



**“What are the potential enablers and
barriers to cultivating self-directed
lifelong learning in the workplace in
Sub-Saharan economies – a South
African case study?”**

A Dissertation

presented to

The Master of Philosophy (MPhil)

Graduate School of Business
University of Cape Town

In fulfilment

of the requirements for the Degree of
Master of Philosophy in Inclusive Innovation

by

Thabile Bhengu

BHNTHA011

February 2023

Supervisor: Dr Warren Nilsson

The copyright of this thesis vests in the author. No quotation from it or information derived from it is to be published without full acknowledgement of the source. The thesis is to be used for private study or non-commercial research purposes only.

Published by the University of Cape Town (UCT) in terms of the non-exclusive license granted to UCT by the author.

Abstract

This research aimed to explore the aspects that either enable or inhibit the cultivation of self-directed lifelong learning among adults within a working environment – which according to Illeris’ interpretation is, “*learning in the workplace that takes place in the encounter between the learning environments of the workplace and the employees’ learning processes*” (Illeris, 2004, p. 431). While previous studies often embrace an underlying assumption that individuals possess a pre-existing disposition to engage as lifelong learners, this study explored the progression towards it. The underlying research question was therefore approached from two levels, the orientation regarding lifelong learning, and the developed strategies to engage as a lifelong learner (Fischer & Kommers, 1999; Kirby et al., 2010). An investigation of the orientation level was intended to interrogate the mindset (deep-seated beliefs, opinions and understanding) held by the participants about lifelong learning, while the strategies level revealed the pre-existing lifelong learning strategies. The progressive development of both as the individual interacted with their respective organisations was then noted. Taken together, the impact of these levels was observed in terms of the individual's developed ability to engage as a lifelong learner, within and beyond their work environment.

The above-mentioned research inquiry was undertaken by primarily observing the interaction of the adult (the participant working within the organisational environment) with their respective environment. Qualitative data was collected through semi-structured interviews and from secondary sources. The study focused on five South African small and medium enterprises (SMEs). From the core themes, the enablers and inhibitors which existed within the organisational environments were thereafter identified. Some features of the organisational environment which acted as strong enablers include loosely defined roles, team learning and the cultivation of individual agency. The clash of values between the organisation and the individual was one of the predominant inhibitors. One significant implication of this research is the recognition that both levels – lifelong learning orientation and strategies – were mutually dependent if an adult is to eventually engage as a self-directed lifelong learner.

Key words

Lifelong learning, lifelong learning strategies (LLS), lifelong learning orientation (LLO), metacognitive strategies, self-directed, work environment, enabler, inhibitor



Abstract..... 2

Key words..... 2

Acknowledgements..... 6

1. Introduction 7

2. Literature review..... 12

2.1 Adults and lifelong learning..... 13

2.2 Review of Earlier Perspectives on Adult Learning..... 15

 2.2.1 *Transformational Learning Theory*..... 20

 2.2.2 *Self-Directed Learning Theory*..... 22

 2.2.3 *Experiential Learning Theory* 24

2.3 Adults as Lifelong Learners - Transition from Adult to Lifelong Learning Perspectives 26

 2.3.1 *What is lifelong learning?* 27

 2.3.2 *Metacognition – “Learning to learn”* 29

2.4 Lifelong learning in the workplace – the organisational as a learning environment... 33

2.5 Model for Lifelong learning in the workplace..... 37

 2.5.1 *Practical application of Illeris’ model* 44

2.6 South African and the SME context 46

2.7 Conclusion..... 48

3. Methods 50

3.1 Research design 50

3.2 Approach and strategy..... 53

 3.2.1 *Unit of analysis* 54

 3.2.2. *Interpretation criteria* 55

3.3 Sampling..... 55

3.4 Data collection and instruments 58

3.5 Data analysis 61

3.6 Trustworthiness of the data 65

3.7 Ethics considerations..... 67

4. Findings 68

4.1 Loosely defined roles 70

4.2 Learning embedded within ill-defined business challenges 74

4.3 Wide exposure across the organisation..... 78

4.4	Unlearning and connecting existing strategies with current interactions.....	83
4.5	Development of the framework	90
4.5.1	<i>Individual level.....</i>	92
4.5.2	<i>Team Level</i>	101
4.5.3	<i>Organisational level.....</i>	103
4.5.4	<i>Summary</i>	109
5.	Discussion.....	112
5.1	Theoretical implications.....	112
5.1.1	<i>Towards individual agency</i>	114
5.1.2	<i>The Organisational environment as the facilitator</i>	118
5.2	Practical implications (Praxis)	128
5.2.1	<i>The tensions associated with organizations acting as facilitators of lifelong learning.</i>	130
5.3	Limitations of study.....	132
5.4	Suggestions for future research.....	133
6.	Conclusion.....	134
7.	Appendices	136
	Appendix 1: <i>Sample of questions for semi-structured interview</i>	136
	Appendix 2: <i>Questionnaire 1 - Attributes of a Lifelong Learner (Kirby et al., 2010)</i>	136
	Appendix 3: <i>Questionnaire 2 – Dimensions of a Lifelong Learning Organisation</i>	137
	Appendix 4: <i>Sample of consent form.....</i>	138
	Appendix 5: <i>Word study of the environments</i>	139
	Appendix 6: <i>Analysis of participants’ development within coffee company.....</i>	144
	Appendix 7: <i>Analysis of participants’ development within electrical service company</i>	147
	Appendix 8: <i>Analysis of participants’ development within data labelling company</i>	150
	Appendix 9: <i>Analysis of participants’ development within consulting company.....</i>	154
	Appendix 10: <i>Analysis of participants’ development within train manufacturing company</i>	156
8.	References	158

Figure 1: Kolb's learning model (Illeris, 2007, p. 56).....	26
Figure 2: The areas of the understanding of learning (Illeris, 2009, p. 8).....	39
Figure 3: The fundamental processes of learning and three dimensions of learning (Illeris, 2009)	41
Figure 4: A model for learning in the workplace, (Illeris, 2004, p. 432).....	42
Figure 5: Learning in working life (Illeris, 2004, p. 438).....	43
Figure 6: Organisation selection criteria.....	56
Figure 7: Participant selection criteria.....	57
Figure 8: Learning journey before and within the organisational environment.....	69
Figure 9: Summary of key attributes of the organisations	73
Figure 10: Collaborative approaches used by the different organisational environments	79
Figure 11: Framework for developing a lifelong learning orientation and strategies in the organisational environment	91
Figure 12: Key reflections on the organisational environments	94
Figure 13: Team-oriented development in the different organisational environments	102
Figure 14: Relationship between orientation and strategies for lifelong learner engagement.....	110
Figure 15: Further outline of the potential landscape for future research.....	134
Figure 16: How learning happens in the organisations.....	139
Figure 17: Individual's expressed identity within their respective environments	139
Figure 18: Described modes of learning approaches within environments	140
Figure 19: Participants description of their previous environments	140
Figure 20: Expressed response to their respective environments	141
Figure 21: Observed consequences of interactions (Practice)	141
Figure 22: Observed consequences of interactions.....	142
Figure 23: Participants' descriptions of their environments	142
Figure 24: Participants' descriptions of their environments (practice).....	143
Figure 25: Analysis of Case B organogram and case progression in organisation	145
Figure 26: Development model followed by organisation for Case B.....	145
Figure 27: Analysis of Case D organogram and case progression in organisation.....	146
Figure 28: Development model followed by organisation for Case D	146
Figure 29: Analysis of Case C & E organogram and case progression in organisation.....	148
Figure 30: Development model followed by organisation for Case C & E	148
Figure 31: Analysis of Case F&G organogram and case progression in organisation.....	149
Figure 32: Development model followed by organisation for Case F and G	149
Figure 33: Analysis of Case H organogram and case progression in organisation.....	151
Figure 34: Development model followed by organisation for Case H	151
Figure 35: Analysis of Case I organogram and case progression in organisation	152
Figure 36: Development model followed by organisation for Case I.....	152
Figure 37: Analysis of Case J organogram and case progression in organisation	153
Figure 38: Development model followed by organisation for Case J.....	153
Figure 39: Analysis of Case A organogram and case progression in organisation.....	155
Figure 40: Development model followed by organisation for Case A	155
Figure 41: Analysis of Case L organogram and case progression in organisation	157
Figure 42: Development model followed by organisation for Case L.....	157

Acknowledgements

The MPhil journey has been both timely and transformational for me. This experience has taught me to be brave and humble. My worldview has been challenged, my ideas have been interrogated and I have also come to understand just how little I know.

I would like to thank my family, especially my mom and my younger brother for their unwavering love and support throughout this journey. This would also not have been possible without my little girl's constant love and patience. I also want to extend my immeasurable gratitude to my Advisor, Warren Nilsson. Words are not enough to capture how thankful I am for your constant encouragement, your ability to decipher my scattered thoughts. Thank you! To my bosom friends - thank you for your love, for always cheering me on and being my sounding boards. And to the one friend who recommended MPhil program to me, thank you. I also want thank the CWC team. Sarah, thank for your ideas, and for the recommendations and introductions. I truly appreciate you.

I also want to say what a privilege it's been to journey with the MPhil class of 2020. Meeting you all has been a joy. And to Linda, writing buddies for life!

To the people in my life, thank you for your love and prayers throughout this journey.

1. Introduction

At the forefront of every economy and organisation is the concern of how technological changes are impacting the nature of work, as well as the rate at which this is unfolding. In response to this concern, numerous reports have been conducted, especially to how digital technology is reshaping the labour market. The dominant perspective is that the automation of tasks will essentially result in the displacement of a large proportion of the current workforce. A study conducted by Bain in 2018 estimated that automation will eliminate 20-25% of jobs (Freeman & Freeland, 2018). However, another perspective under consideration is that the inclusion of new technologies into business models will result in new types of jobs (Kane et al., 2016; World Economic Forum, 2019a). In a 2-part report, the World Economic Forum (WEF) (2019a, 2019b) demonstrated the existence of quantifiable business cases for a reskilling revolution that could be spearheaded by government and businesses. These research initiatives have, however, also indicated that the impact will vary across the different economies, although the gap will be widest between the developing and developed economies. As a cluster of developing nations with unique socio-economic challenges, the African continent is already lagging in this aspect. The skills gap is already a pressing issue for the continent, which is being amplified by the additional workforce challenges that are being introduced by the fourth industrial revolution (4IR) shift.

According to reports by the WEF (2017, 2019b) Africa has the youngest population in the world, with more than 60% of the population younger than 25 years. Six of the 10 fastest-growing economies in the world are in Africa. Although the continent is grossly underprepared for the disruption to jobs and skills being ushered in by the 4IR (Choi et al., 2018; World Economic Forum, 2017). When the population age and the growth rate in Africa are considered jointly, they uniquely position the continent for making leaps economically. However, Africa is presented with a more pressing challenge when considering the allocation of its particularly young workforce. The same report by the WEF (2017) states that only 55% of the continent's human capital potential is captured, with an average of only 6% high-skilled employment versus 24% globally. Furthermore, the report predicted that *"in SA 39% of the core skills required across all occupations will be different in 2020 compared to 2015"* (World Economic Forum, 2017, p. 9). Several industry leaders have also raised concerns that one of the main constraints to them expediting the expansion or adoption of technology into their businesses is

skill inadequacy. Effective reskilling in Africa is therefore especially critical and will be equally advantageous, as the harnessing of its human and unleashing of its economic potential is heavily dependent on this. Despite these alarming findings, a rather positive view cited in this report is that *“the greatest long-term benefits of ICT intensive jobs are equipping Africans with skills to design and engineer home-grown solutions rather than simply service the lower-skilled delivery end of the global digital market”* (World Economic Forum, 2017, p. 11).

However, for Africa, the future of work will be especially challenging to navigate while using the traditional approaches to adult skills training. Several researchers have highlighted the limitations of the traditional classroom model in teaching all that one needs to know. Particularly as the future of work suggests that forms of organizing as well as the skills required within a specific role will constantly evolve (Marra et al., 2017). Lifelong learning has therefore been proposed as a viable approach towards executing adult learning and skilling. Especially, for imparting adaptability towards the future of work and an increased potential to innovate (Midtsundstad, 2019; van Weert, 2011). Although definitions of lifelong learning vary with context, that alluded to in these contexts and is also the most widely accepted by practitioners and organisational leaders, is based on Midtsundstad’s interpretation. He defines this phenomenon as *“competence development and upgrading throughout the professional career”* (Midtsundstad, 2019, p. 14). Adopting lifelong learning as an embedded strategy for developing human capital requires that an economy is structurally and systematically adapted to such a model (Rees, 2020). That is, the different levels of an economy, especially organisations which are central to its functioning, have to recognize, support and adapt to this model (Midtsundstad, 2019). Africa, and specifically South Africa, is thus a compelling context and opportunity for exploring the phenomenon of lifelong learning. The continent is plagued with challenges related to unequal access to opportunities and has a highly stratified labour market (Saar et al., 2013; Walters, 2006). The latter means that each career *“path is designed to specialize in awarding rather narrowly defined, occupationally-relevant credentials”* (Saar et al., 2013, p. 215). The stratified labour market limits one’s possibilities of making multiple career transitions, even in a given work context. As a result, working is often limited to an obligation or for sustenance rather than a process of discovery. In fact, such an open-ended journey is often beyond the ambitions of most work environments, making them unattainable for the individual.

These limitations not only pertain to the individuals' work environment or their immediate social context, but also to themselves. Lifelong learning, therefore, opens up the prospect for individuals and organisations to learn to innovate collectively; uncover and maximize their strengths and unique talents; edify the ability to identify and exploit entrepreneurial opportunities; and subsequently, amplify the potential and richness of cross-industry and multi-disciplinary collaborations. However, the suggestion by institutions to 'adopt lifelong learning as an alternative upskilling and development strategy' raises another issue. This widely accepted perspective of 'lifelong learning as a strategy' holds the default assumption that this phenomenon is a tool rather than a predisposition (a way of life) accompanied by supporting strategies. As the name suggests, lifelong learning, at a basic level, is learning over one's life. To fundamentally engage in this sustained degree of learning and development requires a perception shift about learning – that it transcends the immediate acquiring of knowledge. This level of engagement appeals to the appreciation of learning as beyond cognitive, and instead potentially transformative. On a practical level, it suggests the need to develop the necessary strategies to support and enable an individual to participate as a lifelong learner.

In a period that is both increasingly uncertain and places a huge emphasis on agility and adaptability within one's work environment, the topic of lifelong learning has taken centre stage. Although the discussions and proposed systemic strategies have concentrated on institutional learning – schools, universities, and colleges – organisations have a huge role to play. Specifically, the role of these institutions in developing individuals that can engage within their work environments as self-directed lifelong learners. As already pointed out through various organisational studies, interactions vary from one environment to the next, and the African and South African context is no exception. As such, although educational institutions may succeed in developing lifelong learning in an academic context, they have proved limited in their capability to equip adults with the relevant strategies for engaging as lifelong learners in the work environment. As such, organisations have a pivotal role to play in breaching this gap; the transitions from an academic environment into the workplace, and subsequently developing the lifelong learning strategies relevant to this and other contexts. Micro, small and medium-sized (SME) organisations are particularly befitting to take on this role. Their environments are plagued by constant change and the need to adapt and respond with great agility to ever-changing market trends; specifically, as they explore opportunities to find their

niche in a given industry. Otherwise, the woes of skills shortage, as a result of the workforce not being responsive enough to stay abreast with ongoing technology adoptions will remain a persistent challenge.

However, one of the often overlooked flaws of the prevalent development approaches is that, because businesses are driven by annual training goals, they tend to overlook one's fundamental learning orientation (Fischer & Kommers, 1999; Dawe, Romkey, Bilton, Khan, 2021). They assume that adults universally possess the relevant strategies to effectively engage in lifelong learning. Business environments essentially focus on behaviour modification – in the form of two-dimensional classroom courses or one-size-fits-all development strategies. Unfortunately, lifelong learning strategies are not inherent, they have to be developed. And to take on this challenge the baseline strategies of the individuals have to be acknowledged, by first working to shift their learning orientations. As a result, very little emphasis has been placed on responsive work environments, through the deployment of interactive work processes and systems. Digital technology also opens up huge opportunities because one of the key attributes towards effective interactions from a lifelong learning perspective is collaborative and big-picture-focused environments. In this instance big-picture-focused refers to measurable objectives and outcomes that are linked to the organisation's vision and mission. These and other above-mentioned attributes of SMEs, along with others that will be discussed in detail, make them ideal environments for facilitating the shifting lifelong learning orientations and subsequently imparting the relevant strategies for the effective and persistent engagement of adults as self-directed lifelong learners. Unlike role-centric organisations, this interaction with the overall ecosystem of the organisation creates room for one to discover their unique contribution and agency. It also holds the potential to facilitate the uncovering of their distinctive talents and passions to pivot towards in the long run. Although not all organisational environments are able to (or possess the aptitude) decipher diverse exposure and break it up into fundamental competencies. Especially those that are deeply entrenched in defining their functions according to roles, rather than according to the vision and such that these keep evolving according to the needs. Hence some of the frustrations expressed by individuals exiting such environments. One of these is the eventual struggle to land opportunities outside a given organisation or industry network, especially when they no longer have ties to it.

The emergent learning society and the urgency to create a workforce that is adaptable to the changing nature of work, and thus committed to lifelong learning, has similarly pushed organisations to increasingly expect their workforce to learn for a living (Petriglieri, 2020). This has resulted in another growing tension between organisations and the workforce (Lee-Kelley et al., 2007). The tension is due to the conflicting needs that exist around learning. While the organisation is content with a learning culture that keeps it competitive in an increasingly technologically driven, dynamic and complex business environment (Bughin, 2018), the employee mainly desires to learn in a manner that simultaneously enhances their intangible assets (Gratton & Scott, 2017). However, oftentimes the structural provisions for learning to occur are centred around the organisational goals. They are also based on approaches that predominantly perceive lifelong learning and training as interchangeable (Fischer & Kommers, 1999). Furthermore, in the South African context lifelong learning is interpreted as training, and happens to be an important variable in the educational model and is the widely adopted approach for adult learning (Walters, 2006). This linear approach to learning however greatly differs from the highly iterative and socially systematic process of lifelong learning. An environment that allows for lifelong learning to transpire demands co-creation as it is continuously transforming itself, thus creating new opportunities for learning and self-discovery (Nier et al., 2017). Yet, organisations also habitually overlook the insight from their workforce on modes to better align the individual’s learning expectations with those of the business. This is mostly because the unhindered implementation of a lifelong learning environment has its own structural and capital implications (Sutherland Olsen, Dorothy, 2016). Nonetheless, as an adaptable and innovative workforce is rapidly becoming critical, as the unfolding of 4IR-adapted economies is continually disrupting business models and skills needs, a short-sighted approach to learning cannot be a sustainable practice. Thus, the existing tensions between organisations and individuals will need to be resolved with urgency (Balle et al., 2016; Petriglieri, 2020).

This study investigated the phenomenon of lifelong learning by interrogating the interactions of the participants within their respective organisational environments and how these subsequently influenced their lifelong learning orientations and strategies. The question that this research, therefore, seeks to answer is *“what are the potential enablers and barriers to cultivating self-directed lifelong learning in the workplace in Sub-Saharan economies?”*

2. Literature review

The literature conversations about lifelong learning have predominantly focused on the roles of organisations and national institutes. Indeed, lifelong learning for the intention of creating an adaptable workforce cannot occur without evaluating the phenomenon of adult learning as the two are interlinked in this regard. Lifelong learning should not be assumed to be a default state of being, even though learning is always happening. In fact, for learning to be lifelong, the learner needs to have agency and be further committed to lifelong engagement (Brookfield, 1995). A study that aimed to develop a scale for lifelong learning identified specific abilities that mark the attributes that lifelong learners portray. These included goal setting, applying the relevant knowledge and skills, engage in self-direction and self-evaluation, locate required information and adapt learning strategies to different learning conditions (Taylor & Kroth, 2009). These attributes point to the imperative for the adult learner to be equipped with the ability to guide their learning throughout their lives and in the various situations that they will encounter post formal education. Even in instances when an individual has no prior exposure to a formal education, which is a reality for most adults in the African and South African context (Merriam, 2001; Taylor & Kroth, 2009). Some researchers have further argued that engagement in lifelong learning ultimately enables individuals to understand and become active participants at all levels of their society (Merriam, 2001; Pratt, 1993).

In this literature review, different perspective relating to the topic of adults as lifelong learners will be evaluated. The sections are organised as follows:

- 2.1)** Adults and lifelong learning; **2.2)** Review of earlier perspectives on adult learning. This section is divided into three sub-sections 2.2.1) *Transformational learning theory* 2.2.2) *Self-directed learning theory* 2.2.3) *Experiential learning theory*; **2.3)** Adults as lifelong learners – Transition from adult to lifelong learning perspectives. This section is divided into two subsections – 2.3.1) *What is lifelong learning* 2.3.2) *Metacognition – “Learning to learn”*;
- 2.4)** Lifelong learning in the workplace – the organisation as a learning environment; **2.5)** Model for lifelong learning in the workplace. This section is divided into two sub-sections 2.5.1) *Practical application of Illeris’ model*; **2.6)** The SME and South African context;
- 2.7)** Conclusion

2.1 Adults and lifelong learning

Due to the rapidly changing nature of certain careers, adult learning and lifelong learning have long been prerequisites. Especially those that have historically been predisposed to rapid technological advancements, as well as ongoing developments (Taylor & Kroth, 2009, p. 1). Adult learning is simply defined as the cognitive engagement of adults in learning acquire new knowledge. Lifelong learning in the context of career development is defined as “*competence development and upgrading throughout the professional career*” (Midtsundstad, 2019, p. 14). Consider careers whereby discovery is the backbone of the profession, such as in engineering or science. In such fields, no formal education curriculum has ever been sufficient to teach all that one needs to know for a successful career (Pratt, 1993). Several studies indeed show that adult and lifelong learning have naturally been regarded as essential in these contexts. Thus, strategies that enforce this culture have been heavily researched and experimented with. Since learning related to career predominantly happens in the workplace, learning in such environments has been identified to either be incremental (helps one to deliver), or transformative (helps one to develop) and is a conflicting relationship between the ‘pull’ of habits and the ‘push’ of expectations (Knowles, 1980, p. 43; Merriam, 1996, p. 136, 2001, p. 5; Taylor & Kroth, 2009, p. 1). Although both are valuable, it is transformative learning, which occurs in abstract environments, that produces agility and promotes innovation (Merriam, 2001). However, an obvious challenge that must be confronted when dealing with adult learning at any level is the resistance to learning. The resistance to adult learning is often a result of several reasons such as giving up cherished ideas, not liking what one learns or the cost, the fear of being found lacking and organisations not being hospitable to the notion (Lee-Kelley et al., 2007; Petriglieri, 2020). One of the complex challenges is therefore for individuals to commit to the process of learning in ambiguous settings, and for organisations to commit to creating and supporting environments where this type of learning can occur. Such learning should simultaneously facilitate a shift in existing mental models that threaten to inhibit the development of adults as lifelong learners.

Adult learning with a lifelong learning objective cannot use the approach of simply being taught to “*fit into a mould in which a single, presumably omniscient teacher explicitly tells and shows presumably unknowing learners something they presumably know nothing about*” (Fischer, 1998, p. 16; Merriam, 2001, p. 7; Savicevic, 1998, p. 116). The subject has therefore become a

key focus of research for decades and several theories have been developed in an attempt to understand ‘how adults learn’ (Merriam, 1996, 2001). Merriam (2001, p. 3) notes that it is known that “*adults learn as part of their daily lives*”, and that the dominant theories confirm it as a unique phenomenon when compared to educational learning (Savicevic, 1991). Three main theories are presented by Merriam (2001, 2008; Pratt, 1993; Taylor & Kroth, 2009): Andragogy or Adult education – which aims to understand the adult in the process of education; Self-directed learning – assumes that adults are independent beings who can control their own learning and; Transformational learning – based on the core notion is that “*significant experiences change the learner in fundamental ways*”. The later revisions of her research, however, agreed with studies that learning is multi-dimensional and that emphasis on the various contexts where learning occurs is critical in aiming to further understand adult learning (Knowles, 1980; Merriam, 2008; van Weert, 2011). Her updated work further expressed that each of the above-mentioned theories could not fully capture the phenomenon of adult learning when considered in isolation. In fact, when adult learning is observed in context, these theories tend to overlap. To the extent of even being criticized as theories and accepted more as strategies (Knowles, 1980; Taylor & Kroth, 2009).

Various lifelong learning programs, such as the Working Shops and Envisionment & Discovery Collaboratory, have been designed based on the assumptions outlined by these theories, and “*in recognition that real and substantial learning requires time and context*” (Arias et al., 2000; Knowles, 1980, p. 24; Taylor & Kroth, 2009). Both programs were designed to demonstrate the process of critiquing current knowledge and thus contributing towards new knowledge. Their basis being that “*stakeholders are aware that while they possess sufficient knowledge, none of them has all the relevant knowledge*” (Arias et al., 2000; Fischer, 1993, 1998). These demonstrate a major attribute of adult learning, when it is applied in a manner that acknowledges that adults are always learning in their respective contexts, even when learning is unintentional (Baggen et al., 2016; Sutherland Olsen, Dorothy, 2016). That is, one way that learning for adults is most effective is when “*the objective is not for knowledge to be instructed or delivered, but jointly constructed*” (Fischer, 1998; Fischer & Kommers, 1999; Knowles, 1980; Taylor & Kroth, 2009). The two examples above thus also introduce another imperative which has been emphasized in the research on lifelong and adult learning, collaborations within the learning process (Merriam, 2001). This attribute is based on the argument that “*the*

individual, unaided, human mind is limited in its ability to learn and remember” (Arias et al., 2000; Merriam, 2001). This perspective is especially relevant in a knowledge-based society where the workforce is subjected to large volumes of abstract information (van Weert, 2011). Hence, workplace learning, which moves beyond the individual learner and focuses on the context, has become an important research focus.

Illeris (2004, 2016) offered a different perspective on the interpretation of learning. He partially agreed with the perspectives that learning is exclusively a psychological process, and that learning is exclusively a social process. Instead, he argued that human learning involves the ongoing interaction of both processes – the social interaction between the individual and his environment, resulting in the individual’s reception of influences or impulses or may be absorbed through psychological interpretation and acquisition processes. He argued that *“only if both the interplay processes and the acquisition processes are active does learning take place”* (Illeris, 2004, p. 434). From this definition, Illeris (2004, 2016) provided an expansion asserting that this interaction is not limited by whether the individual is engaging as part of a collective or is undertaking an individual task or activity. He proposed that *“the interaction is constant, direct or indirect, and the influences received from the environment are socially co-determined through various mediation processes that exist within it and form part of the environment”* (Illeris, 2004, p. 434).

This research will therefore focus on Illeris’ (2003, 2004, 2007, 2016) interpretation of learning, and will also be adapted into the discussion about learning in the organisation. However, aspects regarding the context as described by Fischer and Kommers (1999, p. 3) - *“supports learning in the context of realistic, open-ended, ill-defined problems”* - will also be incorporated.

