader, the followers, and the context. The leader adopts adaptive leadership qualities and empowers and influences the followers to follow the organisational vision of adaptivity.

The leaders and followers give disciplined attention to applying systems thinking to face adaptive organisational challenges. The context consists of the organisation and the VUCA business environment. Adaptive challenges are imposed on the organisation by the VUCA business environment, while the organisation is part of and contributes to the VUCA nature of the business environment.

Systems thinking supports and complements the adaptive change process. The situation awareness process feeds in information from the context (the organisation and the VUCA business environment). The information can be analysed to identify a chaotic challenge that requires quick action, followed by orientation and decision-making for further action until the challenge is managed. In other instances, the information can be analysed to reveal complex challenges that are less urgent, and responding to them can start with orientation and decision-making, and then taking action until the challenge is managed. The process adopts a DOODA cycle setup to cope with the adaptive challenges. It is key that technical and structural challenges are filtered to ensure an effective and disciplined focus on chaotic and complex adaptive challenges.

Systems thinking supports future thinking, and provides direction for the orientation and decision-making that is needed to take action in order to obtain a future competitive advantage. The link between action and decision-making is a feedback loop in which information is provided to learn and correct the path, based on the feedback data.

The mental models are implied in the SLR. However, they are a critical component of systems thinking and the organisation. Mental models are part of, and strongly influence, systems thinking, which helps to achieve balanced future thinking. Mental models influence the culture and bring clarity in perceiving opportunities and avoiding threats to the organisation. In turn, the organisation affects and influences its mental models. Mental models aid in the practical application of adaptive change management by affecting the adaptive change process, influencing situation awareness, orientation, decision-making, and action.