2.2 Review of Earlier Perspectives on Adult Learning

Traditional theories predominantly assume that the adult is self-directed and that this stage of learning is separate from that which occurs in other human stages, namely those before adulthood (Merriam, 1996, 2001; Taylor & Kroth, 2009). The predominant focus has also been on the cognitive dimension of learning (Babajeva, 2012; Flavell, 1979; Pratt, 1993; Taylor & Kroth, 2009). Contemporary theories have instead gradually recognised and acknowledged that learning in itself is complex and involves multiple human processes which occur

simultaneously (Babajeva, 2012; Davenport & Davenport, 1985; Illeris, 2003, 2009, 2016; Jarvis, 2009). In his extensive research, Illeris (2003, 2004, 2007, 2009, 2016) details the link of learning to elements such as psychology, experience, biology and social experience. He further explains that since learning has such a complex dependency on all these functions, it can therefore be intentional or unintentional (unconscious) – the latter is referred to as tacit knowledge (De Ven & Johnson, 2006; van Weert, 2011). As a consequence, certain trends have emerged within adult learning research aiming to develop an inclusive adult learning theory.

Adult learning research has been regarded by several researchers within the field as fairly new in comparison to the child learning process which has been around for thousands of years (Brookfield, 1984; Pratt, 1993). Research on adult learning dates back to the 1800s, however, earlier studies focused less on how adults learned. Instead, extrapolations of their learning process were made by observing children or adults in controlled environments (Merriam, 1996; Mezirow, 1981a; Pratt, 1993; Wilson & Kiely, 2002). The views about the nature of learning in adults were predominantly based on behaviourism and empiricism and on the assumption that the world existed independent of the learner, such that any learning process that was not observable or measurable was regarded as insignificant or fallible (Merriam, 2001). The concept of andragogy, which was an initial attempt to distinguish adult from pre-adult education, was proposed by Knowles in 1968 and among the first of the traditional theories on adult learning (Babajeva, 2012; Brookfield, 1984; Merriam, 2001). Knowles' philosophy about the nature of learning in adults was a drastic shift in that it introduced the perspective of the learner's experience of their world as important to learning, and that learning is more subjective than objective (Babajeva, 2012; Knowles, 1980; Merriam, 1996). He defined andragogy as 'the art and science of helping adults learn' and the word is derived from two Greek words – *Andra* which translates to 'adult' and *agogus* meaning 'leading' (Corley, 2011; Knowles, 1980, p. 43; Taylor & Kroth, 2009, p. 1). The concept was first introduced in Germany with the aim to differentiate the educational programs of workers from those of children and formal schooling (Brookfield, 1984, 1995; Merriam, 2001). The idea spread throughout Europe and North America, and although the interpretation of the idea differed slightly within the regions, Savicevic (1991, 1998) notes that the core philosophy that "*lifelong learning in adult education is of primary importance*" was central amongst the regions (Merriam, 2001).

This concept was based on five core assumptions: 1) that the adult is independent and self-directed in their learning 2) has accumulated life experiences that are a rich source of learning 3) possess learning needs that are related to changing social roles 4) is problem-centred and interested in immediate applications of knowledge 5) is motivated by internal factors to learn rather than external (Corley, 2011; Knowles, 1980; Merriam, 1996, p. 138, 2001, p. 5; Pratt, 1993; Taylor & Kroth, 2009). This ‘theory’ introduced a fundamental shift from teacher-centred to learner-centred education and approach to learning (Brookfield, 1984; Merriam, 2001; Taylor & Kroth, 2009). The principles of andragogy also regarded the teacher as the facilitator than the transmitter of knowledge (Knowles, 1980; Taylor & Kroth, 2009). Andragogy was essentially the birth of the idea of the adult as a lifelong learner, and the first step towards the acknowledgement of their prior experience as part of the learning process (Brookfield, 1984; Knowles, 1980). In his initial proposal of the andragogical principles, Knowles offered two definitions of the adult self: the psychologically expressed *“a person is an adult to the extent that the individual perceives herself or himself to be essentially responsible for her or his own life and social definition of an adult”*; while the social definition expressed that *“a person is an adult to the extent that the individual is performing social roles typically assigned by our culture to those it considers to be adults”* (Knowles, 1980; Taylor & Kroth, 2009, p. 5). The five assumptions were based on these definitions of the adult experience and their pre-established beliefs. Pratt (1993) consequently interpreted andragogy as aiming towards two implicit principles about learning. First, that knowledge is constructed by the learner, and not consumed passively from the environment; and that learning is an interactive process of interpretation, integration and transformation of one’s experience of the world.

The underlying assumptions of andragogy, have suffered vast criticisms that have lasted for decades but have resulted in the proposal of other adult learning views. The predominant criticism by many scholars in the adult learning sphere has been that andragogy does not represent a theory (Merriam, 1996, 2001). Instead, the ‘theory’ was seen as an outline of model characteristics of an adult learner. In response, Knowles (1980) later reframed andragogy as representing a set of assumptions about adult learning, and that it served more as a basis for an emergent theory (Merriam, 2001; Taylor & Kroth, 2009, p. 8). He acknowledged that his assumptions about adults did not apply to all adults, especially the unifying suggestion that adults are self-directed (Corley, 2011; Merriam, 1996, 2001). One perspective referred to

andragogy as ‘culture blind’ in assuming that the student is self-directed suggesting that the relationship between the learner and facilitator is not impacted by factors such as race and cultures that value teachers as the “*primary source of knowledge and direction*” (Corley, 2011, p. 1; Pratt, 1993). Merriam (1996, 2001) offered additional criticism about Knowles’ views and assumptions about learning being only applicable to adults. Again, Knowles acknowledged that his views could apply to adults and children (Merriam, 2001; Taylor & Kroth, 2009). This led him to revise his perspectives of andragogy and pedagogy as separate to representing them on a continuum, ranging from teacher-directed to self-directed depending on the learners’ prior learning experience and exposure, as well as the learning context (Merriam, 2001, 2008). These revisions by Knowles led to andragogy being defined more by learner situation than the learner, although it still maintained its learner-centredness (Merriam, 1996, 2001, p. 6; Pratt, 1993).

Another more general critique of andragogy has been directed at the lack of measurability, and thus lack of empirical evidence regarding its expressed assumptions (Heller, 2004; Merriam, 2001; Taylor & Kroth, 2009). Taylor and Kroth (2009) expressed their reservations that andragogy lacks experimental evidence owing to the above-mentioned criticisms. Also, the variability in its interpretation as well as the lack of guidelines for observing it resulted in largely inconclusive, and sometimes contradictory, studies. Merriam further expressed her concerns about the generalisability of the existing insights on adult learning. She cited concerns since they were predominantly extrapolated from research with children and that any efforts to make observations were confined to controlled environments, such as laboratories or artificial settings (Merriam, 2001, p. 4). Meanwhile, Pratt (1993) and Merriam (1996, 2001) discussed that although andragogy has been adopted as a guide in the adult educational practice globally, it has done little in expanding the understanding of the process of learning.

Pratt (1993) extended the criticism of andragogy to its lack of consideration of social structures and their impact on adult learning. He argued that andragogy portrays learners as having risen above social structures, and ignores the influence of these in the learner’s interpretation of the world, and thus their learning experience (Corley, 2011; Pratt, 1993). In line with Pratt’s perspective, Merriam (2001, 2008) further emphasised that Knowles’ views presented the learner as being autonomous, free and growth-oriented, thus lacking emphasis on how individuals are shaped by their context. Merriam’s (2001, 2008) criticism included the lack of

acknowledgement of an individual's culture and society, and how social institutes and structures define learning transactions regardless of the individual. These debates about andragogy and the subsequent criticisms, and even its consideration as the first explicit adult learning theory, have subsequently led to the emergence of various conceptualisations about the adult learning process which have primarily used Knowles' ideas as a basis. The concept of andragogy has, therefore, evolved through the various propositions by adult learning scholars, and some can be considered a branch off of the original ideas proposed by Knowles.

As research about adult learning advanced, the theories that were proposed were eventually categorised as either traditional or contemporary. The traditional theories are those that focused on the cognitive aspects of learning, whereas those that have shifted towards a more holistic approach to adult learning became known as the contemporary. The earlier theories, including Knowles' views of adult learning, were eventually regarded as the traditional theories (Brookfield, 1995; Corley, 2011; Illeris, 2003). The later theories, which ironically were transformations of Knowles' theory of andragogy and emerged from its criticisms, fell into the contemporary category. This cluster viewed the adult from a holistic perspective and consequently regarded their learning as a complex process and the context as important in gaining insights into this process (Knowles, 1980; Merriam, 1996, 2001, 2008). Resnick (1987) demonstrated this aspect of the learning context, which has since been strongly emphasised by contemporary theorists of adult learning research. He contrasted the extent of cognitive use when learning in and out of school – in real life-situations. He therefore offered a glimpse into the understanding of the adult learning process in real life situations versus that which occurs in formal learning environments (Fischer, 1998; Merriam, 1996, p. 139). In the transition from the traditional to the contemporary, specific theories thereafter acted as a bridge from Knowles' original andragogy, upon which contemporary theorists have established their ideas of the process of lifelong learning in adults. The conceptualisations about adult learning within the traditional category which predominantly set the stage, and especially represent some core features of lifelong learning and also evolved from Knowles' idea of andragogy, include Mezirow's Transformational learning theory, Merriam's Self-Directed learning theory and Kolb's Experiential learning theory. These three theories have been most influential in shaping the shift in research perspective from adult learning to adult lifelong learning. These will be

discussed as having laid the foundations for the dominant theories of lifelong learning at present.

2.2.1 Transformational Learning Theory

Wilson and Kiely (2002) considered Mezirow's contribution to adult learning research as one of the most innovative and revolutionary empirically. Brookfield (1995) noted that Mezirow's expansion of the concept of andragogy emphasised the need to develop critical reflection within adults so that they have a self-corrective, reflective approach to learning. Mezirow (1981a) was the first researcher to propose critical reflection as central to transforming learning experiences. His theoretical proposals led to further attacks on andragogy by revealing its gaps in answering questions linking to the real purpose of adult education (Merriam, 1996, 2001). Merriam (1996, p. 138) referred to the transformational theory as centred on perspective transformation within the adult learning process, whereby the adult learner "*becomes critically aware of how and why their presuppositions constrain the way they perceive, understand and feel about their world*". Merriam (1996) agreed that transformational learning is indeed intimately connected to the development process, and is thus the cornerstone of this orientation of adult learning. In his first proposal of the transformational theory, Mezirow (1981a, 1990) argued that the critical dimension of learning that shapes assumptions and expectations in adults must be recognised. He asserted that this dimension in turn enables adults to identify and reassess the structure of the assumptions and expectations that shape their thinking, feeling and acting (Merriam, 1996, 2001; Mezirow, 1981b, 1990). Mezirow (1981a, 1990), therefore, ultimately defined transformative learning as "*the process by which we transform problematic frames of reference (mindsets, habits of mind, meaning perspectives) – sets of assumptions – to make them more inclusive, discriminative, open, reflective and emotionally able to change*" (Merriam, 1996). The frames that he refers to in this definition are the critical dimensions that shape assumptions and expectations. He argued that these frames of reference include cognitive, conative and effective components which may operate within or outside of awareness and has two dimensions: the habit of mind and the resulting points of view (Mezirow, 1990). These dimensions in turn influence various aspects of the learner's world, including their learning experience. Mezirow stated that transformational learning can occur in different contexts of learning, namely: instrumental learning which involves task-oriented learning and communicative learning which usually involves critical self-reflection (Merriam, 1996;

Mezirow, 1981a, 1990). He, therefore, identified it as a metacognitive epistemology of evidential (instrumental) and dialogical (communicative) reasoning (Mezirow, 1990). Transformative learning may be *epochal*, sudden significant shift in habit of mind, often as a result of a crisis – or *cumulative*, progression of insights resulting in a shift in point of view and resulting in a transformation in habit of mind (Mezirow, 1981a, 2009). Mezirow (1981a) asserted that transformative learning predominantly occurs unconsciously, thus the core challenge is to bring this process into awareness and to develop the learner's ability and predisposition to engage in transformative learning (Merriam, 1996). He proposed that two elements make up transformative learning: critical (self) reflection on assumptions – an assessment of the sources, nature and consequences of the habits of the mind; and second, full and open participation in discourse to validate a best reflective judgement (Merriam, 2001, p. 9; Mezirow, 1990, pp. 9–11).

The main criticisms of the transformational theory relate to the social lens and context. Wilson and Kiely (2002, p. 2) noted how Mezirow's theory especially offered a lens through which academics in the field of adult learning could interrogate adult learning beyond the behaviourist, cognitive and humanist perspectives; and even seek clarity of the concept in radical social movements. From their paper which critically examined the progress of Mezirow's work from that initially presented in the 70s, these authors criticize how empirical work has been unable to resolve some major tensions in transformational theory (Wilson & Kiely, 2002). They report that although the amount of research into the transformational theory multiplied over time, an evaluation of the empirical research revealed that it remains devoid of an empirical base for evaluating social action and power, thus unable to evaluate the claims regarding critical and social emancipation (Wilson & Kiely, 2002, pp. 3–4). Mezirow (1990) also acknowledged another criticism of the theory that relates to decontextualized learning – its failure to confront the considerations and questions relating to the context. In considering that the process relies on critical self-reflection about assumptions and critical dialectical discourse, he admitted that influences such as power, ideology, race, class and gender are important factors to the process, which Wilson and Kiely alternatively referred to as structure-agency and power. In this regard, Merriam (2008) expanded that the transformational theory focused on the individual adult learner. It lacked emphasis on the sociocultural context of the adult learner as a key component to understanding the nature of adult learning. In retrospect, the criticisms on the social aspects

and emphasis on context are somewhat related, especially considering that adult learners predominantly exist within social environments. In Wilson and Kiely's (2002) conclusion to their examination of a project by Mezirow, they highlighted that the lack of a practical understanding of structure-agency within critical learning would consequently result in adult education losing its relevance in addressing the increasingly complex demands surrounding adult learning and the tensions pertaining to knowledge/power relations. Mezirow's (1990) own conclusion about the issue of context was that several dimensions of rationality and adult understanding in the learning process are – deliberately or unintentionally – improved or suppressed in the process of adult education. He extended that limiting the holistic development of these qualitative dimensions of adult learning by focusing adult education and on immediate contextual issues is self-defeating (Mezirow, 1990, 2009).

2.2.2 Self-Directed Learning Theory

The model of self-directed learning appeared around the same period as that of Knowle's andragogy (1980). Considering that self-directiveness was one of the key assumptions in Knowle's proposed andragogy theory, he is also regarded as one of the key contributors to the development of the self-directed learning model (Brookfield, 1995; Collins, 2004). The self-directed learning model is grounded on the assumption that adults are independent and can control their own learning, which is essentially the same philosophical assumption made in andragogy (Brookfield, 1995; Collins, 2004; Illeris, 2007, p. 125). According to Knowles learners grow in being independent learners as they mature (Illeris, 2007, p. 125; Knowles, 1980). However, Tough (1979), inspired by Houle's work, expanded on the concept of self-directed learning and is responsible for it eventually being regarded as a research area (Merriam, 1996, p. 137). The original research conducted by Tough showed that approximately 70% of the participants (high school learners) that he observed engaged in learning projects that were initiated and planned by themselves independently (Merriam, 1996, p. 137). Merriam (1996, 2001) and Brookfield (1984, 1995) consequently observed the emergence of various research questions around attributes of self-directed learning as a result of Tough's work. These included studies in aspects such as understanding the self-directed learning process, and the most familiar and most widely practiced is the linear process of assessing one's needs and steps taken to meet them, which was documented extensively by Tough and Knowles. The latter refers to the extent to which adults are naturally self-directed and whether this attribute is enhanced with practice

or maturity. Four main variables were subsequently identified relating to this attribute that determine the extent to which a learner is self-directed – level of technical skills, familiarity with the subject matter, sense of personal competence and context of learning event and lastly, is how to increase learner autonomy and control in learning setting (Merriam, 1996, p. 138). Merriam (1996) remarked that the models for experiencing self-directed learning developed in the 1980s and 1990s were more iterative compared to Tough and Knowles' earlier linear model. Parallel to this research about the aspects of self-directed learning, Merriam also observed the ongoing debate around the fundamental definition of the phenomenon. In his update on adult learning research, Merriam (1996) further noted that the goals of self-directed learning vary: the goal within the philosophical perspective, as defined by Knowles and Tough, is to develop the learner's ability to be self-direct; the goal in Mezirow's transformational learning is to foster critical reflection (Merriam, 1996, 2001); Merriam (2001) identified the third goal as emancipatory learning and social action. In Azevedo's (2005) research on the implementation of hypermedia as a metacognitive tool, he questioned whether self-directed learning could be used as a theoretical model. He acknowledges the limitation that a learner is "*self-directed to the extent that they are cognitively, motivationally, and behaviourally active participants in their learning process*" (Azevedo, 2005, p. 201).

Similar to andragogy, from which it was developed, self-directed learning has therefore suffered various criticisms. Brookfield (1995) discussed how earlier studies of the phenomenon had focused on middle-class participants and also ignored issues relating to social and political forces (Babajeva, 2012). In his advocacy for the goal of emancipatory learning and social action, Merriam (2001, p. 9) also expressed that self-directed learning ought to be "*positioned more for social and political action than individual learning*". Both Brookfield (1995) and Merriam (1996, p. 140) discussed the criticism by feminist research of the notion of independence and autonomy over interdependence and collaboration, as grounded on patriarchal values. Brookfield (1995, p. 2) emphasised the need to understand this phenomenon within social networks and support groups that exist in a learning context. In the political dimension, he urged that the dynamics of power and control relating to learning and their ability to assume responsibility for their learning needs in be studied further. In his argument, Brookfield (1995, p. 2) further expressed that ignoring culture in seeking to understand the

phenomenon of self-directedness may result to it being equated to separateness and focus on self over collective action, common interest and interdependence.

2.2.3 *Experiential Learning Theory*

The importance of experience in the learning process has been continually discussed since as early as Knowles' andragogical theory about the nature of adult learning (Merriam, 1996, p. 137). Brookfield (1984, 1995) even noted experience as central to andragogy, a perspective which progressively evolved to define education practice in many societies globally. In fact, even research prior to Knowles' theory relied on practice in order to observe learning phenomena, although the perspectives were predominantly behaviourist (Fischer & Kommers, 1999; Fretwell & Hopper, 2003; van Weert, 2011). This approach to learning was emphasised by researchers such as Jarvis (2009) and Kolb (1984) who have perceived adults as active participants in a society plagued with complex problems, and therefore proposed a view of the learning process that was a departure from the behaviourist theories that dominated adult research at the time. They viewed adult learning as being an ongoing interaction between the learner and the environment, and therefore regarded practice as playing a central role in the learning process. However, this is firstly based on the assumption that the motivation for adults to learn is influenced by their environment, as well as the opportunities that they perceive to exist within that environment if they participate in learning activities (Fischer & Kommers, 1999). In fact, Illeris (2003, 2007, 2016) described this phenomenon as the incentive element that experience represents to one's motivational and emotional commitment to the learning process. Secondly, Kolb (1984) suggested that knowledge occurs and is tested through the experience of the learner, which was differentiated from the cognitive approaches to learning as these disregarded the subconscious and subjective experience in the learning process. Kolb (1984) proposed the experiential learning theory as a more holistic perspective whereby the learning process combines experience, perspective, cognition and behaviour (Babajeva, 2012). Kolb (1984, p. 22) asserted that "*learning transforms the impulses, feelings, and desires of concrete experience into higher-order purposeful action*" (Illeris, 2007, p. 54). According to Kolb (1984, pp. 30, 33–34), the learning process is cyclic and progresses in four adaptive stages [figure 1] - concrete experience followed by reflective observation and abstract conceptualisation to active experimentation, and back to concrete experience (Illeris, 2007, p. 53).

Illeris (2007, pp. 54–55), however, argued that although Kolb’s model represented a systematic approach to the learning process which is valid in contexts that allow a vigorous rationalisation of the diversity of reality, learning in the real world is seldom systematic in its progression. At the beginning of his research, Jarvis (2009) also discussed that Kolb’s learning cycle was a rather simplistic representation of the complex reality of the social process involved in human learning (Illeris, 2009, pp. 22–24). Though Kolb (1984) asserts that learning is beyond being an internal and personal process but involves a transaction between the person and the environment, Illeris (2007, pp. 53–57) criticised the model for failing to move beyond the individual dimension and its detachment from interaction with the environment. Illeris (2007, p. 55) described Kolb’s prehension dimension (a grasping into the learner’s psychological structures) as consistently individual-centred since the environment is not sufficiently factored in as part of the interactive process. Illeris (2007, 2009, 2016) and Jarvis (Jarvis, 2009) both argued that the social and interaction dimensions are excluded from Kolb’s perception of the learning process. Jarvis (2009) based his argument on the notion that *“learning begins with experience and experience is always social”*, and so in neglecting the social dimension, Kolb ignored a critical aspect of the experiential learning process (Illeris, 2009, p. 24). Babajeva (2012) expressed that the theory was among those that still represented a cognitive approach to the study of the adult learning process - as it focuses on the changes in experience and restructuring (Illeris, 2007, p. 125). Brookfield (1995) also warned that the exclusive reliance on experience as the defining characteristic of adult learning has two potential pitfalls. Firstly experience is not neutral, but culturally shaped and framed; how a person senses and interprets their environment is shaped by their structures of understanding (Brookfield, 1995, p. 4). Secondly, the quantity of experience does not necessarily imply a richness or intensity of experience (Brookfield, 1995, p. 4).

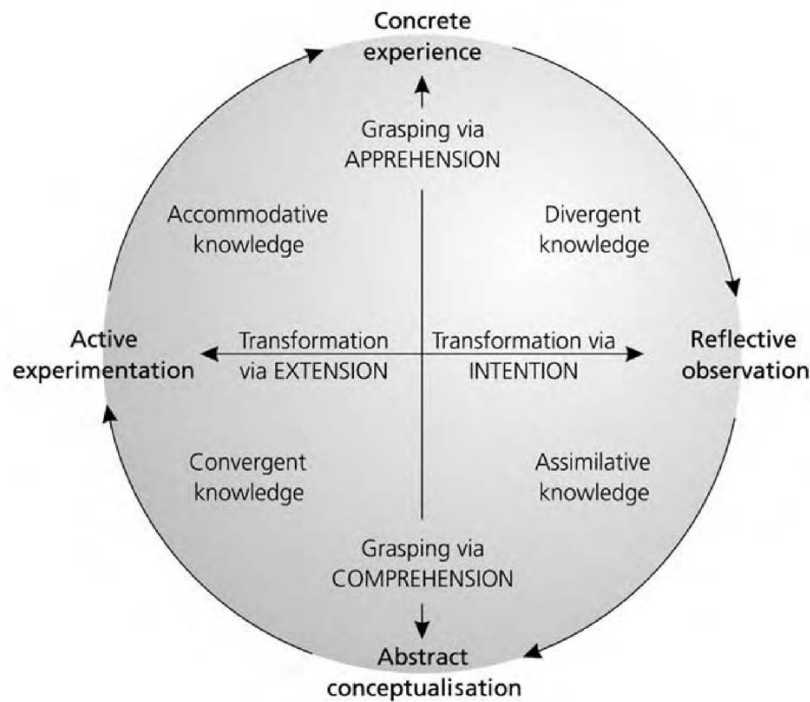


Figure 1: Kolb's learning model (Illeris, 2007, p. 56)

Nevertheless, if we consider the various lifelong learning theories and their respective models that have emerged in recent years, to a large degree, they are either variations of or expansions on the Transformation, Self-Directed and Experiential theories discussed above.

2.3 Adults as Lifelong Learners - Transition from Adult to Lifelong Learning Perspectives

Lifelong learning theories within adult learning aspire towards an epistemology that views the learner more holistically and also acknowledges the complex nature of the learning process. It is, therefore, an attempt to understand the learning process through a more holistic lens (Babajeva, 2012; Illeris, 2003, 2007, 2009, 2016). This paradigm has become increasingly important in the past 10-15 years as the concept of lifelong learning has gained popularity within all areas of society; as economies have become increasingly globalised due to the rapid advancements of digital technologies and their implementation within economic structures (Bughin, 2018; Kane, 2017; Nguyen, 2007), the rate of information transfer has increased exponentially (van Weert, 2011). The concept of the knowledge society or economy has therefore also emerged alongside lifelong learning as a term for explaining a society that is

flooded with knowledge which has the potential to restructure, and threaten to render obsolete, various aspects of its functions (Fischer & Kommers, 1999; Fretwell & Hopper, 2003; Illeris, 2009, p. 1; van Weert, 2011). Illeris (2003, 2009, p. 1), a researcher of lifelong learning, asserted that although learning is critical with respect to socio-economic health and development, learning forms one of the fundamental experiences in the manifestation of human life (Jarvis, 2009). He expressed that learning is a complex concept, and hence the reason why attempts to find a generally accepted definition and a unifying model of the concept among scholars have thus far been unsuccessful (Fischer & Kommers, 1999). Illeris (2003, p. 396) further observed that the refocus on the concept of learning, both in public debate and professional psychology, that has been taking place since the 1990s is a result of “*an increasing orientation towards education and lifelong learning being regarded as important factors in the growing global competitiveness between economies and organisations*” (Badescu & Saisana, 2008; Preece & Hoppers, 2011; van Weert, 2011; Dawe et al., 2021).

2.3.1 *What is lifelong learning?*

Lifelong learning is generally subjected to various interpretations, and in recent decades it has become so popular in policy speak that the concept is largely associated with and incorporated into educational goals and policies by governments. The perspective of lifelong learning that is predominantly held within these contexts, however, largely relates to training and formal education (Knapper & Cropley, 1986; Walters, 1999, 2006; Kirby et al., 2010). In fact, in his publication about lifelong learning concerning distance education, Knapper (1985) went to the extent of referring to it as the ‘new catchword for continued education’. Nevertheless, no consensus has been reached in defining the concept even among scholars, instead, the framing of it varies depending on the context in which it is being studied (Nordin et al., 2010). Scholars often prefer to define overall learning. Lifelong learning is therefore generally interpreted as referring to all stages of learning; from birth to death and includes formal, informal and non-formal approaches, though this is the basic definition (Brookfield, 1995; Illeris, 2003; Laal, 2011; Kovacs & Kalman, 2022). Philosophically, it centres around giving individuals the opportunity to self-actualize and consequently experience self-fulfilment (Babajeva, 2012; Illeris, 2003). In his review, Midtsundstad (2019, p. 14) defines lifelong learning in reference to one’s career as “*competence development and upgrading throughout the professional career*”. He also states that “*adult learning and education, formal and informal, is that*

obtained at an age beyond common graduation age” (Midtsundstad, 2019, p. 15), suggesting that the understanding of adult learning is a prerequisite for understanding lifelong learning in adults. Jarvis (2009, pp. 21–34), a scholar of lifelong learning and the learning society, suggested a broad definition of lifelong learning based on his assertions about the phenomenon of learning as having three distinct attributes: “learning is an existential phenomenon, and hence a process that continues throughout the whole life and is moulded through interaction with the world”. He, however, also acknowledges that this process does not occur by default, but is shaped by experience and requires development. Jarvis (2009, p. 31) further states that to understand the phenomenon of lifelong learning, “the whole person in the social situation must be understood – it is a philosophical anthropology but also a sociology and psychology”.

In the educational sphere, Knapper (1985, pp. 4–5) frames lifelong learning according to Faure’s conceptualization of a learning system with the following attributes: a) available throughout an individual’s lifetime; b) responds to the individual’s needs to cope with demands of contemporary society; c) is guided and directed by the learner; d) encourages learning from a variety of sources, both formal and non-formal. This framing of the concept was inspired by the desire to see education democratized; provide equality of opportunity in education and for education to be a tool to improve the quality of life across societies (C. Knapper, 1985, p. 5). Though researchers within the education context, such as Knapper and Cropley (1983; 1985; 1986), have adopted Faure’s definition of the concept, more emphasis tends to be placed on the implementation of strategies at an institutional level and within the formal education system (Nordin et al., 2010). In a study among radiology students, Collins (2004) explains the lifelong dynamic of learning by focusing on the main distinction between an adult and a child learner, which is experience. Her idea is based on the modern conceptualization of adult and child learning processes as on a continuum, separated by the quantity and quality of the learner’s experience, and the amount of control they exercise over the process and the learning environment (Collins, 2004, p. 1484). It is worth noting that this perspective diverges from Knowles’ (1980) original idea that adults and children learn through two distinct processes. There is therefore some consensus between Jarvis (2009), Knapper (1985) and Collins’ (2004) studies that an important aspect in executing lifelong learning is valuing that adults, unlike children, possess prior experience and learning, and that these are important foundations for new (present and future) learning. A rather comprehensive description of the phenomenon of

learning, which is regarded by Illeris (2009, p. 17) as the most important for lifelong adoption, identifies adult learning within lifelong learning as a *“process of becoming aware of the frame of reference within which we think, feel, and act, becoming critical of its adequacy with conscious of where it comes, developing newer more adequate frames of reference which are more inclusive, and discriminating of experience and finally acting out of this frame of reference”*. He identifies this as the most important and lifelong type of learning.

If we briefly consider the broad definition of the learning process used by Illeris (2009, p. 3,7) - *“any process that in living organisms leads to permanent capacity change and which is not solely due to biological maturing or ageing”* – a complex process of transformation and engagement is implied. This speaks to the understanding of learning which is beyond the acquisition of skills and knowledge, which has also gradually gained wide acceptance recently. This is the same line of reasoning followed by Kommers and Fischer (1999) in their study whereby they investigated conceptual models and computational environments that support lifelong learning. From their analysis, they concluded that a pursuit of engagement in lifelong learning needs to move beyond training approaches. They argued that lifelong learning depends on embracing the notion that *“knowledge is not transferred but jointly constructed”* (Fischer & Kommers, 1999, p. 17). This premise is especially relevant for learning in the 21st as information has become widely accessible, but needs to be synthesized and tested to create new knowledge that can be applied to solving the wicked problems that plague our societies. Knowles (1980) mentions that at the core of developing adults to become lifelong is the development of the skills of inquiry. Also, that in the pursuit of increasing their engagement in lifelong learning structures must be assembled to support them as self-directed inquirers.

2.3.2 Metacognition – *“Learning to learn”*

Lifelong learning therefore not only depends on the methods that content is presented or the approach adopted in the learning process or even the context whereby learning occurs. Instead, it ultimately teaching adult learners ‘how to learn’ or ‘learn to learn’ (Brookfield, 1995; Dawson, 2008; Perras, 2014; Lopez, 2017). Metacognition, and the growing research into the concept, have been driven by the need to address the practical implications of lifelong learning, and how it can be observed and implemented in real-life situations across various contexts. This idea of metacognition has been discussed by several scholars such as Brookfield (1995) and

Dawson (2008) who have focused on the learning process beyond the cognitive approach, instead also incorporating the role that reflection plays in increasing the learner's autonomy in the learning process. Other scholars define this phenomenon as metacognition or 'thinking about thinking', and consequently argue that beyond educational background, another main obstacle to learning is linked to the lack of skill to direct one's learning process in different contexts. However not discounting the significant role that other elements, such as content and environment, also plays in the learning process (Dawson, 2008; Perras, 2014). Researchers who advocate for the development of metacognitive abilities as part of increasing engagement in lifelong learning further infer that these are important tools for strategically navigating the process of solving ill-defined problems and the learning of unfamiliar or new concepts (Azevedo, 2005; Azevedo & Hadwin, 2005; Iftikhar, 2015; Lopez, 2017; Marra et al., 2017; Perras, 2014). Perras (2014, p. 1), drawing from the explanations of earlier researchers of the concept, expands on the definition of metacognition as "*the understanding and awareness of one's own mental or cognitive processes*". A research team at the American Society for Engineering Education adopted a definition based on Flavell's (1979) research; metacognition as "*knowledge and cognition about cognitive phenomena*" (Marra et al., 2017, p. 3).

The concept of metacognition was first discussed by Flavell (1979) in his presentation of the Model of Cognitive Monitoring, which was a result of his research at the time. In this research Flavell (1979) designed experiments in which he could observe the level of learners' awareness, and therefore the application, of their cognitive processes during learning activities. He subsequently defined Metacognitive Monitoring as a regulatory system that includes 'the monitoring of the various cognitive activities' via four interactive elements: knowledge, experiences, goals (or tasks) and actions (strategies) (Dawson, 2008; Flavell, 1979, p. 906). He expands on the four metacognitive classes included in his model as follows: metacognitive knowledge is the element within which knowledge about the world is stored and forms the building block for the other three; metacognitive experiences relate to cognitive or affective experience linked to intellectual activity; goals (or tasks) refer to the objectives of the cognitive activities; actions (or strategies) are the cognitions or subsequent behaviours employed to achieve these goals (Flavell, 1979, pp. 906–907). Though this specific research had been confined to the observation of elementary school children, the findings also led him to pose significant questions about this concept in relation to adult learners which would have major

implications for future research. For instance, within the metacognitive knowledge element, Flavell (1979) suggested the tacit beliefs that a person holds about their environment, society and themselves (intrapersonal differences, interindividual differences and universals of cognition) have important implications in the cognitive enterprises of older children and adults. His research also led to the conclusion that, like cognitive strategies, metacognitive strategies can also be acquired and activated deliberately or unintentionally, with fundamental effects on cognitive functions. Regarding metacognitive experiences, Flavell (1979, p. 908) proposed that their occurrence is prevalent whereby constant monitoring of one's progress is required; in circumstances that prompt careful, highly conscious thinking, and when knowledge enters consciousness – such as the recollection of a similar problem while tackling a new one. These suggestions by Flavell (1979) led him to conclude that an overlap exists between metacognitive knowledge and experience, and have a major impact on goals (tasks) and cognitive actions (strategies), hence the interactive nature of the four metacognitive elements.

Various studies have been conducted, predominantly in the context of formal education, aiming to understand the practical implications of metacognition towards enhancing the learning abilities of learners so that their engagement in lifelong learning becomes sustainable. A summary by Perras (2014) of a study of students with learning deficiencies - which aimed to understand how metacognitive protocols could be implemented in a classroom context in order to help improve their learning abilities - argued that as a student reflects before, during and after a learning task metacognition helps them to become increasingly aware of their strengths and weaknesses and to identify more effective strategies in the learning process, and therefore become increasingly autonomous in their learning (Duff & McKinstry, 2007; Perras, 2014). The above study further identified several tools and strategies that educators can implement in the classroom to develop metacognition and the ongoing application of it by students throughout the execution of a task (Perras, 2014). Another study was recently undertaken by Lopez (2017) among university undergraduates, seeking to understand metacognition in relation to the 21st century adult learner. Lopez identifies this learner as expected to be adaptive, possess critical thinking and analytical skills, to name a few, and to persistently engage in collaborative learning and solving of real-world problems. His research, therefore, focused on problem-based learning as a more relevant model for promoting metacognition, and because it incorporates the various elements which are present in the process of solving real-world

problems. He further asserted that this model is more student-centred, compared to the more traditional models which are predominantly teacher-centred in their approach (Lopez, 2017).

Another group of researchers have also linked this phenomenon to self-directedness in the learning process (Azevedo, 2005; Azevedo & Hadwin, 2005; Duff & McKinstry, 2007; Iftikhar, 2015; Perras, 2014). Self-directedness has been consistently identified as one of the key attributes of participating in lifelong learning by both traditional and contemporary scholars of adult learning. Azevedo and Hadwin (2005) discussed the concept of ‘scaffolding’ within computer-based learning environments in order to facilitate the metacognitive process and thus enhance self-directed learning. They defined scaffolding as *“involving calibrated support for diagnosed learning target”*, with the additional attributes of being individualised and fading, so that the student increasingly engages in self-diagnosis as the individualised support is gradually removed (Azevedo & Hadwin, 2005, p. 370). Their research identified the diagnostic element as key in determining how the individualisation aspect should be approached or designed in the computer-aided learning environment. Lopez’s (2017) findings also revealed the need to implement scaffolding strategies in order to support the development of metacognitive skills and self-directedness, among other skills, for students who have not been previously exposed to the problem-based learning model, and then gradually remove them to increase self-sufficiency. In a study of an engineering workforce, the researchers approached their exploration into the continuous development of technological skills by focusing on the interactions between the phenomena of lifelong learning and metacognition. In this research, Marra and colleagues (2017) followed the transition of a group from college into the workplace. They observed how the metacognitive skills which had been imparted through scaffolding during college years were being used to help tackle ill-defined problems in the workplace while also keeping their skills relevant. Both aspects were also linked to the learner’s level of self-directedness to learning in order to thrive in the workplace. From the research findings, Marra and colleagues (2017) went on to assert that the ability to become a successful life-long learner flows from the learner’s ability to apply metacognitive reflection and strategies in their learning processes.

However, very few studies have focused on attempting to also observe lifelong learning orientation using metacognition as will be shown below.

2.4 Lifelong learning in the workplace – the organisational as a learning environment

The integration of lifelong learning and learning in the organisation has been receiving increased attention from scholars over recent years. However, the incorporation of metacognitive strategies and their observation within organisations, and specifically business enterprise environments, has been limited. Several studies have been undertaken that attempt to demonstrate how learning takes place within an organisation, beyond the traditional formal training and course attendance. These studies have aimed to show that learning and the orientation towards a lifelong learning mindset can be built into the business's processes and strategies. In this way employees' skills are continuously developed without the business being subjected to high training costs associated with the attendance of formal training. These studies have also demonstrated the complexity of the learning process, and how, during this process, the adult who is engaging in it needs to be considered from a holistic perspective if they are expected to eventually engage as lifelong learners (Saar et al., 2013), therefore linking back to the approach which has been proposed by lifelong learning theorists.

Before proceeding with the discussion about how lifelong learning can be observed within the organisational context, the concept of organisational learning which will also be adopted within this study must be reviewed and clarified. According to Yang, Watkins and Marsick (2004, p. 34), there is a stark difference between organisational learning and the learning organisation – learning organisations are “*organic in their potential to learn*”, whereas organisational learning refers to “*the collective experiences used to acquire knowledge and develop skills*”. A scholar on the topic of lifelong learning, Illeris (2004) described the process of learning in an organisation as follows: “*Learning in the workplace takes place in the encounter between the learning environments of the workplace and the employees' learning processes*” (Illeris, 2004, p. 431). In this definition, he emphasises the ongoing interaction between the individual (employee) and the organisational environment. In fact, Illeris completely rejected the notion of the ‘learning organisation’, based on the argument that an entity is unable to assimilate the complex processes involved in human learning (Illeris, 2004, p. 435). He argued that the collective learning experiences that exist within organisations, which are referred to as ‘learning organisations’, are a result of the cooperation among the individuals undergoing the learning processes. This refers to what he defines as ‘socially co-ordinated’ experiences within the environment. Therefore, according to Illeris' definition, the organisation, as an entity, offers an

environment through which learning can occur as a result of an individual's psychological processes interacting with it. Consequently, certain aspects of the organisation, and the dynamics that exist within it, can either act as *enablers or inhibitors to learning* (Illeris, 2004). This definition proposed by Illeris (2004) will be adopted for this study.

Marsick and Watkins (2003) proposed that people and structure are the two main features of the 'learning organisation', which interact and consequently dictate how the organisation can develop and change. Their view was that the 'learning organisation' can to integrate people and structure in a manner that fosters continuous learning and change. This perspective ties back to Illeris's (2004) assertion that the 'learning organisation' is derived from socially co-ordinated experiences resulting in organisational learning taking place, in this case, the structure acts as the tool for coordinating those experiences. Also, these structures, amongst other factors, can serve as enablers or inhibitors to learning within the organisational environment. Billet (1994) - one of the pioneers in the research about learning in the organisation - in his earlier definition described workplace learning as "*a way of acquiring knowledge and skills in activities that are directly involved in a real task where learners are guided directly by a skilled mentor*" (Zhao & Ko, 2018, p. 45). Zhao (2018, pp. 45–46) expanded on this definition that knowledge acquisition "*is achieved in the process of engaging in social practices and daily work, and the close interaction between individuals is a very important source of knowledge in the process of individual learning and the construction of knowledge*".

In their study of formal and informal learning in the workplace, Manuti and colleagues (2015) also identified the lack of a unified definition for workplace learning. Their observation was that a two-pronged lens could be applied to articulating process of learning in the workplace: 1) as a site of learning associated with the development of the enterprise, as well as the development of the individuals as they exchange knowledge and skill 2) "*as a site that has been approached and theorised across various disciplines, resulting in various interpretations about construct*" (Manuti et al., 2015, pp. 2–3).

Following their extensive review, Manuti and colleagues (2015) concluded that there was no prescriptive definition or unified approach to defining workplace learning or what it ought to look like. Instead, they derived their definition based on 'observations' about the workplace, its

role as an enterprise and the extent to which the idea of ‘workplace learning’ has been theorised across the various disciplines, suggesting the interplay of multiple factors which impact learning in this context. From the findings, they identified a common thread throughout the various literature - that workplace learning has a formal and informal nature (Manuti et al., 2015, p. 4). A study on entrepreneurial education proposed that since the process of entrepreneurial learning is often unstructured, informal and unintentional the organisation plays an important role in terms of bringing in the organising element (Baggen et al., 2016). This was based on the suggestion that *“the work environment is a powerful site for learning, and for developing entrepreneurial competence”* (Baggen et al., 2016, p. 196), considering that learners with an entrepreneurial orientation seldom benefit from structured learning environments. This argument therefore also brings forth the potential for organisational learning to further shape the creation of new ventures within and beyond its periphery.

The reason that organisational learning has increasingly become important in working towards fostering a lifelong learning culture in adults is that learning on an individual level has its limitations. As an individual, the motivation and intention to learn cannot be separated from our past experiences (especially the learning experiences) and interpretations of them, educational background and opportunities available. Therefore an individual’s motivation is heavily linked to whether their past learning experience was positive or negative, including their perception of available opportunities for learning and the eventual rewards for the learning efforts undertaken (Kyndt et al., 2011). This is where the organisation can play an important role in providing a context within which to shape one’s ability to intentionally engage in lifelong learning, learn to identify opportunities, and provide relevant motivation, such as development and growth in one’s role. Concerning informal learning at an individual level, Marsick and Watkins (2003) proposed that the learning process is often triggered by an unexpected event or a departure from the norm. Other scholars infer that the informal learning process can also be triggered by simply noticing; the things that tug, and cause subtle tensions or intrigue (Petriglieri, 2020). This forces an individual to seek to understand the selective filtering of available and new information and strategize in order to resolve the tension by considering possible actions. The resolution process is limited by the individuals capacity to act (skills, resources, authority etc.), but the transformation, which is important for a lifelong learning orientation (Petriglieri, 2020; Dawe et al., 2021), during the learning process is determined by

their ability to recognise and interpret the results of their eventual actions taken (Marsick & Watkins, 2003; Petriglieri, 2020). This is a domain whereby incidental learning (a by-product of another activity or experience) which has occurred is also surfaced and brought to perspective (Fischer & Kommers, 1999; Marsick & Watkins, 2003; Petriglieri, 2020). The entire process described above is dependent on the individual learner's capacity to plan, initiate, identify or facilitate learning opportunities, especially if it relates to informal learning. Furthermore, at an individual level, this process takes time.

In contrast, the organisational level of learning involves a collaborative approach. This is an important dynamic because the workplace does not merely exist for learning. Instead, the balance between habits and expectations has to be maintained (Petriglieri, 2020), which is also true in today's fast-changing society and knowledge-based economies. One of the advantages that arise from a collaborative environment, in this case, the organisation, is the creation of new value which is vital. Not just for survival, but thriving in today's economies and societies (Baggen et al., 2016; Balle et al., 2016; Oudejans et al., 2011; Peters et al., 2010; Sutherland Olsen, Dorothy, 2016; van Weert, 2011). This does not suggest that the individual learning process should be discarded as it is foundational towards fully participating in organisational learning. The individual learning process speaks to the self-directed element of lifelong learning, which is equally applicable in a work environment especially if an individual is to be intentional about recognising and maximising informal learning opportunities (Azevedo, 2005; Azevedo & Hadwin, 2005; Brookfield, 1995; Dawson, 2008; Fischer, 1998; Marra et al., 2017; Kovacs & Kalman, 2022). Instead, this inference about the collaborative approach is simply intended to highlight the amplified benefits of moving beyond the perspective of the all-knowing individual, the individual-centred approach to problem-solving and innovation (Fischer, 1998; Fischer & Kommers, 1999). It also aims to challenge the perspective that learning for organisational purposes is predominantly achieved through formal learning, such as course attendance and virtual or classroom instruction (Fischer & Kommers, 1999; Laal, 2011; Manuti et al., 2015). In addition, it seeks to recognise that though the adult, who is viewed as a learner in the organisation whereby collective activities are undertaken towards achieving organisational goals, brings background experience and prior learning to the table, the internal (organisation) and external (economic and social) environments which shape the learning experience are not static (Collins, 2004; Kolb, David A, 1984; van Weert, 2011). Consequently,

the development and skills of adult learning need to evolve accordingly, so that they and the organisation are able to adapt and evolve. The focus, therefore, shifts towards an attempt to somewhat capture this process as it happens alongside the undertaking of organisational activities. In various research about learning in the organisation, the bulk of the emphasis is often placed on formal aspects such as course attendance. Billet (2002) disagreed with the perspective that workplace learning is informal or unstructured. He instead suggested that by virtue of the processes, systems, values and activities within an organisation being highly organised (formal or structured) implies that the subsequent learning is also formal or structured, since the learning occurs as one engages with and through these structures (Zhao & Ko, 2018). Zhao (2018) further argued that if the work process and learning process are inseparable within an organisation, the epistemological perspective is therefore that knowledge is gradually developed or learned by the learner as they engage with the work process. It is, however, worth noting that the definition of a work process is different in each work environment. For example, in an educational institution classroom training is regarded as part of the work process, while in a manufacturing organisation, this activity would be regarded as a formal learning activity since it is a planned activity that is outside of the regular work process.

2.5 Model for Lifelong learning in the workplace

The ongoing debates over the past decade have resulted in several proposals towards the development of a comprehensive model for understanding the complex construct of lifelong learning (Illeris, 2009, pp. 7–19). The main feature that such models have in common is the holistic view of the learning process; they seek to consider the social, individual and structural dimensions at play during the learning process, and how they impact the learning orientation (Dawe et al., 2021). Of course, every person's learning orientation is as unique as their experiences. This, therefore, introduces a further complication - the possibilities that such a model would need to consider become almost infinite (Illeris, 2009). Of the four categories of learning suggested by Illeris (2009, pp. 7–19) – cumulative or mechanical learning, assimilative or learning by addition, accommodative or transcendent learning, and transformative learning – the concept of lifelong learning represents an acknowledgement that all types of learning happen simultaneously, although some tend to dominate depending on the learner's orientation. Hence, the study of the concept is a positioning towards becoming adaptable learners such that one is able to activate either type depending on the situation. It is then not surprising that the

study of this construct is regarded as complex because of the broad number of variables that these models tend to incorporate. Even more so once the context and the learner's prior learning experiences are taken into consideration. As such, certain attempts to operationalize this construct have remained vague, and its practical applications have therefore largely been prescriptive rather than based on the interpretation of research observations.

With these considerations in mind, this research aims to study the enablers and inhibitors towards cultivating a lifelong learning orientation as a result of an interaction with the organisation. Upon the evaluation of several proposed models, Illeris's model will be used to study the construct. The construct will be studied within small to mid-size South African organisations. Illeris (2004) developed a model which combined the social and the individual levels of the learning that occurs in the workplace. This model examines the connection between the workplace as the learning environment - the communities and technical as well as organisational elements - and the individual's learning processes that are activated as a result of the interaction with this environment (Illeris, 2004; Kovacs & Kalman, 2022).

Illeris (2009, p. 8) proposed that due to other complex processes that occur simultaneously with the learning process, the conditions that influence its occurrence need to be accounted for. His initial model, which he also presented at a conference alongside other lifelong learning scholars in 2007, considered four areas that influenced the learning process – history and life experience, learning context and methods, internal processes, as well as the external environment (figure 2).

STRUCTURE OF THE THEORY

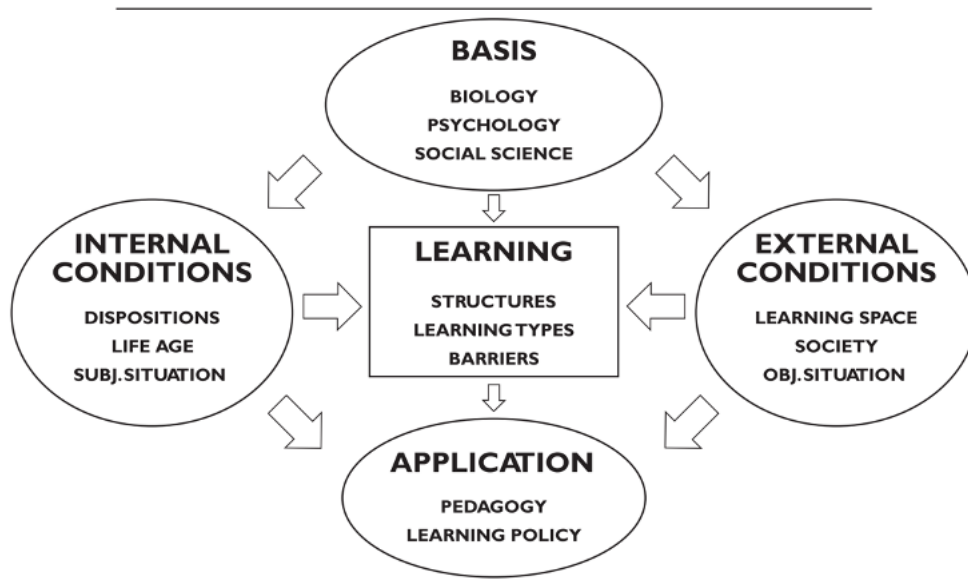


Figure 2: The areas of the understanding of learning (Illeris, 2009, p. 8)

Unlike many learning theories which consider the internal (acquisition/cognitive) and external (interactive/social) factors separately, Illeris (2009) sought to incorporate these to gain a holistic perspective in his attempt to understand learning. The first layer of the model in figure 3 illustrates how the individual processes their interactions with the environment - the content dimension is what is learned, such as skills, knowledge and attitudes (Nguyen, 2007; Kovacs & Kalman, 2022); the incentive provides and directs mental energy; and these two dimensions are initiated from the interaction with the environment, the interaction dimension (Illeris, 2009, p. 10). This base model, from which he developed the model for learning in the workplace, can be applied to understand learning in formal, informal and non-formal learning situations (Illeris, 2009, pp. 7–19).

Illeris adds that the content extends to aspects such as understanding, meaning, coherence and the understanding of culture and social dimensions of the learning context, as the learner ‘*tries to create meaning and understanding out of the learning situation*’ (Nguyen, 2007, p. 8). He further asserted that the content and incentive dimensions are heavily dependent on the interaction of the learner with the environment (third dimension – the interaction dimension). He also regards the learner’s previously learned skills, as well as identified strengths and weaknesses as important in the content dimension, as these form the foundation ‘on which the

learner develops their new capacity to function appropriately in various contexts' (Illeris, 2004; Nguyen, 2007, p. 8).

In addition, he asserts that the incentive dimension is closely related to the content dimensions, as these are stimulated simultaneously through the interaction of the learner with the learning environment. Incentive, therefore, relates to elements such as motivation and emotions, which in turn fuels the learner's energy that is driving the learning process. This is taking into consideration that the learning process may require the learner to unlearn or alter their old emotional and motivational patterns, and learn new ones (Illeris, 2004; Nguyen, 2007, p. 8).

This is the layer of the model which considers the way that the employee (learner) processes these engagements, and informs the shaping of their individual identity within the work environment. In this context, Illeris defines individual identity as "*a partial identity, concerned with our experience of ourselves as working individuals and as parts of a working fellowship*" (Illeris, 2004, p. 436). Therefore, unlike the models that solely focus on the cognitive aspects of workplace (learning content) learning, he suggests that the learner's responses to the social elements of their work environment are equally critical towards shaping their learning experiences and subsequent learning processes.

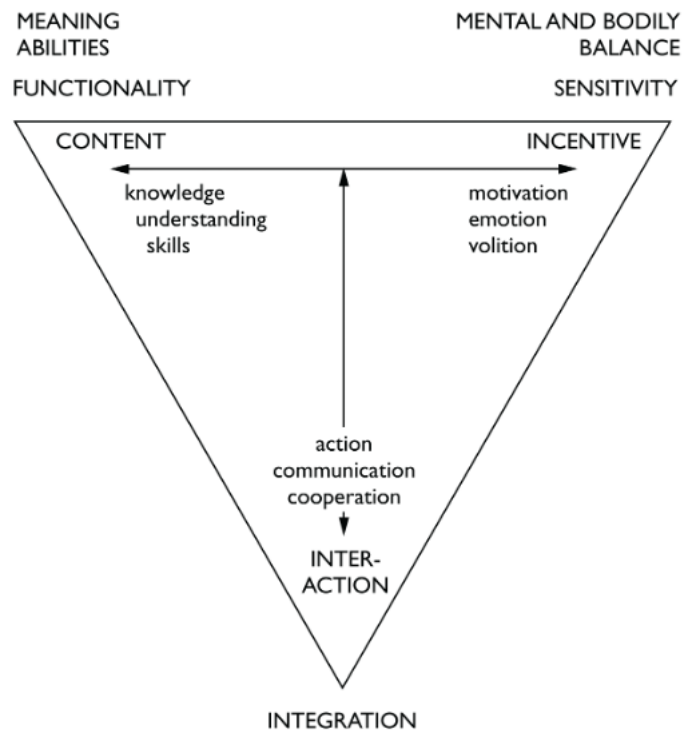
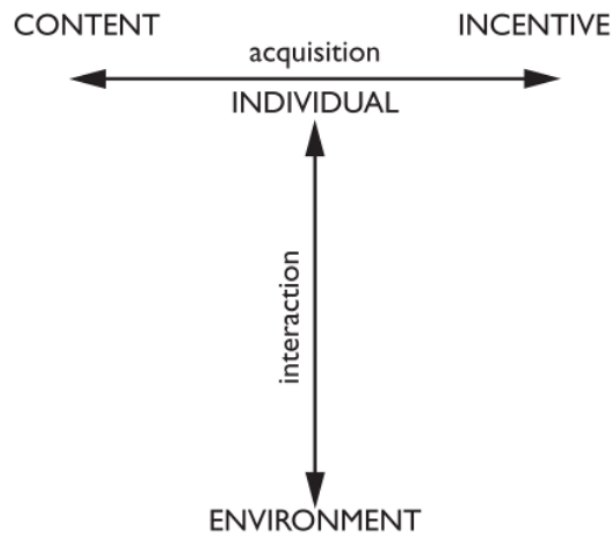


Figure 3: The fundamental processes of learning and three dimensions of learning (Illeris, 2009)

Illeris's (2004, 2007) workplace model is derived from the fundamental notion that we learn through interaction with an environment (learning is situated) and that the same environment not only impacts the learning, but forms the framework for the learning. He, therefore, proposed that learning is not an isolated process, but one that is shaped and impacted by the environment within which it occurs (Illeris, 2004, 2007; Kovacs & Kaln, 2022). He referred to this level in the analysis of the learning process as the interaction dimension – a departure from the

psychological dimension whereby the individual is the setting (Illeris, 2007, pp. 96–123). In his assertion that learning is ‘situated’ he articulated that by analysing the learner’s interactions with the environment, we consequently evaluate their “*opportunities for activity, engagement, coordination, involvement in subjectively relevant issues, critical reflection, reflexivity and social responsibility*” (Illeris, 2007, p. 124). Although there are numerous variables which could be incorporated into such a model, which are part of the organisational environment, such as political influences, market conditions, and cultural conditions, the model focuses on those that are important in defining the features of learning (figure 4). In fact, these other variables are indirectly incorporated within the dimensions that define the work environment (technical-organisation & socio-cultural dimensions of the organisation illustrated in figure 4). In this context, these elements are the employee’s (learner’s) learning processes, the organisational learning environment and the social learning environment.