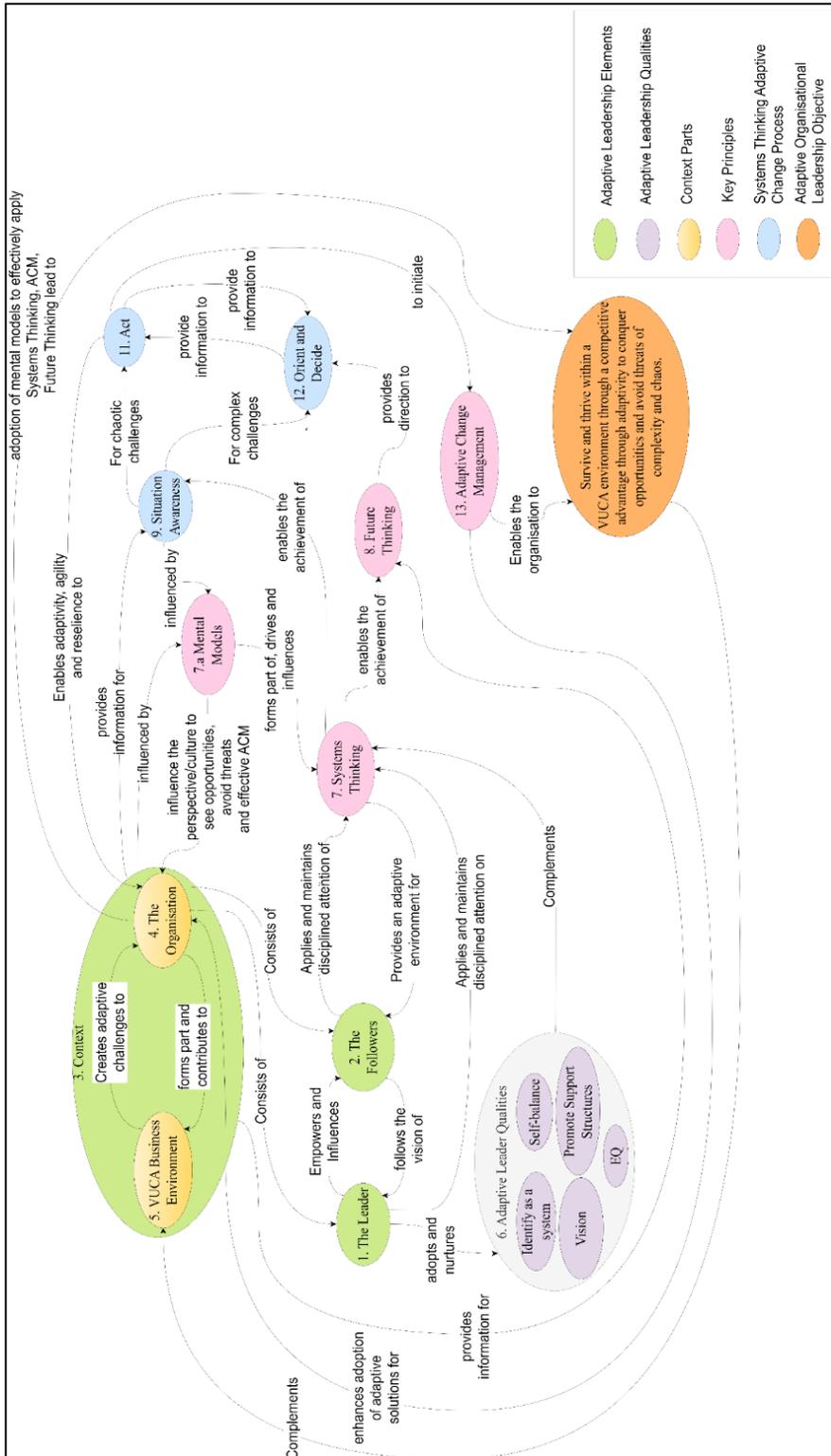


Figure 5: Systemigram of adaptive organisational leadership framework

The active part of the systems thinking adaptive change process initiates adaptive change management and enables the organisation's adaptivity, agility, and resilience (including that of the followers and the leader). The adaptive change management element enhances the adoption of adaptive solutions for the organisation, and enables it to reach its goal. The goal of surviving and thriving in a VUCA business environment complements the business environment and contributes to its VUCA nature. The organisation's mental models are affected and are adapted to survive in the VUCA business environment.

## 5. DISCUSSION

The research questions provoked the creation of an adaptive organisational leadership framework, through systems thinking, to survive and thrive in a VUCA environment. The SLR data was used to create a conceptual framework of adaptive organisational leadership that followed a structured approach. The data was synthesised by combining different literature views into a single universal framework that included the adaptive leadership elements, principles, and critical activities to constitute an adaptive organisational leadership framework, which would support the survival and thriving of organisations in a VUCA business environment.

*“What are the elements of an adaptive leadership framework, and what are their relationships?”*

The adaptive organisational leadership framework includes the leader, the followers, and the organisation elements. The framework also includes the elements of applying adaptive leadership in organisations, from systems thinking, future thinking, adaptive change management, and the adaptive change processes. The adaptive leadership framework contains the principles and behaviours that are required for an adaptive setting while proposing a systems thinking adaptive change process. Therefore, the elements are connected in the framework by adopting adaptive principles and applying the process to reach the state of survival and prosperity in a VUCA setting.

*“How can systems thinking address the leadership challenges of a VUCA environment?”*

Systems thinking aids in facing adaptive leadership challenges through understanding the elements and the interconnectedness of the adaptive leadership framework. Systems thinking is used to map out the adaptive leadership framework. The application of systems thinking in the adaptive leadership framework persists in the mental models of leaders and their followers when they implement adaptive change in the organisation. Therefore, systems thinking addresses the VUCA challenges by adopting systems thinking principles and behaviour as part of the framework to implement adaptive changes to cope with those challenges.

The adaptive organisational leadership framework aims to enable survival in a VUCA business environment by achieving a competitive advantage. The framework presents and highlights the objective. The results of the SLR presented an excellent platform to establish the objective, while the interviews with industry leaders were used to validate the objective. The validation occurred by validating the elements and their interconnections to the objective of the framework. Systems thinking was one of the fundamental principles that emerged from the SLR. The framework has presented systems thinking as a critical principle and has shown the interconnections with the other elements in achieving adaptive organisational leadership, while the interviews have validated the framework's elements, relationships and purpose.

## 6. CONCLUSION

This research has used systems thinking tools to create an adaptive leadership framework to overcome fast-paced organisational challenges and changes caused by the VUCA business environment. An adaptive organisational leadership framework has been created, using the existing literature, to provide a compass for leaders to sail their organisations through the high seas of the VUCA business environment.

The literature lacks a universal adaptive organisational leadership framework to aid organisational leaders. Leaders require a compass to aid them in creating adaptive organisations. Systems thinking establishes the framework, forming part of the adaptive leadership framework. The complexity of the VUCA challenges requires a systems thinking approach to creating an adaptive organisation. Systems thinking establishes the core of the conceptual framework to overcome the complexities of VUCA situations.

The synthesis of the SLR provided the groundwork on which the major elements of the framework were unpacked and interconnected for the development of a robust basis for adaptive leadership. The element groups comprised the adaptive leadership elements, the qualities, the critical principles of adaptive leadership, and the systems thinking adaptive change process. The element groups interacted with one another to reach the adaptive organisational leadership objective of surviving and thriving in a VUCA business environment.

The framework developed here answers the research question. The research investigated the ability to create an adaptive leadership framework, which was answered by conducting an SLR to generate the framework by combining multiple elements and showing their interconnectedness in the framework. The model could help to overcome the challenges of the VUCA business environment by applying systems thinking, future thinking, and adaptive change management, and, most importantly, by adapting the organisation's mental models to the change.

The research's hypotheses should be confirmed through interviews with industry leaders to validate the framework's critical elements and interconnectedness and gauge its ability to help the organisation survive and thrive in a VUCA business environment.

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