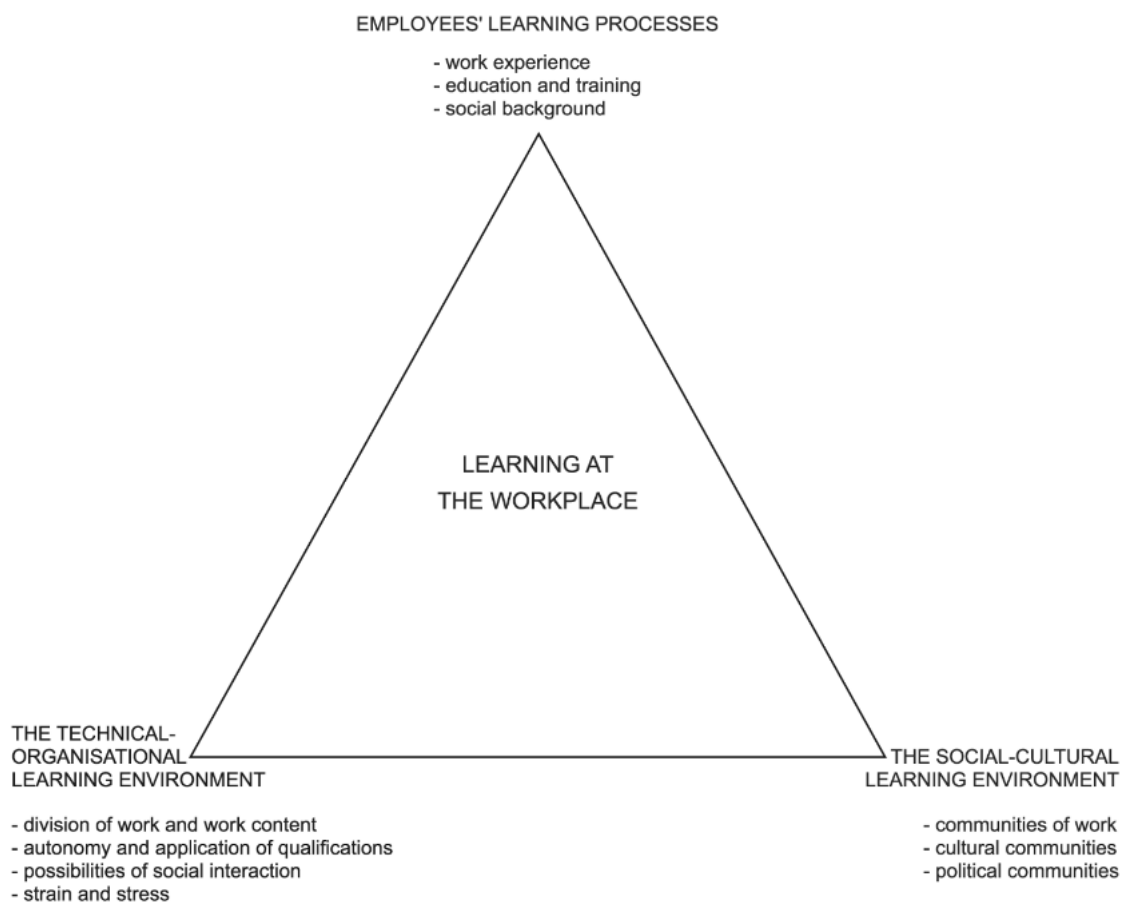


Figure 4: A model for learning in the workplace, (Illeris, 2004, p. 432)

From the model, one can already observe the ongoing interaction of the interaction between these three levels. Illeris (2004, p. 433) therefore asserted that workplace learning is “*inevitably, directly and indirectly, influenced by the fundamental way in which working life is organised and functions in society*”. He referred to this ongoing interaction between the three levels as ‘working practice’; the region where workplace learning is cultivated through opinions, explanations, behavioural patterns, or impressions that the learner encounters as they interact with the environment. This forms the second layer towards the development of workplace learning; the first layer is discussed above (figure 3).

The resultant model is a merger of the two layers to offer a holistic view of how workplace learning can be approached by evaluating the relationship between working practice and the shaping of work identity (figure 5).

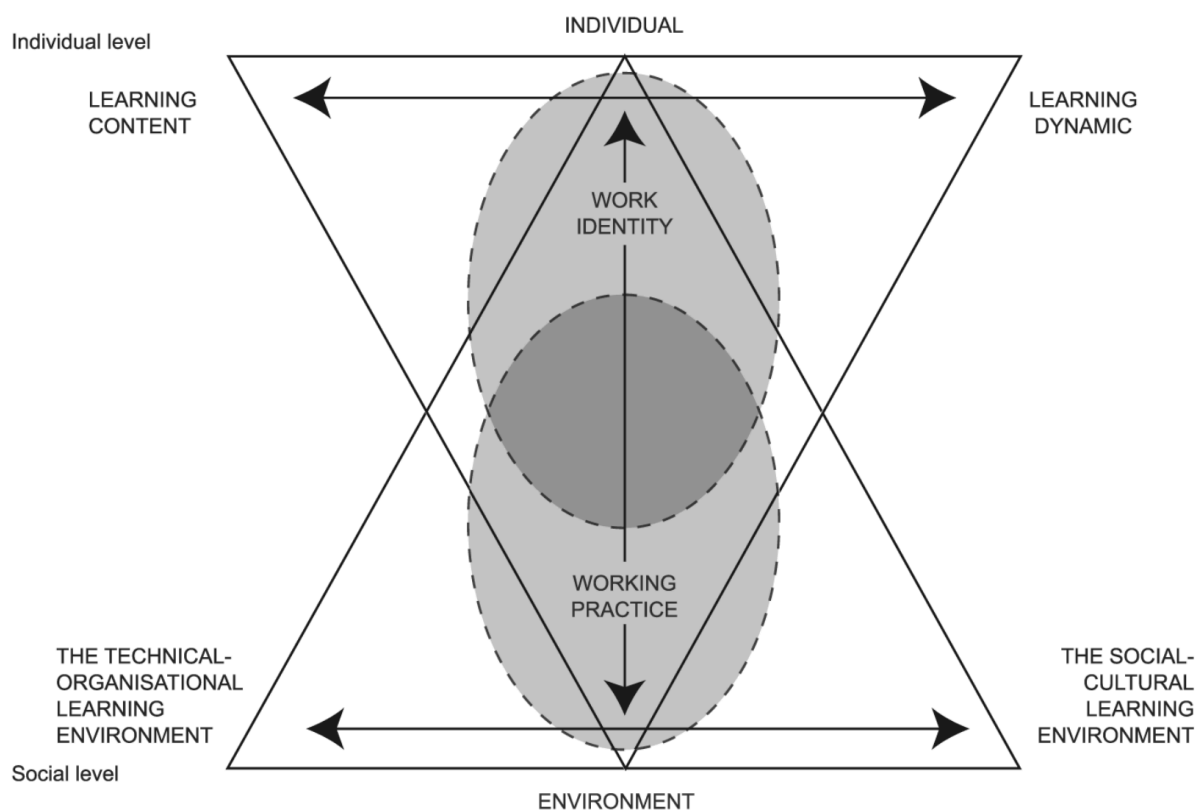


Figure 5: Learning in working life (Illeris, 2004, p. 438)

2.5.1 *Practical application of Illeris' model*

Illeris's (2004) intention for developing this model was to not only propose a simplified version for understanding the 'situated' learning - in this instance learning that is situated in the workplace - but to also draw attention to the complex dynamics at play when one engages with their work environment. According to Illeris, economic (organisational and management) perspectives are unable to fully incorporate and appreciate the social and individual conditions at play when one engages in learning within the context of their working life. The framing of the social and individual element is important when seeking to capture a 'lifelong learning' orientation as, by definition, it assumes that one does not just engage in learning but seeks 'lifelong' opportunities through which to *intentionally* engage in the learning process. The aim is therefore to also capture the social and individual elements that impact elements such as motivation, retainment of knowledge, and the development of meta-cognitive strategies – which is the focus of this research – such that the learnings from one work environment can be applied in a completely new and unrelated environment (the cross-application of skills). The cases highlighted below only explore the first layer illustrated in figure 3, the first three of the six dimensions (content-individual-environment), of Illeris's model.

One of the practical cases in which Illeris's model was tested is CROSSLIFE, a program that is run through a collaboration between six universities globally, to share cross-cultural experiences as part of the learning process. The aim was to explore how these dimensions applied in the CROSSLIFE experience. Unfortunately, the interaction – between the learning and the environment - dimension was very limited in this case as the workshops were conducted virtually (Nguyen, 2007). One might argue that the virtual environment represents a type of environment, however, this type of environment is not conducive to observing the various aspects of an interaction as the learner experiences the environment on a two-dimensional level (sight and audio). The CROSS LIFE example illustrates the limitations that are present when learning happens online, hence the suggestion from a Danish Research Unit that ICT-connected networks can be effectively exploited and developed if opportunities exist for face-to-face engagements to take place so that codes of communication and mutual trust can be established (Nguyen, 2007, p. 15). The inter-relation between the content and incentive dimension was also very weak, mainly due to the workshop themes and study program not being congruent with the motivations of the participants (Nguyen, 2007). However, positive results were observed

amongst those participants who had cross-interests within CROSSLIFE (Nguyen, 2007). This finding is in line with the self-aspect of learning motivation – “*the shaping of their individual identity within the work environment*” as discussed by Illeris (2004, p. 436).

Another study was conducted by Mainwaring (2012), although it was limited to high school learners in a formal academic environment. The findings from that study are worth exploring as they provide some interesting perspectives on the first three dimensions and their link to meta-cognitive strategies, although this perspective does not offer insight into shaping one’s orientation. In her research, Mainwaring identified that the situation or setting within which learning occurs can either encourage or discourage levels of meta-cognition (which she defines as “*meta-learning – the learner being discerning about what they want to learn and how they want to do it*”) (Mainwaring, 2012, p. 136). This definition has very close similarities to the widely accepted definition of metacognition – ‘the understanding and awareness of one’s own mental or cognitive processes’ discussed earlier. She further recognised that a setting which encourages ‘meta-learning activity’ is seen by the learner as valuable. From her findings, Mainwaring (2012, p. 136) proposed that the learner goes through the process of questioning the relevance of the learning, an evaluation of the setting (the environment) together with the content, and recognition of relevance results in the learner being persuaded that ‘meta-learning’ is worth engaging with. Mainwaring (2012, p. 137) therefore argued that by virtue of the setting of the learning, learners can either “*develop expansive identities whilst others might develop contracting epistemic identities*”. Especially, when the learning format succeeds or fails to connect with real-life (personal and contextual) experiences, an aspect which is intended to promote the learner’s “*awareness of their own placement in an ever-changing world*” (Mainwaring, 2012, p. 137).

Zhao and Ko (2018) applied Illeris’s workplace model in a study to understand workplace learning for vocational education teachers. In this study, Zhao adapted the model to depict the various interactions that vocational educators encounter in their professional environment, and how these potentially contribute to their learning for competence development. In his association of workplace learning with *work*, *place* and *learning*, Zhao defines *work* as tasks and responsibilities associated with roles within an organisation, together with their engagement process with other individuals in order to meet the expected outcomes. The *place*

refers to the physical and psychological environment where the individual works, thinks, learns and holds social interactions, while the *learning* aspect points to the wide activities relating to their work.

The theoretical model proposed by Illeris (2004, 2007, 2016), which is discussed above, will be utilised as the guiding model in the undertaking of this current research study. As already seen, this model is designed to extensively interrogate the dimensions that impact the various levels of learning that occur as the individual interacts with the organisational environment. It has, therefore, been identified as the appropriate baseline for investigating these dimensions during the subsequent development of metacognitive strategies as the individual interacts with the same environment. This model will also be utilised as a guide for developing the framework thereafter.

2.6 South African and the SME context

Research by Saar, Ure and Desjardins (2013) demonstrated that adult learning in itself is complex and that though linked to education and training systems, it cannot be grasped by simply analysing these. They argued that it is shaped by the broader economic, social and cultural systems and interacting subsystems (Kirby et al., 2010; Midsundstad, 2019; Saar et al., 2013). Lifelong learning among adults, therefore, presents a unique and exceedingly complex challenge in the African continent when also considering its complex socioeconomic challenges and political reforms, which when compared to developed nations, are at the stage of iteration in terms of maturity.

The major socio-economic challenge, specifically in the South African context, is to navigate the changing nature of work, which demands that lifelong learning become a societal norm, while simultaneously tackling historical issues of unemployment and unequal access to initial education. Previous research also demonstrates a growing shift among both organisations and the workforce, for differing reasons, in how learning is valued. However, organisations in the South African context have seldom cited the changing nature of work, especially in terms of their role in equipping the workforce to engage in lifelong learning, especially when considering increased digitization in local businesses (Goldstuck, 2018). Some have, however, expressed concern that training or developing their workforce with technology-centred skills increases the risk of them leaving the organisation for better opportunities (Goldstuck, 2018;

Gono et al., 2016). This is a rather very short-sighted approach to tackling the looming skills crises for both organisations and the workforce. Nonetheless, the opportunity for these perspectives to converge - enhancing the intangible assets of individuals while addressing the complex skills challenges faced by organisations and their need to become agile in their innovating processes - is yet to be adequately harnessed. In tackling these challenges, organisations represent a major opportunity: potentially creating environments that not just support learning, but whereby the individuals' lifelong learning orientations are shifted as they engage in learning through both informal and non-formal approaches, and consequently help individuals grow in their ability to engage in self-directed lifelong learning (Laal, 2011; Dawe et al., 2021). The phenomenon of lifelong learning within the African and South African context has primarily been studied through the lens of culture and policy (Preece & Hoppers, 2011; Walters, 2006). Many research gaps, especially relating to its implementation within African economies, have therefore been identified, including its emergence in different settings within these societal contexts, as well as the degree that individuals participate in it and the factors that contribute to their engagement.

As already mentioned earlier, the prevalent assumption is that since learning is always happening then individuals have the predisposition to engage in lifelong learning (Fretwell & Hopper, 2003; Kirby et al., 2010; Laal, 2011). However, it is common knowledge that this is far from true in the African context. Aside from having a mere 19.4% tertiary enrolments, the South African basic education system has been plagued with two key issues over the past two decades (Macha & Kadakia, 2017). Besides the ever-changing curriculum, the education frameworks have not remained constant (Macha & Kadakia, 2017). This implies that each framework implemented has not remained active long enough for educators to become confident in their competence with it so that they subsequently impart metacognitive and lifelong learning strategies to learners. Consequently, the majority of adults entering the workplace, regardless of educational background, have not substantially developed the metacognitive awareness and strategies that could enable them to effectively engage as lifelong learners. The study by Kirby, Knapper, Lamon and Egnatoff (2010) shows that metacognitive strategies are critical in an individual's ability to learn effectively (and deliberately), and therefore their likelihood to become a lifelong learner. The same paper by Kirby et al. is also

one of the first attempts to operationalize the phenomenon, hence the lifelong questionnaire that they developed will also be used in this research.

This research, therefore, seeks to understand the aspects within their organisations that enable the development of lifelong learning strategies, and the extent to which this interaction with the given environment is able to create a shift (or impact) in their orientation towards lifelong learning. This research question will be explored within the SMME sector. Firstly, this sector employs approximately 60% of the workforce across skill levels. Secondly, it comprises 90% of formalized business and contributes between 36 – 54% to the South African GDP (International Finance Corporation, 2018). It, therefore, plays a critical role in the South African economy in terms of employment and economic activity; it has also been identified as a key player in growing the economy's ability to compete globally (Gono et al., 2016). This sector also represents society's ability to pivot from being employees to employers, thus making lifelong learning critical for it to continue to grow and thrive in a digitized global economy (Goldstuck, 2018; Gono et al., 2016). It, therefore, presents a rich environment for investigating adults' orientation towards lifelong learning, across all skill levels, as a result of their interaction with the organisation.

2.7 Conclusion

The subject of lifelong learning has taken different forms over the past decades and has also been the subject of several criticisms. Although the experience of lifelong learning is not limited to adults, Knowles' (1980) andragogy continues to be identified as an important backbone to defining this construct. Defining lifelong learning has also been an ongoing subject of debate due to the different interpretations that exist in different contexts. Studies that have instead focused on defining this construct within specific contexts, rather than in generalised terms, have played a critical role in moving this debate forward. Scholars such as Fischer & Kommers (1999) and Knapper (1985) have made important contributions through their evaluations of lifelong learning in several contexts. However, the most significant contributions made have so far been in the area of education (Knapper & Cropley, 1986; Kirby et al., 2010). Nevertheless, the questions raised by several scholars regarding the context continue to reveal new opportunities for research. Especially in addressing the multi-dimensionality of lifelong learning and the complexities introduced when it is studied in real-life environments (Illeris, 2004). As a result of these contextualised studies, several models have also been proposed for

observing and evaluating this construct. These models have additionally attempted to capture the ‘main’ features of these different contexts in several forms that are assumed to have direct impact on adults engaging as lifelong learners. The most noteworthy of these models, specifically relating to the work environment, is Illeris’ (2004) working life model. However, due to the multi-dimensionality of the interactions occurring, these contextualised models, including that proposed by Illeris, are able to capture limited aspects of the environments. Hence, the debates focusing on the environment, and its role and ability to facilitate lifelong learning in adults persist.

Several research undertakings have also demonstrated the need to make considerations for multi-level interactions when seeking to study this construct in the organisational context. Namely, the individual, group and systems levels which are also interacting with the individual simultaneously as learning is occurring. There is, therefore, a need to firstly narrow down on a logical definition based on the context that is to be explored. Secondly, to study and interrogate how adults specifically engage in lifelong learning, the fundamental strategies initiated alongside learning processes cannot be ignored. Lastly, insight into the learning organisation and the individual’s interaction with it, will help place this construct within the real world. If there is an understanding about how it unfolds in the spaces that adults predominantly spend their time, namely the organisations for which they conduct work, this can expand to the building of strategies for increasing adult engagement in lifelong learning. Consequently, such outcomes could serve as an initial understanding on how to facilitate sustained lifelong learning engagements that yield self-directed lifelong learners in organisational environments.

Therefore, drawing from several literature viewpoints, this research attempted to study the interaction between the organisational environment and the adult individual. The aim was to identify the features within these organisational environments that acted as either enablers or inhibitors to the engagement of these adults as lifelong learners. Leading to the research question:

“what are the potential enablers and barriers to cultivating self-directed lifelong learning in the workplace in Sub-Saharan economies?”

3. Methods

The goal of the research was to investigate the phenomenon of lifelong learning through the experiences of the individual. More specifically, the interactions with their organisational environment, the meaning they created through those interactions and how it has influenced their orientation towards becoming self-directed lifelong learners, as well as the development of learning strategies to sustain them as lifelong learners (Castellan, 2010; Poggenpoel, Myburgh, & Linde, 2006). To reiterate, the research will be based on Illeris' interpretation of lifelong learning in the work environment, stated as *“the learning that takes place in the encounter between the learning environments of the workplace and the employees' learning processes”* (Illeris, 2004, p. 431).

The question that this research sought to understand is *“what are the potential enablers and barriers to cultivating self-directed lifelong learning in the workplace in Sub-Saharan economies?”*

This section is structured as follows: 3.1) Research design, 3.2) Approach and strategy, 3.3) Sampling, 3.4) Data collection and instruments, 3.5) Data analysis, 3.6) Research quality, and 3.7) Ethics considerations.

3.1 Research design

A qualitative design approach was utilised to capture the interactions that the individuals had with their respective organisations, as experienced through the roles they previously held or currently hold within the organisation. The reason for selecting the qualitative approach was its suitability to the objective of the study. To uncover the skills development journey from the participant's (the learner) perspective and evaluate if the observed transformation (orientation and strategies) regarding lifelong learning, if any, was a result of their interaction with the organisational environment. Whereas previous studies regarding this phenomenon have often focused on either the organisation or the individual as the dimension of analysis, with an emphasis on the tools utilised to achieve the observed outcomes, this research emphasised the interaction between the individual and the organisation. The approach was therefore appropriate for gathering a multi-dimensional view of the journey by (briefly) taking into consideration a) the impact of the individual's learning journey prior to the current organisation, b) the practical

approaches (as observed through day-to-day work practices) used within the organisational environment to shift and develop lifelong learning strategies.

Since qualitative research allows for people's experiences to be observed in real-life conditions, and for their perspectives to be uncovered, it provides an opportunity for the contextual conditions – social, institutional, environmental – in which a phenomenon occurs to be better understood (Yin, 2011, p. 8). As the qualitative method does not attempt to rigidly define or control the conditions for observations, the expressed perspectives and views of participants could be respected and preserved. And so, from the individual's experiences, a better interpretation could be made about the role played by the organisational environment in shaping the individual's lifelong learning orientation, and how it impacted the cultivation of metacognitive strategies (Creswell, 2014; Yin, 2011). Flavell (1979, pp. 906–907) identified metacognitive strategies as one of the key attributes that can be observed in lifelong learners.

The data was collected in three main forms, as qualitative research also provides the opportunity to incorporate different forms of data collection methods (Creswell, 2014; Yin, 2011). Data about the organisation was obtained through secondary sources, and that of the individuals' interactions was obtained through semi-structured interviews and questionnaires. Yin (2011, p. 134) suggests semi-structured interviews when intending to also create a platform for a two-way interaction during the enquiry process. In this way the participants can engage with the researcher in a conversational manner, thus putting them at ease to express themselves authentically. The secondary data was utilised to gain further insight into the organisational environment. The organisational perspectives were also captured through secondary data; that is, their stance regarding lifelong learning and their expressed commitments to developing learning strategies for the effective transfer of skills. The data from various sources about the organisation was triangulated (Yin, 2011) and used to refine the understanding of the interaction between the participant and the organisation. The perspectives of the participants were also obtained from the interviews and questionnaires. These were then analysed to gain an understanding of how the participant interprets this organisational commitment through their lived experiences, and gauge whether their learning orientation had been shifted as a result of the interaction with this specific environment. A secondary aim was to understand whether the

approaches within the organisation that acted as enablers were a result of intentional strategies or emergent practices, or if these were solely dependent on the push from the learner.

An inductive design was identified as best suited for this study. Creswell (2014) recommended this approach when a construct has not been intensely studied. It is therefore appropriate as both the phenomenon and the context of interest have not been sufficiently investigated in previous studies. The literature review revealed that the existing studies and proposed theories have attempted to explain aspects of lifelong learning in the workplace but to a limited extent. Few attempts have been made to study this phenomenon by observing the interactions of the individual as the lifelong learner. Also, studies that observe lifelong learners with the purpose of better understanding the strategies for cultivating this learning orientation within the organisational context are particularly scarce, if any. Especially those focusing on the African context. The propositions were derived from real-life observations, as per the inductive reasoning approach to the study of the phenomenon from ‘the bottom up’. The inductive approach was appropriate as it also supported the aim to understand the phenomenon in an environment that has not been previously studied from this perspective and environment (Yin, 2011), i.e. African organisations. Yin (2011, p. 124) elaborated that the “*inductive stance permits the events in the field to drive the later development of categories, propositions, and eventually ‘meaning’, based on the actions in the field and not preconceptions*”.

Finally, the research was conducted from a pragmatic perspective. The intention was to not only gain an understanding of this phenomenon, but also discover the extent to which it can be observed and demonstrated practically in real-life occurrences (Creswell, 2014). Patton (2015) described the pragmatic approach as seeking to find useful answers to direct the addressing of concrete problems. This research was grounded in the fundamental observations by various scholars that the learning environment plays a pivotal role in the learning processes and engagement of the learner (Illeris, 2007; Patton, 2015). Although studies have also been undertaken to observe lifelong learning through the lens of metacognitive strategies in certain contexts, specifically schooling and academic environments, it is still not easily measurable and represents varying realities among individuals and organisations (Gleason, 2018). Also, a connection has not previously been made between lifelong learning and metacognitive strategies, and their potential to drive the development of lifelong learning strategies. However,

with the increasing recognition that adults have to undergo a shift towards engaging in lifelong learning, there is a growing necessity to gain a wide-ranging understanding of these connections (Higgins, 2013). Also, the research ultimately aims to establish the most effective way to practically execute the self-directive approach to lifelong learning in adults within organisations. Patton (2015) also suggested that this research perspective offers opportunities for creatively incorporating various forms of enquiry and data collection.

3.2 Approach and strategy

The research question was poised to capture the need to gain an understanding of the cultivation (enablers and inhibitors) of lifelong learning orientations and strategies in the workplace (The Open University, 2016; Yin, 2002). The study was therefore exploratory, as the research question was itself exploratory and since limited research has been conducted about the phenomenon and on the context of interest. The case study method was identified as best suited for undertaking this investigation. The case method has been recognised by various scholars as the design that allows for the opportunity to interrogate the phenomenon being investigated from multiple perspectives in terms of the data sources (The Open University, 2016; Yin, 2002). Yin (2002) also commented on this fact - the case study method's ability to handle various forms of evidence to gain insight into the phenomenon being studied. Yin (2002) noted a further advantage of this method. The capacity to study contemporary events without manipulating the pertinent behaviours. Especially if these events are studied through direct observation (excluding participant observation) and interviews. Yin (2011) recommends this approach as especially beneficial in an inductive study; when the topic being studied is not yet understood. He outlined that it provides an opportunity for triangulating to strengthen the validity of one's findings about the particular case. For this study, the interaction of each participant with the organisational environment was treated as a unique case study.

To explore the research through a wider lens and establish common themes and features or differences across the environments, multiple cases were incorporated into the study. Although Yin (2002) suggests that multiple-case studies are suited to 'why' studies, this approach was also incorporated. The study sought to establish the attributes that contribute to developing a lifelong learning orientation and strategies, which are unique within the working environments.

Therefore, multiple case studies were conducted within five organisations that displayed the unusual attributes of learning organisations (Watkin et al., 2004).

No underlying prepositions were explicitly defined in the undertaking of this study. Studies by multiple scholars, of learning as an independent field of study and within the subcategory of ‘learning in the workplace’, have already shown that the environment significantly influences one’s learning experience. In addition, although past experiences (formal learning and informal) also impact one’s attitude and engagement in lifelong learning, as suggested by Illeris and colleagues (2007), this aspect is outside of the boundaries of this study. The study, however, attempted to capture the role that these elements play in one’s lifelong learning journey, to a limited extent. This was done by acknowledging the links that the participants drew from these into their reflections about the journey within the organisation. This was also necessary as the study aimed to also reflect the influence of the social-cultural dimension within the working environment (Illeris, 2004) in shaping the participants’ lifelong learning orientation and the development of lifelong learning strategies.

The interviews and questionnaires were conducted at a fixed point in time. However, to capture how their interactions with the respective organisations impacted the participants’ lifelong learning orientations and strategies – by shaping their learning strategies and perspectives as lifelong learners – certain questions were phrased to capture this emergence and transformation over time.

3.2.1 Unit of analysis

To gain a reasonable understanding of the participants’ learning perspective and their approach to development, as well as their long-term orientation as situations change, within their respective organisational environment, the interaction was taken as the unit of analysis. Based on Kumar’s (2018) interpretation, interaction is the influence that a given set of conditions has on one’s disposition, level of engagement and response - in this instance their lifelong learning orientation. The conditions were those observed within the organisational environments of the participants.

The interaction (case) and the subsequent influence on the participants was interpreted through their expressed experiences, feelings, perspectives and eventual defining of their learning orientation and developed strategies over time, as a result of the interactions with the organisation. The unit of observation was therefore the individual, as well as their interpretation of the organisational environment. Although secondary data about the organisation was also utilised to gain a balanced perspective and manage the subjective interpretation of the environment based on the individual's inherent biases.

3.2.2. *Interpretation criteria*

Illeris' (2004) theoretical model – '*the model for learning in the workplace*' - was utilised as the baseline for interpreting the field observations and analysing the different dimensions of engaging in lifelong learning within the organisational context. It is one of the few theoretical models that potentially capture the holistic learning experience of the employee/learner within the work environment. Through the model, Illeris also acknowledges the need to eventually operationalize the identifiable constructs for practical application and observation. However, no studies were found whereby this model was used to observe the learning experiences of employees outside of the education sector or the African context.

3.3 Sampling

The participants were selected from five South African small-to-medium (SME) organisations. Three participants were targeted per organisation, representing low-skill, semi-skilled and skilled levels within the organisation. In certain instances, this target could not be achieved due to logistics constraints, since the majority of the interviews were conducted online as a result of the Covid-19 protocol. The distribution of cases is summarised in figure 6 below:

Organisation					
Industry	Size	Location	Established	Tech adoption	Level of tech intergation
Artificial Intelligence	Small	Cape Town		AI & Machine Learning	Adoption (2)
Consulting; Mining	Medium	Gauteng		Big data analytics	Entry (1)
Construction; Electrical	Small	Cape Town	1999	Encryption	Adaptation (3)
Coffee	Medium	Cape Town		Digital Trade	Adaptation (3)
Logistics (Comparison)	Large	Gauteng		Stationary robots	Transformation (4)

Figure 6: Organisation selection criteria

The participants were selected from organisations that explicitly identify themselves as learning organisations. Yang, Watkins and Marsick (2004, p. 34) define a learning organisation as “*an organisation that has the capacity to integrate people and structures in order to move toward continuous learning and change.*” This criterion for selecting organisations was used as a boundary condition, with the interaction between the organisation and the individual as the unit of analysis. Since these organisations were already committed to creating learning environments, the extent to which the interaction with these ‘learning’ environments contributed as enablers to lifelong learning strategies and towards developing a lifelong learning orientation was observed. These same organisations from which the participants were selected also identified themselves as committed to building skills from the ground up. They, therefore, did not emphasize academic background in a given field when identifying an individual’s suitability for a specific role. An additional case was included as a comparison; the individual was classified as a professional (has a four-year degree as a minimum qualification) and the large organisation did not identify itself as a learning organisation.

Coyne (1997, p. 628) defines the sampling approach followed in this study as the phenomenal variation of purposeful sampling. That is, the phenomenon under study is targeted priori in order to have representative coverage of variables likely to be important in understanding how diverse factors configure as a whole. In this study, the variation of interest was the observation of the phenomenon across organisations that represented different industries within the South

African economy. The result of this purposeful sampling approach was the emergent representation of industries that make up the largest distribution within the SME sector. In addition, only formal businesses were represented in this research i.e. businesses that are registered and contribute corporate tax to the South African government.

The relevant organisations were discovered through leads from my professional networks. Further research of the suggested organisations was then conducted to verify whether they fulfilled the conditions of the above-mentioned criteria (figure 6). Once the organisation was verified, my peer or network then made an email or in-person introduction to an associate in the organisation. Thereafter, one-on-one briefing sessions with the associate were scheduled.

The level of technology adoption within each organisation was noted, although it did not form part of the criteria for selecting organisations wherein participants in the cases would be obtained. The reason for incorporating this aspect is that technological adoption across industries is perhaps one of the most pressing motivators for developing a lifelong learning orientation among the modern workforce. Although it was beyond the scope of this research, it was worth noting whether the existing technologies within these organisations influenced the identified enablers or inhibitors.

Organisation	Cases				
	<i>Skills Development Progression</i>				
Industry	Participants	<i>Education prior to joining organisation</i>	<i>Prior exposure to similar role</i>	<i>Industry experience prior to organisation</i>	<i>Current level in organisation</i>
Artificial Intelligence	3	No prior certification	None	None	Entry level
		Certification	None	None	Management
		Certification	None	None	Professional
Consulting; Mining	3	University Degree	Limited	None	Professional
		University Degree	None	None	Mid-level
		Certification	None	None	Entry level
Construction; Electrical	4	No prior certification	None	None	Mid-level
		Certification	None	None	Mid-level
		Certification	None	None	Management
		Diploma	None	None	Management
Coffee	2	No prior certification	None	None	Management
		University Degree	Limited	None	Consultant
Logistics (Comparison)	1	University Degree	Limited	None	Management
Total	13				

Figure 7: Participant selection criteria

The selected participants were adults with varying years of work experience – from entry-level to management with multiple years of experience. However, a common factor among the participants was that upon entering the organisation of interest, they had little to no exposure to the roles taken up or to the industry. The participants within each organisation were selected using the purposeful random sampling method. The single comparison case (representing a large organisation) was selected randomly and was therefore an exception. Coyne (1997) defines a sample as purposeful when the researcher selects according to *'the needs of the study'*. That is, the researcher will pick specific samples that fit a predefined criterion in the study. For this study, the purposeful aspect of the selection was limited to the shortlisting of the organisations from which participants would be obtained. Therefore, although the organisations were identified beforehand, the participants were intentionally selected at random. Otherwise, the rich presentation of individuals who have gone through an entire journey of learning within the organisation – from unskilled until their current expert roles - would have been missed. Purposeful random sampling, therefore, combines the benefits of purposeful sampling with those of random sampling to reduce bias in the sample (Elmusharaf et al., 2012; Green et al., 2015; Campbell et al., 2020). The concerns raised by various researchers regarding the use of random sampling were overcome by limiting the random selection to a group of participants within the identified organisations (Coyne, 1997; Campbell et al., 2020). Nevertheless, the minimum requirement that they represent at least one of the predefined categories of skills level was still adhered to.

3.4 Data collection and instruments

A total of 13 participants were included in the study, as summarised in figure 7 above. To reiterate, a case is the interaction of the individual with his/her organisation. For each case/participant, the data was collected in the form of interviews, ranging between one and one-and-half hours. Due to Covid-19 restrictions, all the interviews were conducted virtually. The interview questions were developed to capture the following about the learning and development undertaken within the organisational environment (exhibit 1):

- a) reflective accounts about the progression made;
- b) descriptions of the role that the organisational environment played; and
- c) the interpretation and evolution of the participants' role over time.

For quality assurance purposes, a pilot interview was then conducted (which was not included in the study) to refine the interview protocol.

Since the case study method allows for multiple forms of data collection, the participants were also requested to complete two additional questionnaires. It is worth noting that the questionnaires relied on the participants conducting a self-evaluation of their lifelong learning orientation within the organisational environment. This depended on their interpretation of the interaction with the organisational environment. Their responses may also, to some extent, have been based on their future aspirations regarding their learning engagement and orientation within their organisation. However, their unique biases were not easily discernible from the questionnaires. Unlike interviews which also captured the nuances around the participants' experiences to incorporate inherent biases into their interpretation of the interaction with the organisational environment. Both questionnaires have been validated in previous studies (Kirby et al., 2010; Ranta, 2018; Watkin et al., 2004), as discussed below.

The first questionnaire, *The Lifelong learning questionnaire* which was developed by Knapper, Kirby and colleagues (2010), dealt with the evaluation of the participants' orientations on lifelong learning. This instrument was developed for use in evaluating the lifelong learning orientation, participation and motivations of post-secondary students (Kirby et al., 2010). The instrument is based on fourteen questions (exhibit 1) and the participants' responses are measured on a five-point Likert scale, ranging from 1 (*never/rarely*) to 5 (*always*). Therefore, although it was developed for post-secondary students, its inclusion in this research was to ascertain the extent to which it can capture the orientations of adults in the workplace. This data was used together with that collected from interviews to arrive at the findings regarding the participants' lifelong learning orientation, the enablers and inhibitors that exist within the environment for cultivating this orientation and the relevant strategies. The questions evaluated the dimensions of - 1) goal-setting; 2) the application of appropriate knowledge and skills; 3) engagement in self-direction and self-evaluation; 4) locating required information; and 5) adapt their learning strategies to different conditions (Kirby et al., 2010, p. 294).

The second questionnaire focused on the organisation as a learning environment. This specific instrument was incorporated into the study for two core reasons: a) the study aimed to evaluate

the interaction between the participant and the organisation, and b) the participants were selected from organisations that identified themselves as intentional about creating a learning environment and committed to cultivating a lifelong learning culture. The *Dimensions of the learning organisation questionnaire* (Ranta, 2018; Watkin et al., 2004) was used to evaluate how the individuals perceived the learning orientation in their organisation, and whether they experienced their organisation as an enabling learning environment. This questionnaire has also been used in other studies to evaluate the culture of learning that exists within the organisation as defined by Marsick and Watkins' model (2003). The questionnaire evaluates learning within the organisation beyond the formal approach of courses and classroom training. It seeks to understand how engagement with aspects such as leadership, the systems, and the business and industry community facilitate ongoing learning and development. This research will, however, focus on the interpretation provided by Illeris (2003, 2004, 2007, 2016) that lifelong learning is facilitated through interactions with the organisation. Specifically, "*the interaction is constant, direct or indirect, and the influences received from the environment are socially co-determined through various mediation processes that exist within it and form part of the environment*" (Illeris, 2004, p. 434). However, the feature described by Fischer and Kommers (1999, p. 3) about the organisational environment, that it "*supports learning in the context of realistic, open-ended, ill-defined problems*", is also incorporated. Therefore, these problems that are ambiguous and realistic provide an opportunity for the development of metacognitive strategies. These strategies are in turn transferable and necessary for ongoing/lifelong learning beyond the organisation in question. In addition, if an organisation intentionally facilitates learning in such contexts, it is assumed that it is also intentional about creating enablers towards the development of lifelong learners within its organisation. The seven dimensions that were evaluated through the questionnaire, as defined by Watkin and his colleagues (2004) include:

- Dimension 1: Continuous learning, refers to the organisation's effort to create continuous learning opportunities for all its members.
- Dimension 2: Inquiry and dialogue, which is the organisation's effort in creating a culture of questioning, feedback, and experimentation.
- Dimension 3: Team learning, reflects the spirit of collaboration and the collaborative skills that undergird the effective use of teams.

- Dimension 4: Empowerment, signifies an organisation's process to create and share a collective vision and solicit feedback from its members about the gap between the current status and the new vision.
- Dimension 5: Embedded system, indicates efforts to establish systems to capture and share learning.
- Dimension 6: System connection reflects the global thinking and actions to connect the organisation to its internal and external environment.
- Dimension 7: Strategic leadership shows the extent to which leaders think strategically about how to use learning to create change and to move the organisation in new directions and new markets.

When these sources of data were considered jointly, the elements regarding the individual and those related to the organisation which either play an enabling or inhibiting role towards the development of a lifelong learning orientation could be established.

3.5 Data analysis

Several elements were taken into consideration when evaluating the type of interaction as well as the consequences of that interaction, from a learning enabler and inhibitor perspective. The first step was to separate the attributes related to the participant from those pertaining to the organisation. This step began alongside the data collection in order to get familiar with the data. It should also be noted that the coding and analysis were quite iterative rather than linear. The original data was then coded in three levels. The first-order codes were developed using a combination of deductive (predefined codes) and inductive coding (the ground-up approach, emergent codes) (Crossley & Jensen, 2020). Therefore, a hybrid approach was utilised and this was undertaken in two stages. The first stage was whereby coding was done deductively, followed by a second stage in which the entire transcript was reviewed for emergent codes.

The codes developed using the deductive approach were firstly based on the attributes of organisational learning and lifelong learners as described in the questionnaires (Crossley & Jensen, 2020; Strauss, 1987). Additional codes were then developed based on key concepts relating to these topics which are discussed in the literature. These first-order codes also aimed to capture these as depicted in the participants' own language. In certain instances, this required an initial analysis to understand their word selection and therefore capture the associated

emotions or nuanced description of events. An example of such an instance is whereby a participant used learning and development interchangeably. An illustration of the deductive coding process is outlined below (Strauss, 1987):

- The original quote was: *“And, I mean literally whenever I create something...before I put whatever it is out, I always have a meeting like essentially with everyone so that everyone can give me their input. On (um) “I don’t like that”, “can you change this” “this maybe you should”, you know. So, that also builds in terms of being able to receive feedback and criticism for your work. And also, it also builds, I don’t know, personal skills I guess in a way. Which is a big part.”*
- The following codes were developed from the above quote. These were developed based on attributes about the learning organisation that are discussed in the *Dimensions of the learning organisation questionnaire* (Ranta, 2018; Watkin et al., 2004)) mentioned in the previous section:
‘Organisation has a culture of giving honest feedback’; ‘Learning through group/team discussions’; ‘Learning to trust and rely on teammates.
- In this example, no emergent codes were identified.
- This specific list of codes was then either added to the class with organisational or individual (participant) attributes, from which second-order codes were created.

The inductive approach, whereby codes were created from emergent concepts and constructs that have not been prevalent in previous research discussions, was incorporated to not restrict or limit the findings. Also, this study was primarily based on an inductive research design. The deductive element, therefore, served as a starting point in the analysis process. It was also an opportunity to identify the extent to which the findings from previous research were relevant to this study. In this first stage of coding, a combination of three types of approaches was utilised: process coding, values coding and open coding (Crossley & Jensen, 2020). Within process coding, in which action-based codes were developed, occurrences and actions were captured. Values coding, on the other hand, captured the participant’s worldviews – values, attitudes and beliefs.

These first-order codes were then interpreted into second-order codes, to capture processes, dimensions, patterns and causalities. Before this step, the codes were organised into two classes,

the individual level and the organisational level. The aim of this was to separate attributes related to the individual, such as personal values, preferences and experiences, from those of the organisational level which spoke to aspects concerning the environment.

On the individual level, the following categories were identified before identifying themes (Yin, 2011): *'previous experience'*; *'preferred learning approach'*; *'identity within environment'*; *'consequence of interaction'*; *'response towards environment'*.

On the organisational level, this resulted in the identification of the following categories from which the themes were obtained (Yin, 2002): *'type of environment'*; *'how learning is happening'*. The *'type of environment'* referred to how the participant experienced it – such as whether they considered it safe, supported learning or the extent to which it valued and promoted teamwork. Secondly, the lifelong learning engagement, captured as *'how learning is happening'*, was interpreted through the engagements that the organisation decided to create socially and via systems and processes. The response towards the organisational environment captured the type of interaction the participant had as a result, and whether they were responsive to how the learning was happening within that specific organisational environment.

Other data, which was collected in the form of questionnaires and secondary research - (news, feature) articles, social media posts and the company website - was used to strengthen the findings obtained from the interviews. The participant's responses to the questionnaires were used to identify potential contradictions or confirmations about the interactions described in the interviews. Since the initial codes were also based on the themes tackled in the questionnaires, this made it easier to either verify potential contradictions or strengthen the findings from the interviews. The secondary data, on the other hand, focused on the organisation and their professed identity as a learning organisation. This was again compared with the type of interactions described by the participant within their respective organisations.

One of the observations made from the analysis process was that for the codes to accurately capture the participants' perspectives, their emotional expressions needed to be interpreted alongside the associated events. Otherwise, there is a risk that they are translated out of context. This was especially critical when dealing with categories such as:

- *'response towards environment'* whereby the participant's choice of adjectives and adverbs was used to describe the interaction with the organisation, and
- *'preferred learning approach'* refers to adverbs that the participants used to describe the type of action learning they preferred to engage in, such as *"I want to see someone do it before I do it and theory. I believe in theory, visual description and then I do it."* Therefore, in this example, expressions such as *"I want to"* and *"I believe in"* were treated as indicators of preferences.
- *'self-identity within environment'* in which the participant described their experience within the environment in relation to their personal values; how they associate themselves within the organisation from a social perspective; their perceived role within the organisation, as well as current and future goals in relation to their role within the organisation.

For *'type of environment'*, a similar analysis of the individual's interpretation of their identity within the organisation was utilised. The level of compatibility based on the individual's and organisational identity could then be extrapolated.

The *'how learning is happening'* category specifically focused on practice and the actions involved as the participants interacted with their respective environments. These together with the participant's interpretations of these experiences were used to also eventually extrapolate potential shifts in their learning orientation, as well as the development of lifelong learning strategies as a result. These were therefore action-based codes related to the development within the environment (Crossley & Jensen, 2020).

The majority of the above-mentioned categories captured the instantaneous aspects of the participant's interaction with the organisation. The *'previous experience'* and *'consequence of interaction'* categories, however, differed slightly. They captured accounts of experiences before and after joining the current organisation, and aimed to briefly capture the cross-sectional elements of the participants' journeys. The intention was to provide a snapshot of the transformation that had occurred, if any, in the participant's learning orientation as a result of their interaction with the organisation.

The attributes relating to the interaction with the organisation which the participant described as having incited participation towards the shaping of their lifelong learning orientation and the development of learning strategies were identified as enhancers. Those that triggered negative or repellent attitudes towards learning within the organisation were identified as inhibitors. The themes associated with the overall interactions were also extracted from the categories developed in second-order coding.

3.6 Trustworthiness of the data

The quality standards and limitations of the study are summarised below.

A semi-structured interview approach was followed for this research. In this way, the interviewee's responses could not be confined to the interviewer's biases and assumptions about the phenomenon being researched. This approach was also chosen to limit leading questions during interviews. The interview questions are included in exhibit 1.

To improve the research credibility, the following were taken into consideration: a) researcher error and bias throughout the research process, and b) participant error and bias, which may have occurred during the data collection process as a result of various factors (Korstjens & Moser, 2018). The selected research design is, therefore, an additional attempt to minimise the impacts of these on the research outcome and improve credibility. To effectively manage researcher bias, extensive reflection was done by the researcher throughout the research journey. This was achieved by keeping detailed field notes and journaling the emergent thoughts, emotions and opinions at each stage of the research process. These were then consulted regularly, especially during the analysis and discussion stages to uncover and manage the extent to which they impacted the researcher's interpretation of the data and findings (Stenfors et al., 2020).

The research focused on aspects linked with the interaction between the individual and the organisational environment, and the role of the latter in shaping lifelong orientations and the development of lifelong learning strategies. Several studies which have sought to capture a holistic view of understanding the dimensions involved as individuals evolve into lifelong learners have iterated the impact of social, cultural and prior educational background on one's

learning orientation (Walters, 2006). However, these were beyond the scope of this study, although they were acknowledged. The study, therefore, did not place any emphasis on cultural and family background, and the considerations of how these factors have influenced the participant's learning orientation and strategies. Also, although educational background was acknowledged, since knowledge and experience before joining the current organisation was an important aspect to answering the research question, this dimension was not explored in-depth.

The participants were obtained from diverse industries and had diverse backgrounds. However, this was still limited in terms of representing the phenomenon across a wide range of contexts. Since the study focused on individual experiences within each organisational environment, similarities and differences, as well as contrasts were observed even amongst participants in the same organisation. The findings were therefore limited in their ability to make generalised assumptions about adult learning experiences, even on an organisational level. Even more so, considering that organisational entities also have unique identities which are a consequence of multiple attributes regarding it – such as vision, size, target market, compounded experiences etc. (Moser & Korstjens, 2018). In an attempt to further improve transferability, up to three participants were chosen per organisation, although this number was not achieved with all the organisations incorporated in the study. Also, considerations had to be made about how organisational contexts vary in their culture and dynamics, thus causing a variation in the individual and collective experiences within an organisation and across different organisations (Moser & Korstjens, 2018).

Nevertheless, the above considerations regarding the organisation's unique identity and the individual interactions do not imply that certain outcomes from this study cannot be transferred to other contexts or settings. Especially similar organisations in the South African or African context, and possibly other developing nations (Moser & Korstjens, 2018).

The aspect of confirmability was addressed through the use of quotes and detailed context descriptions in the findings section. In this way, the reader could effectively test out whether the findings are indeed observable through the data (Stenfors et al., 2020).

3.7 Ethics considerations

The key considerations that were made for this study included obtaining consent from the participants before the data collection process, undertaken in the form of interviews and questionnaires. These consents were of importance as private information of the participants, such as educational background and their role/s within the organisation, was also collected and had to be handled with the utmost confidentiality. Full disclosure about the intentions of the research was also made to the participants before commencing with the collection of primary data. The informed consent was obtained via a consent letter (appendix 4), which also contained a disclosure about the research.

The names of the participants were anonymised during the analysis process in order to thoroughly conceal their identity. The data presentation was also anonymised and information regarding the identity of participants was not shared externally, unless permission was obtained from the participants. The data was stored in a secure database, on an encrypted device. The backup of the data was also stored on a personal device that is encrypted. Since the research did not focus on the entity itself but the individual within the organisation, no consent was required from organisations. Information about the organisations linked with the participants was instead sourced from secondary publications – including news and feature articles, company social media posts and company websites. Because no consent had been obtained, the names of the organisations were also anonymised in order to protect their brand and reputation.

A potential ethical concern existed around the interview discussions being revealed or shared back, whether intentionally or unintentionally, to the participants' colleagues and superiors and this posed a risk to their employment/economic well-being. To minimise this risk, the information obtained from the interviews and questionnaires was treated with the strictest confidentiality and the anonymity of each participant was maintained.

4. Findings

The findings primarily focus on the development of lifelong learning strategies and the features of the organisational environments presented in this research which acted as either enablers or inhibitors to this development. For this research, these lifelong learning strategies (LLS) are analysed in connection with the eventual shift of the individual's lifelong learning orientation and the development of metacognitive strategies, which are also necessary for enduring self-directedness as a lifelong learner. As will be seen below, these strategies diverge from the institutional learning approaches traditionally applied by organisations or institutions; the approaches are based on a one-size fits all model of learning. Especially, if the individuals learning within an organisation are also expected to eventually evolve into self-directed lifelong learners.

Below, the term 'lifelong learning strategies' is used differently from 'learning strategies'. 'Lifelong learning strategies' refers to the learning strategies (the combination of practical, cognitive and reflective) applied in order to engage in lifelong learning. Basic 'learning strategies' refer to the basic cognitive approaches of learning which are not necessarily intended for sustained (lifelong) learning, but for information retainment on a short-term basis. Metacognitive strategies, on the other hand, refer to the reflective application of various strategies as the individual learns in the organisational environment that he or she interacts with.

In order to capture a multi-dimensional view of the enabling and inhibiting factors towards the development of the participants' lifelong learning orientation (LLO) and strategies within their respective organisations, the following were taken into consideration (figure 8):

- a. the individual's learning journey in the current organisation,
- b. the practical approaches (as observed through day-to-day work activities) used within the organisational environment,

To limit the scope of this research, the previous experiences of the participants were not analysed independently, but alongside the analysis of the interactions with their current organisational environments. To give an indication of the origin of the quotes presented within the breakdown of each theme, the cases (participants in each organisation) have been labelled as Case A-J.

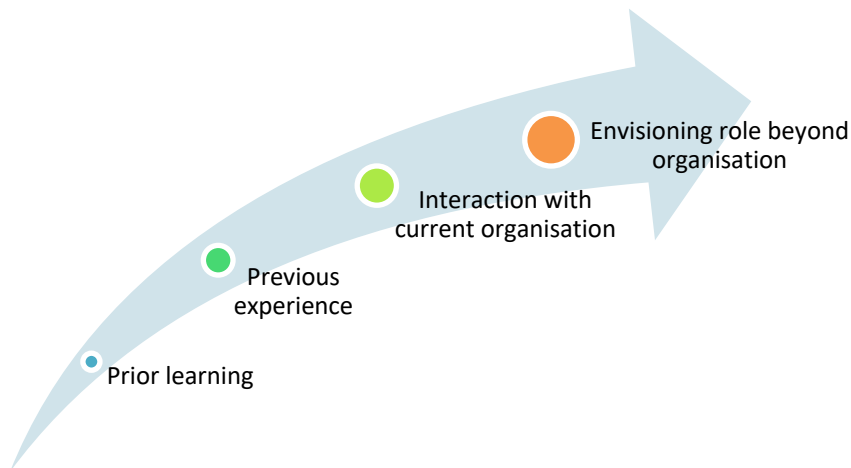


Figure 8: Learning journey before and within the organisational environment

The themes identified from the findings include:

- a. *Loosely defined roles* – referring to roles not being confined to tasks and fixed aspects of the business;
- b. *Learning embedding within ill-defined business challenges* – whereby learning occurred through the solving of vaguely-defined challenges and no perfect solution existed;
- c. *Wide exposure across the organisation* – this speaks to individuals being given the autonomy to participate and become exposed to different parts of the business. This was done regardless of whether that aspect of the organisation impacted the individual’s roles or not; and
- d. *Unlearning and connecting existing strategies with current interactions* - this aspect points to habits and attitudes that individuals had to unlearn for them to fully embrace the development of lifelong learning strategies and orientation.

An in-depth presentation of the findings and individual themes is made below. The framework that was developed revealed the individual, team and organisation dimensions as pivotal to facilitating the development of lifelong learning strategies and orientations. Key features were identified within each dimension that acted as strong enablers to this process. The findings are therefore structured around two elements - a description of the context and then a framework which highlights the individual, team and organisational dimensions pivotal to facilitating the development of lifelong learning. Sections 4.1 – 4.4 outline the main themes, followed a description of the framework in section 4.5.

4.1 Loosely defined roles

One of the observations regarding SME businesses in this study was that roles were often undefined or otherwise loosely defined. This often resulted in the environment offering exposure to diverse work experience. Contrary to large organisations which tend to function around legacy systems and structures that have been developed over time resulting in rigidly defined work roles and responsibilities, the SME environment is often at early stages in terms of systems development. Regarding the organisations incorporated in this study, the culture of being intentional about linking one's work to the core vision existed and was a common feature across them. But this intentionality was not yet captured in the form of low-level systems and processes. Therefore, in most instances, the definitions of main business activities and the associated roles were rather vague.

That said, it should be noted that these organisational environments were not at the same stage in terms of business process and systems development. Depending on the tenure of the business and maturing of its core product, some organisational environments had already managed to standardise their main activities and core business focus. These organisational environments were observed to have better-defined learning objectives and development incentives when compared to those that were still at the exploratory stages in terms of their core business focus and activities. Still, the standardisation of business activities was not translated into narrow definitions of roles. Individuals maintained the autonomy to take on different roles in the business. It was also observed that all the organizations incorporated in this study were not prescriptive about tasks or defining activities that one should undertake to fulfil the responsibilities within their role. In this way, the participants described that they were able to creatively solve problems and, in the process, discover innovative learning strategies or gain practice in freshly discovered strategies.

In the example below, the participant officially held two roles, operations and marketing manager. However, since the business was undergoing an expansion, she regularly took up different roles and also participated in various industry collaborations, as part of the core team. This organisational environment was an example of those that were fairly advanced in terms of defining the business. Nevertheless, it was still in the exploratory stage in terms of focusing its core activities. The participant noted the diverse skills gained as a result of the interaction with

the various parts of the organisational environment. She further described that this interaction resulted in her developing diverse learning strategies such as those related to running live experiments, asking questions, and research approaches.

“...you don’t specialise in one thing. Because you’re constantly doing seven things and you’re a little bit involved in a lot of areas in the business.” _Case F

The above scenario points to another prevalent attribute among these organizations, which was the intentionality and steadfast commitment to developing skills from the ground-up. That means they were committed to imparting knowledge and skills from a foundational level. In fact, loosely defining roles further supported this commitment. It translated into an openness to hire or appoint individuals that had no prior experience in the intended role, and sometimes even the industry that the organisation operated. These organisational environments instead incorporated a range of strategies to help the individuals develop their competence. As much as the process itself tended to be very open-ended, incorporating both formal and informal dimensions, it was still bounded within the scope of the business needs and focus.

The participant below, from the electrical company, had no experience in the industry or the role when she joined the organisation. She had to learn all the skills relevant to the role from scratch, and through this learning journey, she was exposed to various new learning strategies. In addition, she had the autonomy to spend time exploring different roles, as a strategy to help her become familiar with the industry terms and the different segments of the business.

“I didn’t come from a construction background. My background was mostly in social work. So, when I came there were a lot of terms and terminology that I had to learn. And also, computer programs like excel. I knew a little bit of it when I was working, but when I can here, we do our tenders on excel.” _Case F

Another example is whereby a participant described how she was given the opportunity to become a facilitator in the organisation’s coffee academy, without any experience. She described how this transition, from being a student in the same academy to being the facilitator, stretched her. Following the transition, she recognised other learning opportunities that were

available within her organisational environment and started experimenting and adopting various learning strategies.

“So, that was a massive, massive, massive learning for me when I was asked to teach the courses. It also showed me how much I didn’t know. Something I learned quickly was, if you can’t explain something simply you don’t understand it. So, back then I had to do a lot of research, I had great resources around in terms of people who’d worked in the industry a lot longer than me. I had great access to information just by going to someone and going like, “hey, what is the answer to this? Somebody asked me this? What is this?” And the other thing was keeping a notebook of all the questions that students ever asked me and I didn’t have the answer to. And then going back post-course and researching.” _Case D

It is also worth noting that because these businesses were start-ups by nature, their focus and business objectives evolved regularly, in response to market and industry needs. Consequently, the learning objectives for their teams also evolve regularly. Unlike large organisations which tend to respond at a slower rate to industry and market shifts, due to their highly structured and ‘well-established’ systems and processes, SMEs tend to be more agile. This aspect filtered into the roles and responsibilities of the participants. The participants therefore also described their roles as often undefined, and in certain instances tended to also evolve regularly.

In the example below, the participant’s role was rather open-ended. He described that he was able to define his role as he goes, as long as it related to the technology aspect of the business. This example illustrates the extent to which the environment allowed him autonomy in how he fulfilled responsibilities connected to his role. He also described that his role constantly evolved, as the business grew and incorporated new activities.

“I’m a technical operations specialist. So that’s basically all things tech. So, coming up with or figuring out new innovations and what we can kind of implement in terms of tools and software, also helping with updates and software maintenance.” _Case H

The participant below was again given the opportunity to take on a role with prior experience that was unrelated to his role or industry. Although he was officially a ‘labeler’, his role was

loosely defined. He had the opportunity to assist in different aspects of the business, which helped to improve his grasp of the industry and related concepts.

“So, I started at the bottom with this company. I started as what we call a labeller. So, within my organisation, I knew nothing about this field as well. ... They didn't mind that I had come from a business in marketing. I mean that's what I'm qualified to do, you know. And then all of a sudden here I am at an AI data labelling and transcriptions and translations company from a lighting company also. Like they don't mix. So, but so I started off by doing what you call labelling.”_Case I

The above participant also joined the current organisation without prior exposure to a similar role or the industry. His previous experience included waitressing, waitressing staff manager and a marketing role in a lighting company. He had learned about the entry-level opportunities offered by the AI company (his current organisation), with no previous experience required, through one of their branding campaigns on a social media platform. He landed the entry-level role as a labeller and was also given the opportunity to learn and develop, and in less than one year he was promoted to the current role of project manager (see illustration in appendix 7). Although his certificate in marketing complemented his previous roles and also served him well as a project manager in the current organisation, he describes the steep learning curve that he had to undergo as the transition into an AI business meant an exposure to unfamiliar concepts.



Figure 9: Summary of key attributes of the organisations

The illustration (figure 9) above additionally summarises the key terms used by the participants to describe their roles within organisations in this study. Some of these also give insight into the activities through which the participants engaged with their respective organisational environments. As can be seen, ‘uncertainty’ which is associated with loosely defined roles stands out. This is expected, as the loosely defined roles meant the participants often navigated unfamiliar settings without definitive guidelines or instructions. However, terms like ‘accountability’, ‘autonomy’, ‘excellence’ and ‘opportunities’ are also prevalent, and these speak to growth as a result of this type of immersion. These interactions in turn resulted in either shifting their overall lifelong learning orientation or enhancing their lifelong learning strategies. The articulation and extensive awareness of the possibilities for entrepreneurial ventures, and about the industry expressed by several participants was another confirmation of the progression made within their respective environments.

All in all, the participants described loosely defined roles as a strong enabler to developing lifelong learning strategies and to shifting their orientation. As they interacted with various parts of the organisation, they were regularly introduced to new concepts. This exposure further led to them encountering and being exposed to various strategies for learning these new concepts. Several of the participants recalled instances in which they began to utilise these strategies, particularly as they dealt with unfamiliar business challenges.

4.2 Learning embedded within ill-defined business challenges

Loosely defined roles allowed for various forms of learning to be embedded in everyday work activities and through the tackling of ill-defined business challenges. As such, the participants expressed that the lifelong learning strategies developed in such settings transcended ‘learning for the sake of learning’. It permitted them the opportunity to instantaneously apply the learned strategies. In this way, they could verify their ability to effectively deploy them and test the effectiveness of a specific strategy in a given setting. Although the organisational environments provided both formal and informal learning opportunities, informal approaches in the form of on-the-job learning and development were observed to dominate. The ill-defined business challenges were then embedded in these, such as in the next example.

This individual was offered the opportunity to oversee the finance department following the resignation of a colleague. Some of the duties that he had to fulfil included ensuring that funds were released to the relevant departments as allocated in the budget and that the labellers were paid on time. Since detailed procedures did not exist for this role, making it an ill-defined business challenge, he had to independently figure out the process by enacting various strategies. He navigated this ill-defined challenge independently in the sense that he was not being micro-managed, although he interacted with his colleagues throughout.

“Well, besides getting access to the sheets and whatnot, just learning, like I said, their rates, because different labellers get different rates and things like that, to be able to calculate the hours and incorporate things like that. I had to learn how to make bank transactions online. For me, this was something that was totally new...so I had to learn how to be private, with things like that, and confidential... I also had to learn a lot of timing because I realised that obviously the guys here will get paid at month end and mid-month. So, it has to be on that day.”

_Case I

“Literally going through lots and lots and lots of documents and cross-checking, that's what I would call it, cross-checking the labellers. You know. I would sometimes ask them, "hey man. So that money that you got last month, were you okay with it, was it fair? What do you think?" And then sometimes they'll tell you like, "yes, it's what I normally get", you know, sometimes they will say "no, I think you guys made a mistake". And then obviously that's when I know, okay, I'm supposed to look into this and that. So yeah, I had to learn a lot from scratch. Other things also, obviously, because there's also other project managers within the company. So, they also know how to do their side of things for their projects. So, I would also ask them, "Hey, how do you guys do payroll?" For example, "where you guys get this in that?" _Case I

The above example illustrates multiple strategies that the individual employed in order to figure out and resolve issues within this unfamiliar role. Some of the strategies highlighted included researching past documents, getting feedback and suggestions from the labellers, consulting with peers in similar roles within the business, as well as learning how to use unfamiliar platforms. But what is also worth noting are the soft skills and role nuances that the participant alludes to. Navigating challenges of privacy and confidentiality while soliciting feedback from

colleagues, being delicate when addressing the topic and being sensitive about the timing of transactions. These latter attributes could not be learnt by simply consulting theory. He may have also been exposed to some of these by consulting a clearly defined procedure, but the process would not have been as rigorous.

In addition, these occurrences of learning taking place alongside the tackling of ill-defined business challenges linked to one's role were a common factor among all the participants. Although the manner in which this learning occurred varied within each organisational environment. Participants also relayed that this approach helped to fast-track the development and transfer of skills relevant to the situations they were immersed in. It was further noted that the participants persistently referred to experiences of 'being thrown in the deep-end' as most representative of situations where learning embedded in ill-defined business challenges transpired. In fact, some of the examples below clearly illustrate this observation. These scenarios were also fairly common among the participants and they recounted them as having produced the richest learning experiences. Especially in terms of developing lifelong learning strategies and shifting their lifelong learning orientations. One participant actually described such an experience as having also spring boarded her career. Whereas prior to this she was regarded in her organisational environment as too novice to make a significant impact within both the profession of safety officer and the rail industry.

In one instance whereby the type of work done within the organisational environment combined theory with practice, the individuals were encouraged to conduct extensive research to resolve ill-defined business challenges. The process took various forms, but it was often initiated at the type of learning that the individual was inclined to or naturally gravitated towards before cascading onto other strategies. In the next example, the individual needed to learn how to locate relevant information in order to first understand the context of the challenge at hand before devising strategies to tackle it. She had taken over the coffee academy, again with no prior experience, and had to figure out how to increase subscriptions to the courses and also improve the experience. Therefore, this represented an ill-defined business challenge, because firstly she had no prior experience and secondly there had been no successor to help her answer unresolved questions.

“...that was the most challenging for me because firstly I didn’t know anything about barista training. I didn’t know anything other than the things that I had read in the operating manuals when I joined the business. I knew nothing about that. So, learning firstly for myself what customers want. Secondly, what can we supply them with? Where can I find a match between that and then train up the staff...From a marketing perspective, make it a fantastic experience so that people talk about it. I mean this thing had countless angles that we had to work it from. At the same time, I’d noticed online that a lot of other businesses started offering the same courses we were offering.” _Case D

The above individual had to enact several lifelong learning strategies to better understand the organisational environment in this context, and the challenge. Following this, she trialled several solutions over time and consulted with colleagues. This was another instance whereby the business environment embedded the learning of several strategies into the solving of an ill-defined business challenge.

One specific organisational environment sometimes preferred to introduce individuals to ill-defined business challenges in stages of increasing intensity. Especially when they had no prior experience in the role or the industry. The different types of learning strategies were then embedded in each of these stages. Such an instance was described by the same participant who worked in a training academy.

“that’s part of your practical as a junior, baseline - you make coffee well, right! And then your theory, you have separate sections there for the theory assessment. A theory assessment on alternative brews, so take things like your plunges, filters....” _Case D

She was first exposed to a simulated work environment in a controlled space, whereby the predefined learning objectives could be observed. Following this, she had to shadow another barista and then had the opportunity to handle a shift independently. This was a strategy used by this organisational environment to instead first prepare individuals for tackling business-related challenges without the added pressure of dealing with the associated ambiguity. This was therefore an example of a deviation from the approach of embedding learning in ill-defined business challenges. As illustrated in the two scenarios above, this specific organisation applied

different approaches to embedding learning depending on the competence level of the individual. This approach was unique to this organisational environment.

Ultimately, this approach of embedding learning within ill-defined business challenges was observed among all the organisational environments represented in this study. Whether it was preferred or not, the participants acknowledged it as most effective towards shifting their learning orientation and developing lifelong learning strategies, especially in the form of being “*thrown in the deep end*”. Such settings provided the participants with the opportunity to actively harness strategies so they not only become agile in their learning and development capabilities, but also develop sound lifelong learning strategies.

4.3 Wide exposure across the organisation

Exposure to all parts of the business was another common and important feature among the different organisational environments represented in this study. This exposure included engagement with customers and external collaborators, the development of processes, and the solving of pressing industry-wide challenges.

Engagement with the overall industry and external stakeholders seemed to play a key role in exposing the participants to new perspectives, trend shifts (industry and career), as well as the adoption of emergent technologies within the industry. Especially considering that the participants had limited to no prior exposure to similar contexts to those of their current organisations. These engagements with external partners were beneficial for them to discover trends, gain exposure to opportunities and develop networks within the organisational environment. A variety of approaches were utilised by the organisational environments to navigate the different collaborative settings. A majority of these observed approaches were depicted by the participants as closely connected to the regular business processes and activities, rather than being once-off occurrences.

These ranged from forums to innovation partnerships to community initiatives, depending on the effort that the organisational environment was willing to devote to developing relationships with other industry stakeholders. The assorted approaches that were uncovered through which

these organisational environments collaborated, in order to expose their teams to the wider industry community, are summarised in the table below.

Environment – Company x	Industry Innovation Forums	Community projects	Solution partnerships	External Projects
Coffee Wholesale	<p>"2019's world barista champ, like her set, the topic was on the carbohydrates in coffee, you know... So, you can get pretty nerdy with all this coffee stuff which is really great."</p> <p>"We collaborated to bring the first coffee festival, international coffee festival to South Africa and we worked with other artisan coffee roasters to build an African coffee experience."</p>		<p>"we worked with a design agency who had no experience in coffee to do a rebrand for a coffee brand."</p>	<p>"in terms of collaborating on a project with people outside the industry it's almost them...I was with them for about two years while working with Origin. So, it's a pretty big chunk of time."</p> <p>"I had to find cup suppliers. So, I worked with...I think I had about 18 different cup suppliers and I'd met with them and seen their products."</p>
AI – data labelling	<p>"We did a hackathon with them. So they are actually doing what I would be doing if I walked the path of data analyst, data sciences."</p>			
Rail Manufacturing			<p>"But those are spaces for sector professionals to collaborate. And what impact that will do is, you you can put pressure on government to legislate certain things that you see as problematic in industry."</p>	<p>"It was a collaboration because I had to work with facility manager, that parastatal owned company but I was putting the training material together and organising the training"</p>
Electric Services		<p>"...if we talk about collaboration it's not really with a particular organization but it's with other, I would say micro businesses in terms of developing them. So, it's lots of different little hubs."</p>		
Mining Consulting			<p>"I was tasked with updating the company website. I collaborated with a graphic designer to learn the process. I also had to translate the business vision for the site to him while he added the creative elements"</p>	

Figure 10: Collaborative approaches used by the different organisational environments

The participants conveyed several outcomes linked to the development of lifelong learning strategies, as a result of these interactions with the wider organisational environment. One example was whereby the participant expressed that a collaborative experience actually helped to expose gaps in her ability to identify and articulate certain business needs.

"I think I'm a lot more direct in what I need. I'm able to more confidently ask for help, and put up my hand when I need to." _ Case B

The above participant identified that she often withheld her ideas and struggled to assert herself when dealing with external stakeholders. However, following a collaborative project she realised that the time and resources lost in that project were preventable, had she been assertive about the deliverables. This example illustrates an instance whereby the exposure resulted in the participant learning the habit of reflection and honest identification about her limitations.

Another example whereby the collaboration with an external stakeholder also triggered reflection and evaluation about one's progress of the strategies already developed is shown below. This participant was also able to discover new approaches to tackling challenges.

“It was nice to see how other people come up with or approach problems or the problems that we had. I also discovered that I'm actually better at some things than I thought I was.”_Case H

In yet another instance, the participant consulted an external stakeholder for suggestions about a project. This example below also illustrated the potential for wide exposure to fast-track one’s development process. In this instance, the participant had been in the role for a few months and was asked to tackle a project requiring skills that were outside of her area of expertise. Although she had a marketing qualification, she was asked to develop the organisation’s website.

“As an expert in the field, he actually showed me issues about my approach that would have taken me months to identify. He also suggested tools that I could use to test my solutions.”_Case A

Participants who, as a result of far-reaching collaborations with other sector stakeholders – including engagements with customers and competitors – were most conscious of the new-found opportunities. They described envisioning or pursuing potential business ventures beyond their current organisation and career opportunities beyond their immediate roles. The participants expressed how these opportunities were discovered as a result of the exposure gained within their respective organisational environments, especially considering their novice status when they joined. Here are examples of participants who identified potential ventures and opportunities beyond their current organisational environments. The same participants had joined their organisational environments as novices.

“It's one of those that... there aren't that many companies in South Africa doing data labelling and classification or doing it right. Or even thinking about doing it? So, it's a nice day to kind of jump into and maybe start a business.”_Case H

“I have actually learnt quite a few things that I feel like I could use for my own little project on the side.”_Case A

“I've got a company where I do like safety training. And I make like safety files for people and that sort of thing.”_Case L

However, not all of the organisations were particularly keen or open to working with external partners, which acted as a barrier to the shift in lifelong learning orientations and development

of strategies. One specific organisation seemed most reluctant to collaborate and instead was sceptical about external contractors sharing similar standards of excellence and integrity towards clients. In fact, this negative sentiment was expressed by more than one of the participants from the same organisation. Their preferred form of collaboration was instead through corporate-social investment (CSI) projects with micro-businesses in the local community, rather than business-related ones.

“Working with sub-contractors is not what we like to do. Even having subcontractors work for us is not something that we like to do... So, our experience with subcontractors is like it’s not our favourite thing to do, but if the job does require it you do.”_Case G

“So, we don’t generally collaborate with other companies, simply because we’ve got our own style of working and not everybody understands that.”_Case F

The perceived impact of this specific organisational environment acting in isolation to the participant’s learning journey was mainly a lack of awareness about industry shifts and emergent trends. An example of this notable downside was also observed internally. Due to the organisational environment’s non-collaborative approach, the opportunities and benefits of the various innovative solutions which had been adopted across the overall business were only perceptible to the leaders. The participants who instead held administrative-related positions gave the impression of being solely aware of technology innovations which impacted their immediate roles - such as payroll software if the individual dealt with financial accounts. Nevertheless, since the business already dealt with diverse clients within the sector, as they handled a wide range of government-linked projects across at least four provinces, this in itself was observed as an alternative opportunity through which the participants were able to engage with the industry community for the sake of building networks. However, this exposure and awareness of the industry was observed to be limited to the type of clients they dealt with, namely government-related trends.

Another example of an organisational environment, which to some extent confined itself to its immediate context, was the organisation which operated in rail manufacturing. Since it was a medium-sized organisation, its collaborative initiatives were limited to other business units but it seldom engaged with partners outside of the organisation. Considering the diverse

stakeholders that participate in rail-related projects – the government, commuters, environmentalists, and communities, to name a few – numerous opportunities were perceived to exist for collaborations which had the potential to further accelerate the participants' exposure to and knowledge of the industry. A similar observation was, however, made to that previously discussed, whereby the participant had limited awareness of industry shifts and trends. In this instance, because the participant's role was focused on employees within the organisation, she had minimal opportunities to engage with the industry community that existed beyond her organisation. Unlike the participants in the previous organisation, who at times interacted with clients during projects.

“Outside our industry, outside of rail? Collaborated? Never. I mean, I know. Okay, so this is what happened, we almost collaborated, but it wasn't quite a collaboration.” _Case L

Considering the beneficial role that external engagements through diverse collaborations played in fast-tracking the development of other participants, this was seen as a missed opportunity for those organisational environments which primarily operated in silos.

Overall, a majority of the organisations incorporated in this study conducted their business on a project-by-project basis. This, therefore, regularly presented opportunities for the participants to engage with multiple stakeholders connected to the business and gain further insight into the industries at large. As a result, several participants expressed an increased awareness of the emergent career prospects since joining their respective organisations and developing new skills. Some progressively developed to the extent of being regarded as experts within the organisation and the industry, such that they were eventually headhunted for projects and collaborations outside of their respective organisations.

In contrast, the participants within the organisations who preferred to conduct their business in isolation seemed to have less defined future goals beyond their immediate roles. Another potential contributor, which differentiated the latter from the former organisations, was the absence of pre-defined expectations and development goals. This was one of the key factors that participants in the former organisational environments – organisations that embraced collaborations with industry stakeholders – brought up which had challenged them to start

envisioning potential growth trajectories. Therefore, wide exposure was identified as an enabler, while isolation within an organisational environment was an inhibitor to the development of lifelong learning strategies and the shifting of one's lifelong learning orientation.

4.4 Unlearning and connecting existing strategies with current interactions

Another important theme emerged as the participants reflected on the progression in their journeys to developing lifelong learning orientations and strategies. They realised the unlearning of their inhibiting behaviours and mind-sets which gradually occurred as they interacted with their current organisational environments. The participants actually emphasized inhibiting behaviours and habits which had been developed in previous organisational environments. This unlearning however relied on these participants embracing the enabling aspects of their current organisational environments which were intended to develop them as lifelong learners. Especially those that triggered or directly challenged these inhibiting behaviours and mind-sets. In addition, certain participants relayed needing to build the capacity to connect the learning strategies they had already mastered when they joined their current organisational environments to relevant settings during the interaction. That is, learning to identify how learning strategies that had already been mastered in previous organisational environments could be applied in a given context within the current organisational environment.

The prior learning journey and the associated experiences of the participants were observed to have direct and indirect impacts on how the participant interacted with the current organisation as they navigated the development towards being lifelong learners. Nevertheless, the common thread across all participants was still, as mentioned, the absence of prior experience within a similar industry or role to that which they hold in the current organisation. There were, however, two exceptions to this observation – although both can still be regarded as entry-level when compared to the learning curve encountered within the current organisation.

In instances whereby participants relayed negative experiences in their previous organisational environments, a process of unlearning had to occur once they joined the new organisational environment. Specifically, their current organisational environments embraced and were

intentional about developing learning orientations and strategies, which at times were hindered by the defensive responses as a result of previous conditioning.

An in-depth analysis of the encounters in preceding organisational environments revealed two main outcomes regarding the contribution of previous organisational environments in preparing the participant for the type of interaction experienced within the current organisation. The participants either described the previous organisational environment as negative and stifling to the development of any lifelong learning traits. Otherwise, the previous organisational environment was described as positive. In these instances, the traits and strategies that were developed in the previous organisational environment proved valuable as the participant interacted with their current organisational environment.

The first group of organisational environments were portrayed by the participants as hostile and treated team members as tools and not partners to the business. This resulted in the participants having a limited ability and independence to grow through discovery. The emphasis of these negative emotions regarding this type of interaction was captured through the use of expressions such as “unmotivated”, “unsafe”, “avoidance”, “unaccountable”, “incompetent”, “poor work ethic” and “disconnected”. On the contrary, these same participants captured the engagement with their current organisational environment as firstly resulting in a newfound liberty to creatively explore and innovate within one’s role and organisation. They subsequently portrayed their current organisational environments as safe. The participants also felt supported in their learning journeys and personal goals, while also experiencing a culture of open and honest communication. The interaction with the current organisation, therefore, resulted in the participants going through a process of unlearning certain defensive traits which they had developed in their previous organisational environments. These traits otherwise acted as barriers to their ability to engage in the development of lifelong learning strategies.

The participants remarked about how adverse experiences typically hindered their ability to actively participate in the development towards becoming lifelong learners. For instance, one of the participants compared her level of engagement to her development between the previous and current organisation. She felt supported and presented with several enabling factors in her current organisational environment. She, therefore, had to unlearn several mental models that

sabotaged her ability to develop and retain lifelong learning strategies, such as the incapability to set goals. Therefore, in her case, this unlearning involved the substitution of negative mental models for those which supported the sustained development of lifelong learning strategies. That process portrayed the shifting of her lifelong learning orientation.

“So, then suddenly I think I had...once you’re in university you’ve got nobody kind of checking in on you. Nobody to make sure you do things, your submissions, ... I didn’t know about all this. I wasn’t super passionate about what I was studying on the film side. I loved the gender stuff, but I was just a heavy procrastinator and couldn’t get my butt into gear within that space. So, I don’t know if it was just an environmental thing that didn’t work. I don’t know if it was a little bit of self-sabotage stuff involved there. I don’t really know. I just know that it didn’t work for me at all. And the way that I learned in terms of actual work ethic stuff was not working. So, it was like “cool, in order to retain this job, you need to show up at a certain time.” And then working for a company like mine there’s a list that is expected of you in terms of your own development, your learnings and all of those things. And I think that’s where I really tried. I think it’s a dual thing of finding the thing where your passion lies, which is really difficult.”_Case D

Before joining the current organisation, the above participant had enrolled on an undergraduate program at a local university. After spending three years at this academic institution, and changing her courses multiple times, she eventually dropped out and took up waitressing work. She then came across her current organisation, during a barista training course. Although she described the theory learning aspect in the varsity environment as enjoyable, she referred to the overall experience as un motivating. Various examples of unlearning were observed in her portrayal of this experience. One of these was the self-declared inability to take accountability for her own learning and the eventual development of lifelong learning strategies associated with the learning journey. Interestingly, the initial attempt at taking accountability for her development journey was after dropping out. This was followed by her taking up a string of waitressing jobs while she considered her next steps. She explained the initial exposure to the current organisation through a course and the eventual effort to land an internship as the first instance whereby she took initiative towards her own development.

She recounted the elements within her current organisational environment that enabled the shift in her lifelong learning orientation. For her, finding the subject that she was passionate about was not enough to improve her engagement and motivation within the previous organisational environment. In addition, the lack of stimulation resulted in poor work ethic and self-sabotage. The interaction with the current organisational environment within the coffee company helped to facilitate her discovery of the type of learning approaches which stimulated her. These included elements such as well-defined growth expectations and the rewards associated with the observed growth. Previously she was unresponsive as the organisational environment took a passive stance and had the propensity to transfer sole responsibility to the individual under development. Instead, within the current organisation she discovered that she engaged best in her learning and development when the environment partnered with her in the journey and actively held her accountable towards achieving the defined objectives.

Another participant described a similar experience whereby the previous organisational environment was hostile; mistakes were not tolerated and often resulted in the team being reprimanded publicly.

“It was not a safe environment and nobody was safe. Whether you are a temporary employee, even though yes, they did treat us differently from the permanent ones” _Case A

In the current organisation, the above participant was instead encouraged to experiment and explore various solutions to an assigned business challenge. In order to embrace the supportive approach within her current organisational environment, she had to unlearn the defensive and suspicious responses that she had developed. Again, her lifelong learning orientation had to undergo a shift. Similar to the other participants, she was a novice in the industry and role. She had transitioned from the education sector into an organisation that primarily functioned in the mining industry. The current organisation instead gave her the opportunity to learn the relevant skills from scratch without responding harshly whenever she made mistakes. One of the approaches that her current organisational environment applied extensively to impart lifelong learning strategies was giving feedback. The quote below gives an indication of her current stance towards this approach.

“I definitely feel like my current role does allow me to do that. In terms of learning new skills, getting feedback from other people... I had to learn to ask for help. So, that also builds in terms of being able to receive feedback and criticism for your work. And also, it builds ... personal skills I guess in a way. Which is a big part.”_Case A

This participant even referred to occasions when they had to unlearn equally hostile attitudes towards her team members, as well as the approaches associated with doing the bare minimum within her role. It entailed her learning to trust her leaders and team members, and developing attributes such as the vulnerability to ask for help and even receiving coaching from other team members.

The above group of participants however admitted that this process of unlearning was not instantaneous. Instead, although they were constantly developing new strategies as they interacted with the current organisational environments, they also had to commit to maintaining a level of vulnerability about their progress. In fact, this vulnerability played the biggest role in shifting their lifelong learning orientations.

Very few participants described the interactions with their previous organisational environments with a positive tone and as enabling. In these instances, the interaction with the current organisational environment triggered the ability to not necessarily unlearn, but actively connect the previously developed strategies to current settings and transfer learnings from those previous organisational environments to the current. This small group of participants expressed how the interaction with their current organisational environment helped them develop the ability to therefore enact existing strategies. In an example representing this scenario, the participant below recounted his previous experiences as a somewhat preparatory period for the learning that they had undergone in the current organisation. He had learned certain strategies but had not yet recognised their value as lifelong learning strategies. In his case, the strategy developed was the ability to identify and transfer the learnings from his previous organisational environments into his current. One instance was where he had to enact competencies linked to his previous marketing experience to facilitate effective engagements with clients about projects.

“I mean, I studied Business Management and Marketing... So, who would have thought, you know, that all of that experience and skills will actually come in one day?” _Case B

As a result of similar interactions, he gradually developed the ability to identify and transfer learnings from one context to another. He identified his roles as a waiter and waitressing staff manager as key in developing his people and communication skills. These experiences also served as a primer for his eventual role as a project manager in the current organisation. He further regarded his previous experience at a lighting company, which he also entered without prior exposure to the industry, as pivotal to developing the persistence required to learn skills from the ground up. This proficiency became critical in the current organisation where he again had to learn about the AI industry and the skills required within his initial role as a labeller from scratch. In fact, before joining the organisation he recalled that had never heard of data labelling or the type of work that labellers did or even how it fitted into the AI supply chain. This prior knowledge and the skills associated further became a core part of his role once he was promoted to the project manager. His responsibilities then also involved coaching and training new labellers, as well as identifying and grooming future project managers. In addition, the communication and people skills that he had developed prior to joining the organisation proved instrumental to his role as a project manager, which required him to liaise with clients and also lead the in-house team throughout the project duration. He, however, acknowledged that although he had already developed some of these metacognitive strategies described, the intentional approach taken to developing these within teams in his current organisational environment triggered a new-found awareness of them. He also developed the ability to identify and activate the relevant strategies based on the context. That is, the proficiency to recognise which of the metacognitive skills learned in previous organisational environments became increasingly invaluable as he also navigated various challenges within his role.

Other participants similarly acknowledged that this reflective ability was enhanced within their current organisational environments, as it encouraged and intentionality facilitated the development of lifelong learning strategies. Especially, for the aim of identifying the most suitable strategy or combination of strategies to use when confronted with unfamiliar challenges within one's role. Most acknowledged their lack of engagement and awareness of existing

lifelong learning strategies. They were therefore unable to transfer these into their current organisational environments.

Even those participants that had positive experiences with their previous environments still identified major gaps regarding how the interaction limited their awareness and intentionality to developing lifelong learning strategies. For example, the participants described the prior interactions as designed to prioritise short-term or immediate outputs. This in turn suppressed the potential for interactions to shift one's lifelong learning orientation and stifled the development of lifelong learning strategies.

"I would say it started earlier on but I didn't really sort of hone my skills until I was at this organisation ...And I think that's one of the advantages of being in a small business. You're not just there to do one job, um. You can be an extra set of hands anywhere in the business." _Case E

The diverse exposure provided an opportunity for her to identify and track her progression of the development of relevant lifelong learning strategies depending on the context. She also identified this type of interaction as a unique attribute to small organisations.

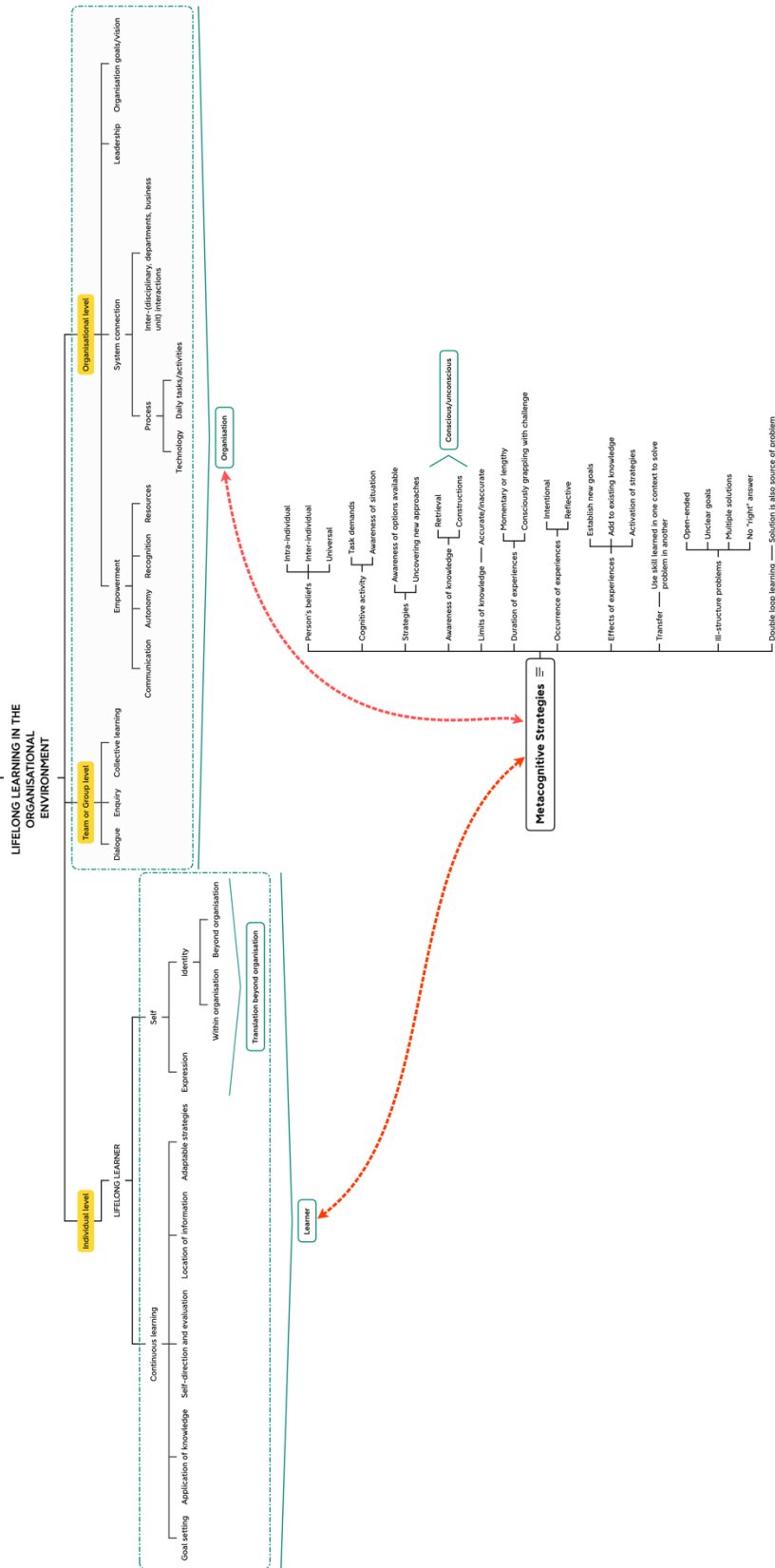
All in all, to further develop lifelong learning strategies, the participants first needed to unlearn inhibiting behaviours and mental models developed in their previous organisational environments. This ties in with being open to allow the interaction with the organisational environment to shift one's lifelong learning orientation. They also had to acquire the ability to connect existing lifelong learning strategies and effectively transfer relevant learnings into the new organisational environments. The enablers to these processes in their current organisational environments included being given the opportunity to make mistakes and becoming receptive to honest feedback, as well as being placed in unfamiliar situations that subsequently triggered reflection about one's progress in the lifelong learning journey. But perhaps the most important enabler was the organisational environments' demonstrated commitment to developing lifelong learning strategies.

4.5 Development of the framework

The findings converge towards three levels to the learning journey – the individual, the team engagement, and the organisation (environment) and its related systems. It subsequently illustrates the metacognitive strategies developed within the respective organisational environments as a result of the interactions. Before proceeding into a breakdown of this framework, a recap of the definitions of key terms will be provided.

A lifelong learning orientation refers to the individual's perceptions and attitudes about lifelong learning, while lifelong learning strategies point to the learning strategies (the combination of cognitive and reflective) applied in order to engage in lifelong learning. Metacognitive strategies point to the reflective application of various strategies as the individual learns in the organisational environment that he or she interacts with.

"What are the potential enablers and barriers to cultivating self-directed lifelong learning in the organisation? - a South African case study"



Presented with xmind

Figure 11: Framework for developing a lifelong learning orientation and strategies in the organisational environment

4.5.1 *Individual level*

The first dimension, the individual level, extends beyond the cognitive to incorporate the introspective aspect and extends to the unearthing of one's self-identity. Two dimensions were identified within this level, *continuous learning* and *self-identity*. The *continuous learning* dimension refers to the active and sustained learning engagement of the participants within the organisational environment. The *self-identity* dimension points to the evolution of the individual's identity as their orientation and strategies develop.

Alongside the attributes tied to metacognitive (reflective) awareness identified through *continuous learning*, the findings revealed an additional layer of attributes. These relate to the transformation of the individual's identity, the *self-identity*. Together, the dimensions of *continuous learning* and *self-identity* were observed to more comprehensively capture the individual level of the lifelong-learning construct, as observed through the participants' experiences. These have been incorporated into the framework as illustrated in (figure 11).

Triggering engagement in Continuous learning

The first dimension is linked with metacognitive awareness i.e. the reflective engagement within one's learning journey. The *continuous learning* dimension reflects the extent to which they mindfully selected and applied approaches to direct their own development journeys. This type of engagement is captured through five attributes – *goal setting*, *application of knowledge*, *evaluation*, *location of information* and *adaptable strategies*. The first attribute, *goal setting* was observed through the participants identifying and planning their learning journeys. At times this expanded to participants taking the initiative of identifying opportunities to incorporate these plans within their day-to-day job. The second attribute, *application of knowledge*, refers to a demonstration of the ability to apply the learned knowledge to address a real business challenge. This was consistently observed as the participants were plunged into situations where they were expected to solve ill-defined problems, and consequently apply the theoretical knowledge learned through approaches such as asking questions, research and conversations with colleagues. The third attribute, *evaluation*, speaks to the observed ability of the participants to consistently assess their own competence and skill levels. This was done within their immediate roles, as well as the growth required to achieve their future aspirations.

The fourth attribute, *location of information*, played a critical role in the participants' ability to build information and linked closely with the *application of knowledge*. The participants had to initially go through the process of locating information, such as through conversations with colleagues or research, and also filter or assess for relevance to apply it accurately. The fifth attribute, *adaptable strategies*, is the layer wherein participants applied metacognitive strategies to reflectively observe their learning process in the organisational environment or the challenge at hand, and adjust to the most relevant learning strategy. In one instance this meant that the participant had to switch from asking questions and theorising to building a prototype, in order to gain exposure to a new dimension relating to the problem. Another participant switched from a simulated setting to shadowing a colleague to gain experience in applying the theoretical concepts, especially after recognising that she learnt best through practice. All of these are discussed further within the themes identified above.

Beyond the practical aspects linked with the development of skills, the organisational environments triggered reflection about one's journey – such as the identification of skills gaps and development needs, the discovery of self and readiness to unlearn habits that hindered growth. In all instances, the commonality among the participants was an enhanced awareness of the non-linear development path undertaken within their respective organisations which triggered the reflectiveness about their learning and development. The illustrations below outlined the different levels of overarching emotional response – the feeling of uncertainty and discomfort expressed by the participants as a result of their decision to pursue non-linear paths.

“...but it was very, it was complicated, because you're just starting something, but you're not aware of what you're doing. You feel like you're doing it right, but you don't understand what the aim of what you're doing is.”

“I also found that I faced a lot of bias in terms of “do you actually know what you're doing, working in this industry?”

“My background was mostly social work. So, when I came there were a lot of terms and terminology that I had to...to learn.”

freedom to communicate and illustrate their individuality within the organisational environment. The *differentiation* attribute speaks to the core values held by the individual, as well as how they perceive their role and unique contributions within the organisational environment, and beyond it. From the participants' experiences, these attributes were intertwined, such that it was difficult and rare to observe the one without the other.

An overarching expression across the participants in linking their organisational experience with their individual journeys, leading up to their openness to engage from a learning perspective, was a sense of being allowed to discover self. This unearthing included the uncovering of untapped talents, the discovery of preferred learning approaches, as well as their unique identity within the organisation, specifically how their unique ambitions and values fit into the organisational vision and identity. Although the different levels of discovery happened at multi-dimensional levels of the interaction, the organisational environment was pivotal in terms of facilitating this journey. The expressed sense of identity also varied and depended on whether the participant had a positive or negative response to the organisational environment. In fact, the aspects of the organisation linked to their role which incited positive responses were often those linked to an ability to express one's self – invoking any or all the above-mentioned attributes related to *self-identity*. The individuals that had developed a sense of ownership within their role and felt able to creatively express themselves through their role were observed to feel the most empowered to develop within the organisation. These were noticeable through their indications of having developed the ability to express themselves, their unique talents and values within the role, which consequently increased their sense of self-awareness.

One participant described how she previously had no sense of accountability for her own development and learning prior to joining her current organisation and referred to her former attitude as predominantly lazy.

“And look, I loved all those other things that I studied, it just didn't work for me. So, I've always...I enjoy learning, I just don't know if it was the environment. I don't know if it was just a combination of like I said of not really having a work ethic in terms of academics and just that particular environment just didn't work for me.”

This is the same participant who had attended varsity where she went through various majors before eventually dropping out. Upon her interaction with the current organisation, she developed the ability to push herself beyond her predefined limits of doing the bare minimum. The organisation expected her to excel in all the critical aspects of her training in order to grow career-wise within the organisation, and an improvement in her compensation. In addition, because the organisation had a culture of excellence, this expectation developed into one of her personal values. The opportunity to discover new ways of working and learning, and being held accountable for her development within this organisational environment not only shaped her interaction with it. It resulted in her transformation from someone with a poor work ethic to identifying excellence as one of her core values. She further described that the interaction with this specific organisational environment facilitated a newfound passion for coffee as a commodity, and for solving industry challenges.

Although the above-mentioned participant was unique in terms of her prior attitude to work which was dominated by a lack of motivation, the openness of the organisational environment to allow individuals to explore and uniquely shape how they achieve their goals within their role was observed amongst a majority of the participants. The participants repeatedly described their organisational environments as willing to embrace unique expression within one's role, and open to negotiating opportunities for one to even pursue projects or ventures of personal interest.

The above-mentioned participant relayed a season in her career whereby an opportunity with another startup business opened up. Since she had grown in her company to the extent of being regarded as an expert within the coffee industry and community that her organisation operated in, the startup proposed that she assist them to establish their business from the ground up. She recounted this venture to be of personal importance as the business was female-owned. She had begun to notice that not many such businesses existed within the industry. In retrospect, she initially experienced a level of resistance from her organisation about pursuing the opportunity during her off days. However, seeing that it was of personal importance, her leaders were willing to negotiate her splitting her time between the two businesses. This is an example of an organisation beginning to acknowledge and embrace its team members' personal values, consequently allowing them the autonomy to pursue ventures beyond their immediate roles.

A participant from the same organisation mentioned an instance where she was given the opportunity to run a project. Although it had the potential to reduce operating costs for the business, it was predominantly an initiative of personal interest to her. She intended to replace disposable coffee cups used in their restaurant with a sustainable alternative – which was produced through an environmentally friendly process and was also reusable. Her leaders agreed that the company bears the costs associated with her researching and possibly implementing those alternatives in future.

“This was a passion project for me in the business and it didn’t work out (um) and it’s something that’s still a passion of mine today. And it happened purely by accident...But I failed because everyone was still using the sups, and everyone in Cape Town was still using the cups and using the water when we didn’t have water.”

Although she described the project as ultimately unsuccessful, the flexibility of the company in allowing her to take the risk of pursuing a novel idea and support the learning associated with that process was remarkable.

Another participant, from a mid-sized organisation in the rail manufacturing industry, described her organisational environment as open for her to explore studies in areas that may be regarded as unrelated to her role.

“I’m in health and safety, the company would have never paid for me to study anthropology, they’ll be like, how are they too connected?”

In this instance, the organisation would receive no direct benefit from her pursuing the selected qualification. Although she recognised its connection to her role as it deals predominantly with people and learning to navigate and influence their behavioural patterns. When she pivoted into this industry a few months before the project began, she’d also only had a year as a health and safety officer which was now the profession that she functioned in the current organisation.

The above examples illustrate a rare quality that was observed about these specific organisations. Their unique ability to display trust in their teams by allowing them to build connections in the form of not just industry networks and collaborations, but also through ventures not explicitly related to their immediate role, as they explore their passions. Even when this meant pursuing opportunities unrelated to the organisation.

An interesting observation made across the different participants was that the desire to connect with the organisational environment through the *expression* of self, in terms of the basic needs that bolster engagement, also varied with each individual. The majority of participants revealed variations of the desire to pursue ventures of personal importance, or demonstrate preferred learning approaches such as the autonomy to experiment when solving challenges, as well as a level of autonomy in how business goals are achieved within one's role.

As such, in instances whereby the individual's values and needs differed from those encountered within their work organisational environment, tension was observed in certain aspects of the individual's interaction with the organisation. With these individuals, there was a perceived sense of having placed a limit on the extent that they committed themselves to the organisation. The clashes that those participants described included retaliation for attending to company needs outside of official work hours, as one participant explained.

"...a lot of the time the job we do is pretty routine. It's mostly the same... And from the tenders' point of view also, a lot of the stuff is routine. So, it doesn't really change that much. If something does change, we take it as it is. But, a lot of the time everything is basically the same. It's a different set of words but it's basically the same... A lot of the time we put work before our families. A lot of the time. But, you know, at the end of the day, your family is the one that needs you. You need to be there."

He found his work as a project administrator in the electrical service company repetitive and mostly composed of routine tasks, which made it predictable. According to him, although the company handled diverse projects, their ideal clientele domain was fixed – the government sector. However, because he prioritised time with family over an unpredictable work schedule, this suggests that he preferred this structure and did not appreciate the unexpected challenges

that sometimes arose and disturbed his rhythm. It is worth noting that this individual had however also entered this organisation and the role without prior industry exposure or relevant skills for the role. So, when he joined the organisation less than five years ago, he was initially willing to endure the unpredictability that came with learning and developing in an unfamiliar setting. He was in fact an outlier as he had a limited appreciation for being thrust into new situations and settings, and the exposure to diverse roles within the business. In contrast, other participants rather appreciated the upward learning trajectory associated with being exposed to unfamiliar circumstances. Ironically, one of the leaders in the same organisation described the environment as not having defined roles. Therefore, it was generally characterised by a lack of routine and non-repeatability in terms of one's role and responsibilities. A colleague of his, who had been in the organisation for more than a decade, also described the environment as ever-changing. So, a clash of values seemed to exist between him and the organisation in this regard.

Another prevalent characteristic amongst the participants about their organisational environments was the openness to pursue a non-linear journey concerning their learning and development. This refers to the observed attribute to start over and develop skills from the ground up in a new and unfamiliar organisational environment. Considering that the participants either had limited or no exposure to the type of work they took on within the organisation and to the industry, joining the current organisational environment meant starting from the foundational stage. However, this openness varied depending on the level at which each participant was willing to embrace the discomfort and uncertainty that was associated with learning from the ground up. It is worth noting that this process of learning and developing skills from the ground up was further observed to also be accompanied by the lack of repeatability within one's role. This was identified as one of the main challenges among some of the participants who expressed frustration and uneasiness with the uncertainties linked with the journey.

On the contrary, those participants who had expressed the ability to identify themselves within their role seemed to develop a deeper allegiance to the organisation. One way that this was observed was through their expressed willingness to partner with the organisation as it navigated the numerous challenges that were brought on by the pandemic.

In fact, as already mentioned earlier, those participants that expressed a connection also found great value in the opportunity to gain exposure to diverse experiences within the organisational environment. Considering their non-linear journey, such varying exposure allowed them to explore different roles and consequently identify those which resonated and best aligned with their personal goals. Below are some examples of this observation:

“I finally found something that worked really well for me and that I really enjoyed. And then I just think you find that it is a lot easier to give to it however much you’re willing to give it.”

“And I think I’ve come to love the process in the whole period of doing that because I sometimes looked at how by putting certain things in place, we can be more efficient and that’s worked for us.”

“And that also creates a relationship, almost like a bonding relationship between, you know, people in the office and things like that. And I love that.”

“...that was by far the most enriching experience for me. That was what really pushed boundaries for me, as a person and as a leader.”

“I like that because I feel like you can’t just be focusing on “no, this is how I do things”. You can’t just get stuck in one way of learning.”

“The reason being because you know, our work is more IT related and I really enjoy doing it compared to when I was doing nursing.”

“And for me as well as a person I mean, that’s who I am. I enjoy teaching and being sympathetic with people.”

The dimensions of *continuous learning* and *self-identity* were therefore recognised as important enablers for the shaping of lifelong learning orientations and subsequent development of lifelong learning strategies. However, as noticed above, the attributes related to these dimensions existed to varying degrees in the different organisational environments.

4.5.2 Team Level

Team interactions were identified to be another important differentiator among the organisational environments wherein the participants reported exponential growth in their lifelong learning strategies. This level is in fact a dimension of the organisational dimension. However, seeing that it played such a pivotal role in shaping and developing lifelong learning orientations and strategies, it will be discussed separately. It speaks to the various formal and informal (work-related) group interactions, which the participants identified to form a key part of the interaction with their respective organisational environments. As already discussed earlier, this level of interaction played a major role in causing the individual to question, discover, develop and in shaping, not just their metacognitive strategies, but also their core values, and in turn, those shared with the organisation. As mentioned at the individual level, this latter aspect further played an extensive role in the shaping of their identity within and beyond the organisational environment.

The main attributes that were identified to dominate the defining of team engagements include – *dialogue*, *enquiry*, and *collective learning*. The first attribute, *dialogue*, refers to discussions and discourse that take place in a team or group setting regarding concepts and ideas. *Enquiry* relates to the process of questioning, interrogating and investigating these concepts and ideas as a team or group. Unlike the individual approach, this offers the opportunity to test and incorporate diverse perspectives, as a result of diverse life experiences and worldviews. The third – *collective learning* – refers to the learning as a team, which essentially depends on the first two attributes. This includes, but is not limited to, activities such as knowledge sharing, shadowing and peer-to-peer coaching. All these are contingent on the individuals within the team or group being open to vulnerably sharing their experiences as well as their limitations within a given context with their team mates. All of these attributes were observed, to some degree, in the recollections of team or group interactions recounted by the participants below.

Beyond the encounter of ill-defined problems and being thrown into the deep-end (both discussed in the themes illustrated earlier), a key element evoked by the participants was firstly identifying opportunities to learn from experts or knowledgeable individuals within the organisation.

The participants recounted gradually learning to ask for help from team mates, following a period of first developing trust within their respective organisational environment. Considering that other participants relayed their previous organisational environments as unsafe, while others had had positive interactions, the organisation needed to provide safe environments for this to occur. Similarly, establishing healthy relationships within their current environments required different levels of unlearning and vulnerability by the participants.

Environment – Company x	Mentorship	Consulting subject-matter experts	Asking/answering questions	Peer-to-peer coaching
Coffee Wholesale	<p>“And then massively intimidating to have almost like your mentor in the industry, cause this is the same guy who trained me come back and like watching me share information”</p> <p>“Some people needed to shadow me. Others didn’t. Others preferred to do it on their own, so allowing people the freedom to choose.”</p>	<p>“I had great access to information just by going to someone and going like, “hey, what is the answer to this? Somebody asked me this? What is this?”</p>	<p>And the other thing was keeping a notebook of all the questions that students ever asked me and I didn’t have the answer to...And then going back post-course and researching and looking”</p>	<p>“They were like, “okay, just come and shadow some of the trainers at the times classes...see how it goes. And then if it doesn’t work then it doesn’t work”.</p> <p>“And they were either brought into training in the academy and were taught how to train others to improve their own skills or ...it was one-on-one, on the floor on a busy day.”</p>
AI – data labelling	<p>“I sort of groomed him to know more of I what I do, ... And today, he’s also one of the managers that, that assists me here at the hub as well on a daily basis, my 2IC...”</p>	<p>“going through that and like looking at people’s work that are a bit more senior to me and discovering that I was actually doing most of the things that they were doing.”</p>		<p>“If someone at least has a clue of what the problem is, then they can point you to the solution if they don’t have it themselves or a clearer solution.”</p>
Rail Manufacturing				
Electric Services	<p>“The COO does lots of feedback sessions with the staff. I think recently she started this new thing of, where they get to evaluate us.”</p>		<p>“...once somebody asks you, you know the right questions you able to almost kind of break it up into segments and look at it for what it is. ”</p>	<p>“Everyone is open to...to learning new things. Everyone is open to teaching new things...he will sit there and he will show you and he will have all the patience in the world to teach you.. ”</p>
Mining Consulting	<p>“I always have a meeting like essentially with everyone so that everyone can give me their input.”</p>	<p>“When I started with the upgrade of the website I got an opportunity to work with a web designer...”</p>	<p>“ If I’m not sure, I am able to ask other team members input and ideas;</p>	<p>“I didn’t know how to do all that stuff. There’s even been instances when I’ve actually now been able to show people at the office that “no, there’s a simpler way of doing it.”.</p>

Figure 13: Team-oriented development in the different organisational environments

One participant, in a mining consulting firm, expressed having evolved from a state of paranoia as a result of her previous organisational environment to being able to ask and receive feedback from her team mates about progress. Another had come from an organisational environment that promoted favouritism into one that instead treated individuals with mutual recognition of each team member’s unique strengths and appreciated their value. The latter organisational environment also embraced co-creation in driving the company vision forward, and was therefore in the habit of soliciting ideas from team members regardless of role or tenure. In yet another instance, a participant recalled that in-fighting had been the norm in her previous organisational environment, whereas the current environment promoted peer-to-peer coaching and mutual respect.

However, it is worth mentioning that in certain instances the team approach within the organisational environment was not ideal for all participants. Instead, certain participants seemed inclined to work in isolation or unaided, which at times presented a clash with the internal culture. Therefore, learning to work in a team demanded major unlearning and embracing the associated discomfort. This was also observed from their responses, in which certain participants hardly mentioned encounters with their peers. From figure 13, the most noticeable was the participant within the rail manufacturing environment. This organisational environment seemed to instead transfer total accountability for the development to the individual. However, this observation was, to some extent, inconclusive as the participant's intrinsic learning strategy happened to be textbook learning prior to the application rather than consultation. This strategy in itself places emphasis on the individual learning approach.

On the contrary, other organisational environments seemed to uphold team or group learning as a core strategy of the working process. As such, participants in these organisational environments expressed deep connectedness with team mates and peers which had developed over time, as a result of these engagements. These engagements happened in the form of discussions with knowledgeable individuals, shadowing of experts, peer-to-peer mentorship and coaching sessions.

Overall, varying degrees of team or group interactions were identifiable across multiple scenarios of the interactions. Particularly in the undertaking of collaborative projects in and beyond the organisation, and as the participants underwent exposure across diverse roles in their respective organisational environments. In fact, the two examples of collaborations and diverse exposure, already discussed earlier, could hardly occur without a group approach to problem-solving or innovation or a level of mentorship and coaching. Especially if the development and transfer of lifelong learning strategies were to occur at similar rates to that observed within the organisations incorporated in this study.

4.5.3 Organisational level

As already mentioned previously, this study focused on the organisation as the environment interacting with the participant was of interest. It is worth recognising that organisations are in fact lived-out expressions of the values and experiences (shared or unshared) of the individuals

organising. Accordingly, the interaction between the individual and the organisational environment is identified as key to how the participants' orientation and engagement as lifelong learners through their roles. The organisational environment, wherein the learning and development took place, was captured through two main lenses. Through the lived experiences of the participant and as expressed by the organisation in secondary sources. This was therefore also an opportunity to test whether the self-declared identity as learning organisations was indeed observed through the lived experiences of the participants within their respective environments.

This level, which is subsequently an expansion of the team level, aims to capture the interaction with the overall organisational environment. However, the organisational level links to the overall organisational identity. The key attributes which were identified within this level include *leadership*, *goals/vision congruence*, *empowerment* and *system connectedness*. The *leadership* dimension relates to the attributes of the leadership teams that portrayed an openness to create and preserve an organisational environment that fosters the development described above by the participants. The *goals/vision congruence* dimension conveys the extent to which the goals/visions of the organisation were in harmony with those of the individual. The *empowerment* dimension relates to the organisational environment's ability to foster open communication, autonomy, recognition for outstanding performance and the provision of the relevant resources to succeed within one's role. The dimension of *system connectedness* was observed through cross (disciplinary, departmental, business unit) interactions within the organisation, and reflects the level of connectedness that exists among these.

As much as all dimensions represent different features of the organisation, they are interlinked and collectively define the overall organisational environment with which the individual interacts.

Leadership

The leaders of an organisation play a pivotal role in shaping the culture and ecosystem which dictates the learning and development habits practised within the given environment. In fact, the participants consistently admitted to the key role that their organisational leaders played during their development journeys within the environments. This at times happened in the form

of being open to negotiating and tailoring the role, especially as the given participant progressively pursued projects that reflected their personal values and linked to their life goals.

Not all of the business leaders of the organisations from which participants were obtained could be interviewed. However, those that participated in the study displayed similarly unique qualities and approaches to shaping their organisations into environments that are conducive for developing lifelong learning strategies and for shifting their teams' lifelong learning orientations. The key characteristics of those leaders that did not participate in the study were also gathered through the accounts and reflections of the participants. Accordingly, another attribute that was apparent about the leaders within the organisations incorporated in this study was the observed intentionality and intensity with which they approached their own development into lifelong learners. They appeared to have developed an intuitive awareness that in order to guide their teams towards developing lifelong learning strategies and lead them into becoming lifelong learners, they themselves had to be on the same journey.

One business leader shared her journey of building the company from the ground up. This consistently required her to discover new learning strategies and immerse herself in unfamiliar situations that allowed her to learn, test and implement new ideas for growing the business.

“And there’s learning at every stage. When we started up, when we went through the slump in 2008, when we started the new cable fault detection business.”

“Now we’re doing a new project where they want a performance guarantee, we’ve never really used that before. So, now I need to find out what it is, what information they require, what do they need to put together.”

These leaders identified every phase in the growth of the business as a learning opportunity and experience that they could draw on when they encountered similar challenges later.

“And I think, again, it enables business owners to have that confidence to take the next step. To tackle that new project when they’ve got something to fall back on in terms of “okay, I do have a bit of knowledge about this (um) and I also know where to go and what kind of information to look for in order for me to do...to offer what I need to offer.”

They displayed the vulnerability to learn from their teams.

“I looked at this guy from the Eastern Cape, not much education (um) not well versed, not very affluent. I’m talking about what I could see. And I thought to myself “but this guy, he’s got a point.” And that was the turning point.”

“I learnt a lot more about the business from people I didn’t expect to learn from.”

Furthermore, it was observed that their own agility to continually develop diverse lifelong learning strategies and skills from the ground up made them open to also giving their teams the opportunity to undertake similar journeys.

“And then we took three people off the street and we trained them to operate that equipment. So, now they’re working permanently with us.”

“And what we realised was that that was the best way to do it – was to find people with the right attitude and then teach them.”

The above examples illustrate several metacognitive strategies applied by these leaders in their journey of building and growing their businesses. These attributes of leadership are observed to be strong enablers towards the development of lifelong learning strategies within their teams.

Goals or vision congruence

This dimension also emerged as key to fostering the learning environment. Specifically, the extent to which they aligned with those of the participants. To a large extent, this also links to the expressed values of leaders within the organisation. Although there were exceptions in this aspect, these leaders cared about aligning the individual’s development journey with their personal aspirations.

“So, we thought rather than looking for these people that had a passion for coffee, let’s rather find people that have a passion. Whether it’s a passion for customer experience or whatever that may be, find the passion and then teach them about coffee.”

One of the organisational environments which was the exception in this aspect seemed concerned with individuals’ readiness to fit into any role that the organisation needed them to.

“...we don’t have a job description here; you basically need to learn all aspects then you maybe end up doing a particular aspect but you still need to be versatile.”

As much as this approach provided opportunities for exposure to diverse roles, which was in itself an enabler, the reluctance of the leaders to negotiate with their team was identified as inhibiting.

Empowerment

Another dimension through which the organisational level is reflected is ***empowerment***. The organisational environments represented in this study applied different strategies to empower their teams during the development of lifelong learning strategies. The participants unanimously expressed having received support in the form of being given space to practice autonomy within their roles, as well as experiencing a culture of open communication. These specific empowerment strategies served as important enablers in invoking the participants’ engagement in the development of lifelong learning strategies and in shifting their orientations. The participants relayed that the freedom to openly communicate failures was especially important as they gradually developed their capacity to exercise this autonomy in their respective organisational environments.

Furthermore, this display of honest communication within the organisational environments encouraged the participants to embrace an openness to constructive feedback and to interpret the receipt of rewards as an indication of real progress instead of flattery. One of the approaches that such feedback on one’s progress was communicated was through clearly defined learning goals and work project outcomes. An example was the use of practice exams and formal assessments in the coffee company. This approach had the additional benefit of making the

distribution of rewards transparent and fair, to the extent that the individual responded positively to the given type of learning strategy. This specific organisational environment compensated for the diverse learning approaches by allowing certain aspects of these assessment processes to be adapted to individual preferences and by incorporating feedback. Such as making exceptions for an individual to take an oral exam instead of a written one.

The strategies utilised to stimulate an increased level of engagement in the development of lifelong learning strategies through rewards also varied across the organisational environments. While some relied on feedback from their teams to gauge the relevant or desired type of rewards, others defaulted to assumptions about the needs of their teams. An example of the latter approach was within the electrical company, whereby financial compensation or rewards were assumed as desirable to all within the organisation. This approach, however, had the potential to backfire, as was observed in the example discussed earlier when an individual preferred to be with his family than work late for extra pay.

System connectedness

All of the above dimensions contributed to this final dimension of *system connectedness*. In relation to processes, the system connectedness essentially speaks to how the execution of tasks and the use of technology cannot be considered in isolation from the type of interactions that exist within the organisational environment. In fact, based on whether the interactions compound into meaningful or mechanical encounters, this reflects in the manner that processes are designed – whether they are designed to be intuitive or detached.

Either than the one exception of a mid-sized organisation, considering that the organisations of interest were SMEs, it is not surprising that very few of these were at the stage where they had well-defined business processes for executing tasks. As much as these organisational environments relied on various technological systems to execute specific tasks, these sometimes did not translate into well-defined and highly integrated systems and processes. Therefore, the connectedness of the systems was often observed through the social interactions that occurred within the respective organisational environments. The most important of these is illustrated in the framework and discussed in the previous section - team learning. Regardless of whether these social interactions were formal or informal, they also serve the important

purpose of providing the foundation upon which structural systems can be designed and integrated in future.

This exact outcome was observed in one of the organisational environments, the coffee company, which had already developed to this level in terms of system connectedness. For example, they had developed their structures such that the mentorship and coaching, as well as training which was undertaken in the academy, could be seamlessly integrated with the on-the-job-training that individuals had to complete in the café before being promoted to the next level in the organisation. The academy and the café operated as separate business units, yet the organisation was able to integrate the structures and processes within these separate units, such that each played a key role in providing a holistic experience towards the development of team members. As such, the participants in this organisation identified this level of system connectedness as one of the most important enablers to their skills development, as well as the eventual development of their lifelong learning strategies.

4.5.4 Summary

As illustrated in the framework above (figure 11) a link was identified between the interaction of the individual with the organisation and the gradual development of lifelong learning strategies. An additional lens through which these lifelong learning strategies were analysed was by observing the metacognitive strategies demonstrated by the participants within their respective organisational environments. A number of the metacognitive strategies shown in the framework and which the participants demonstrated are already laid out extensively within the themes discussed above. This section, therefore, presents a summary of these demonstrated metacognitive strategies alongside the lifelong learning strategies developed.

The findings further revealed a relationship (figure 14) between metacognitive strategies, lifelong learning orientation and lifelong learning strategies. The lifelong learning orientation of the individual and their application of metacognitive strategies were identified as the pillars supporting the development and demonstration of lifelong learning strategies. Hence, lifelong learning strategies stand at the apex of the model depicting this relationship. These elements, when considered together, were shown in the findings to make up the core foundational attributes of a lifelong learner. As such, the lifelong learner is placed at the centre of the model.

As previously mentioned, while lifelong learning orientation primarily deals with the individual's perceptions and attitudes about lifelong learning, metacognitive strategies point to the reflective application of various strategies (shown in the framework) as the individual learns within the organisational environment that he or she interacts with. This relationship was already alluded to extensively in earlier discussions of the main themes, as the participants were seen drifting between perceptions and demonstrating the reflective application of various strategies throughout their development journey within the respective organisational environments.

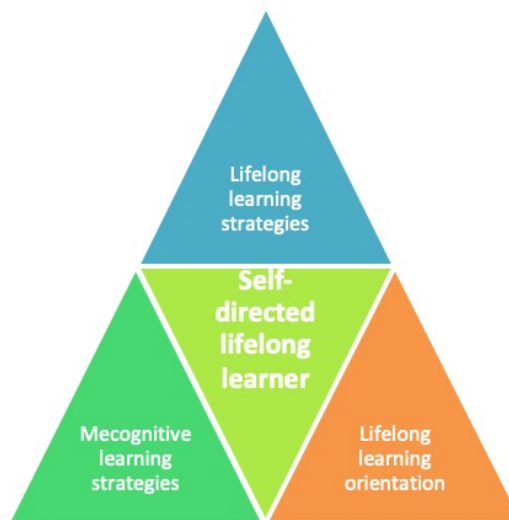


Figure 14: Relationship between orientation and strategies for lifelong learner engagement

The following metacognitive strategies were observed to have developed as a result of the participants' interactions with their organisational environments:

- **Person's beliefs:** This strategy was reflected through the participants' uncovering their core values. It was further observed as they consistently grappled with the congruence of their vision/goals with those of their respective organisational environments.
- **Cognitive activity:** Over time the participants developed the ability to engage with sustained awareness of their activities and to assess the various demands associated with them. An example demonstrating this was when a participant realised that if she improve her work ethic, she would be passed on for a promotion.
- **Strategies:** The participants demonstrated an increasing awareness of the lifelong learning strategies available to them as they tackled various business challenges. They were also consistently developing new strategies. An example is the scenario when a participant had to suddenly take the finance department.

- ***Awareness of knowledge:*** Certain participants outlined several instances demonstrating their learnt abilities to identify and retrieve existing knowledge to solve challenges in different settings. Examples of the demonstration of this strategy are seen through the participants eventually coaching team members and colleagues.
- ***Limits of knowledge:*** The participants gradually developed the ability to identify existing gaps in their knowledge, whether it related to the context of a business challenge or a given topic. The scenarios of participants taking over roles without prior exposure are good examples of this strategy at work.
- ***Duration of experiences:*** The participants shared several instances when they had to grapple with a challenge over a lengthy period, such as the instance when the participant took over the coffee academy. At other times this grappling process happened swiftly.
- ***Occurrence of experience:*** This strategy was demonstrated through the participants' intentional and reflective engagements with the organisational environments. Scenarios, where this was illustrated, were during the unlearning journeys of certain participants.
- ***Effects of experience:*** This strategy was seen through the participants expressing the goals and visions they had established as a result of the interactions which had led to the discovery of new opportunities. Other participants were already using the learned lifelong learning strategies to pursue new ventures or undertake collaborative initiatives with external partners.
- ***Transfer:*** This strategy was demonstrated through instances when participants utilised already-learned lifelong learning strategies to solve challenges in unfamiliar environments. Again, the scenario of the participant who had to suddenly take over a finance department illustrates this strategy well.
- ***Solving ill-structured problems:*** The tackling of such problems was familiar across the represented organizations. Participants highlighted that this strategy often came through whenever they were 'thrown into the deep end'.
- ***Double loop learning:*** The demonstration of this strategy was seen when participants took the approach to study a given context wherein a challenge existed. This was done to identify gaps from which potential solutions could be uncovered.

From the above-mentioned findings, a diverse array of metacognitive strategies was observed to have developed as a result of the participants' interactions with their respective organisational

environments. Especially when comparing their described metacognitive learning strategies at novice (with no prior experience in the industry or the role expected to fulfil) versus expert statuses reached within the organisation. And these metacognitive were an important foundation and scaffold for facilitating the lifelong learning orientations and strategies which they had developed over the tenure of their interactions with the respective organisational environments.

5. Discussion

5.1 Theoretical implications

This study explored the interaction between the individual (in this instance the participants) and the workplace environment in connection to the shift in one's lifelong learning orientation. It additionally investigated the impact of this orientation on the eventual development of lifelong learning strategies, so that the individuals become enduring lifelong learners. Such that the inclination to engage as lifelong learners extends beyond their current workplace (organisational) environment. The enablers and inhibitors to this development that existed within the organisational environments were then identified. The mere acknowledgement of the need for initial intervention, as part of the goal of creating lifelong learning environments in organizations, is an important step forward from a research perspective and regarding practical application. This intervention refers to the influencing and eventual shifting of one's lifelong learning orientation, as well as the development of lifelong learning strategies. Ironically, the aspects of one's lifelong learning orientation and the development of lifelong learning strategies are yet to be addressed directly in research studies. That is, as previously mentioned in several sections within this dissertation, often the underlying assumption when approaching the topic of lifelong learning is that adults possess a predisposition to engage as lifelong learners.

Another interesting observation from this study was the close alignment of the development of metacognitive strategies with the shift in one's lifelong learning orientation. Before proceeding, the definition of metacognitive strategies will be re-stated. On a higher level, this construct is broadly defined as "*thinking about thinking*" (Chick, 2013). One of the widely accepted lower-level definitions describes the construct as the "*processes used to plan, monitor, and assess one's understanding and performance. It further includes a critical awareness of a) one's*

thinking and learning and b) oneself as a thinker and learner” (Azevedo, 2005; Chick, 2013; Franco & Ameidá, 2010).

Prior studies of this phenomenon have regularly dissociated the individual level from the interaction with the environment, in this instance the workplace. Even those that have tackled the subject of lifelong learning from the organisational level, have given minimal consideration to the actual interaction experienced by the individual (the learner). One of the first researchers to explore a model that considered this holistic perspective on this phenomenon was Illeris (2004, 2007), through his model of learning in working life. This same model was used as a guide in this study for exploring the different dimensions that the participants interacted with in their respective organisational environments. The multi-dimensional assessment of this interaction from the findings revealed both expected and unexpected themes related to the development of lifelong learning strategies. These emergent themes revealed three main levels from which to effectively consider the enablers and inhibitors for sustained development of these lifelong strategies within the workplace (organisational) environment. These were the individual, team and organisational levels; the connections between these have been elaborated on at length in the previous (findings) section.

Furthermore, the goals for lifelong learning that Fischer and Kommers identified as important for implementing this type of immersion in a given environment came through within the organisational environments represented in this study. These include learning that (Fischer & Kommers, 1999, p. 9): “1) *takes place in contexts of authentic, complex problems*; 2) *is embedded in the pursuit of intrinsically rewarding activities*; 3) *supports learning-on-demand since change is inevitable*; 4) *supports collaborative learning since the individual is limited*; and 5) *enhances and develops the skills and processes that support learning as a lifetime habit*.”

The first quality – learning *taking place in contexts of authentic, complex problems* – was among the most prominent within these organisational environments. They consistently offered opportunities for the participants to tackle complex challenges. In addition, they portrayed authenticity through strategies such as giving honest feedback and displaying vulnerability in interactions. Of the five qualities identified by Fischer and Kommers, learning that is *embedded in the pursuit of intrinsically rewarding activities* was least expressed. The only indirect form

that this quality observed was by individuals having opportunities to uniquely express themselves through their roles. Especially by being allowed autonomy on how they solved challenges. The third, fourth and fifth qualities also came through quite strongly. The participants consistently relayed instances when they had to solve challenges in unfamiliar environments. In other instances, they described this happening when they were ‘thrown in the deep end’. In addition, to fast-track their learning, they were either coached by team mates or engaged in collaborations with internal or external partners. But ultimately, these organizations demonstrated the ongoing commitment to facilitate the shift of lifelong learning orientations and the development of lifelong learning strategies. The theoretical implications of this study are presented in detail in the discussion below.

The discussion below is structured as follows: Section 5.1.1) *Towards individual agency* – focuses on elements relating to the individual’s agency as a lifelong learner; section 5.1.2) *The organisational environment as the facilitator* – expands on organisational factors including, Learning in teams, Leadership factors, Learning-on-the-job, and Loosely connected systems acting as enablers; 5.2) discusses the **Practical implications of the research**; followed by 5.3) which lists the **Limitations of the study**, and finally section 5.4) gives **Suggestions for future research**.

5.1.1 Towards individual agency

The expressed sense of agency by the participants was contingent upon both their participation in continuous learning and the expression of their individuality within the given work environment.

Developing strategies to enhance agency

The results of this study demonstrated how one’s lifelong learning orientation is a critical starting point for the development of metacognitive strategies for lifelong learning. Kirby and colleagues (2010) identified several attributes which captured the developed and demonstrated metacognitive strategies. However, they overlooked the role that these strategies played in enhancing the individual’s agency in their lifelong learning journey, as the study demonstrated. Participants consistently displayed an increasing sense of agency alongside the development of several metacognitive strategies. This was shown through them not only enacting these

strategies but also influencing their own development of lifelong learning strategies. An example was whereby upon taking over the coffee academy, the participant was able to apply several strategies to understand the needs in that context. She had entered the organisational environment with no prior experience and a poor work ethic, but this example demonstrates how she was now able to take this initiative in her role. In all instances portrayed within the study, the shift of one's lifelong learning orientation was a critical starting point.

As much as previous studies acknowledged some aspects within the organisational environment that contribute to the application of lifelong learning strategies, such as leadership and work structural design, they predominantly placed the responsibility of activating these on the learner (Kirby et al., 2010). As already mentioned, the element of agency in one's learning depended on the participants' gaining confidence about their competence in the lifelong strategies already developed. Therefore, individuals who neither portrayed a lifelong learning orientation nor demonstrated lifelong learning strategies could not be expected to activate these in work settings. The strategic role of the organisational environments in this study in shifting the participants' lifelong learning orientations was therefore an important factor towards uncovering and harnessing metacognitive strategies. These in turn played an important role in the reflective engagement of the participants as they gradually developed several lifelong learning strategies and in shifting their lifelong learning orientations.

Certain researchers have endorsed the workplace as the environment wherein the knowledge learned at schools is thereafter applied (Fischer & Kommers, 1999). Fischer and Kommers (1999) identified lifelong learning as the necessary continuous learning mindset and habits for this transformation of knowledge from the intellect into the knowledge of the real world. However, theirs and other research again did not recognise the workplace as a place which could trigger the metacognitive strategies necessary for individuals to develop into lifelong learners. Nor did they recognise the potential for organisational environments to shift lifelong learning orientations. In this way, the role of the organisational environment in imparting individual agency for lifelong learning was not recognised. The prevalent assumption was that since learning is always happening, then individuals possess the necessary strategies and have the predisposition to engage in lifelong learning. Consequently, this extends into the assumption that individuals have the capacity and resources to enact their own lifelong learning strategies

and to facilitate their own development journeys. However, these assumptions were also shown in this study as inaccurate. Especially through instances when participants relayed inhibiting mind-sets they had developed as a result of the conditioning in their previous environments. These mindsets had to be unlearned through the shift of their lifelong learning orientations in their respective organisational environments. Their engagement in the development of lifelong learning strategies was depicted to occur following this process of unlearning. Even to the extent of initiating learning opportunities and enacting these strategies in unfamiliar settings. This again was a demonstration of increased agency in their own lifelong learning journey. This study also goes a step further in two aspects. Identifying the strategies necessary for sustaining these mindsets and habits; their metacognitive and lifelong learning strategies. Secondly, investigate the elements of an environment that act as either enablers or inhibitors to the development of these metacognitive strategies.

The nature of the interaction between the individual and the organisation determined which strategies were most dominant or suppressed. Therefore, the organisational environment also controlled the extent that metacognitive strategies were developed. These strategies, in turn, were the critical facilitators of one's agency in the lifelong learning journey. For instance, the participants within the environments that prioritised wide exposure across the organisation predominantly portrayed three specific attributes – *application of knowledge*, *location of information* and *adaptable strategies*. This is because the regular exposure to unfamiliar contexts and challenges related to the business required these individuals to persistently discover new knowledge or appropriately apply existing knowledge. Also, their ability to remain aware of different circumstances in order to recognise and activate the relevant metacognitive and lifelong learning strategies was enhanced. All three attributes pushed these individuals to also develop the ability to make connections as they interacted with their environment across the different contexts at three levels – past, present and future application of knowledge. Watkins and colleagues (2004) recognised this developed ability as the application of systems thinking to see interrelationships within an environment as opposed to “*linear cause-effect chains*”. The development of the various strategies highlighted above additionally facilitated the transfer of agency to the participants as maturing lifelong learners. The increase in the individual's agency is also easier recognisable in these illustrations as they gained confidence in their competence with these strategies.

Watkins and colleagues (2004, p. 94) identified the need for organizations to make the effort to create learning opportunities for their members. However, their perspective also overlooked the environment's potential to trigger the development of relevant lifelong learning strategies that enable individuals to effectively participate in this continuous learning. Similar to other studies (Fischer & Kommers, 1999), they too assumed these strategies to already be active. Both have therefore overlooked the organisational environments potential to impart a sense of agency in lifelong learning.

Agency in one's work identity

Individual agency was also strongly connected to the uncovering of the individual's identity, firstly within the organisational environment, and then beyond it. This attribute of agency was also pertinent in the individuals developing degrees of self-directedness and in defining how they experience the interactions with their teams, an aspect that is also discussed later. Previous literature makes no connections of agency and work identity. Even studies by Illeris (2004, 2007), who focuses extensively on a holistic model for working life, made no associations between work identity and the individual's sense of agency in the organisational environment.

The most dominant and perhaps unexpected discovery in this aspect of agency relates to what Illeris (2004, 2007) defines as *individual work identity*. He described this concept as the "*partial identity, concerned with one's experience of themselves as working individuals and as part of a working fellowship*" (Illeris, 2004, p. 436). The findings in this study confirmed his assertion that, firstly, this partial identity is a balancing act (or a tension) between the individual identity (separate from the organisation) and that experienced through the position held in the social community (the work environment). The aspect of individual identity in this balancing act was observed through the participants' consistent referral to the congruence of their values with those exhibited within the organisational environment. In areas where clashes dominated as the participant interacted with the organisational environment, very little initiative and enthusiasm was observed as they undertook work-related challenges. As a result, very little progress was observed in their development of lifelong learning strategies when compared with that witnessed in other cases (interactions) whereby the participants were exposed to similar situations. As expected, the level of harmony that existed within the individual about their work

identity further impacted their expressed agency. In this instance, this agency extends to the assertiveness and intentionality with which they tackled the advancement of their lifelong learning strategies and orientation.

Then, there was the ongoing referral to engagements with team mates, as well as industry stakeholders, which represents the interaction with the social community of the organisation. Aside from the congruence of values, participants recounted the collaborative element as another critical feature within their environment which empowered them to fast-track their learning and to rapidly progress from novice to expert levels within their roles. The exposure and increased competence also played an important role in fostering agency among the participants. This increased agency was observed through them pursuing their own visions and even practicing as experts in their fields. Consequently, both these aspects of identity (individual and social) were considered by the participants to be important enablers in their learning journey. As stated by Illeris (2004, p. 436, 2007) that this partial identity *“is where the individual side of learning in working life is decisively shaped, while the social and societal side is decisively shaped in the practice field.”* In retrospect, the shaping of the individual during working life expresses a similar idea to the shaping of the individual’s lifelong learning orientation, since this aspect deals with the shaping of the internal person (their ideas, values, preferences, beliefs etc.). The societal and social side can be interpreted as the shaping of the individual’s lifelong learning strategies since this influences their ability to learn through field practice, wherein shared experiences are vital. In fact, as seen in the framework, the features that define metacognitive strategies and form the basis for lifelong learning strategies can only be demonstrated through practice. Again, for individuals to meaningfully participate in this work practice, they needed to develop a sense of agency. That is, the environment enables their individual and social identity to develop such that they feel empowered to affect and shape the progression towards developing lifelong learning strategies.

5.1.2 The Organisational environment as the facilitator

For one to engage as a lifelong learner, their learning orientation needs to align and they also have to have developed the strategies that enable them to effectively engage as such. The organisational environment was revealed through the framework as a critical level in shaping the behaviours and ingrained habits of the individual, and in shaping their attitudes and

orientation towards a specific idea or practice. The organisational level can be perceived through two intertwined levels, the team and the actual organisation.

Learning in teams

The team level is perhaps the most underappreciated of the levels revealed through the framework. Although previous studies have predominantly focused on the individual level, various models have been repeatedly proposed in acknowledgement of other variables beyond the individual that impact their development as lifelong learners. However, even within these models, emphasis is often placed on the highest level, which is the organisational level – primarily its human resource structures and leadership. The emphasis on the team level of engagement was based on the recognition that the development attained when the individual is acting in isolation has a limit. That is, they were firstly limited in the ability to grow past their own blind spots. Senge (2004) and Manuti (2015) together with their colleagues were particularly aware of this limitation when engaging in learning in isolation (Feldman, 2013; Manuti et al., 2015). Evermore so, when seeking to develop a sustained (lifelong) learning orientation and the accompanying strategies that extend beyond a prescribed environment. That is, strategies that enable the individual to adapt their ability to acquire new knowledge and skills in any given context. This is accomplished by utilising the readily available information to resolve the challenge at hand, and to readily transfer prior knowledge into new and unfamiliar environments. And especially when dealing with individuals with no pre-existing disposition to interact within an environment as lifelong learners and who do not possess the accompanying metacognitive strategies, as with the cases represented in this study.

Senge (2006) in (Feldman, 2013; Oudejans et al., 2011, p. 2) defined team learning as “*the capacity of groups to acquire collective thinking skills through dialogue, in order to develop intelligence and results that would not be reached individually*”. From this research study, it was apparent that a discussion about the environment cannot be elaborated on without delving into the interaction of individuals within a team or group dynamic. Illeris (2004) identified this level as an integral component through which the social aspects of the organisational environment can be understood. However, he did not make this connection explicitly concerning teams. As such, several cases within this study demonstrated that the degree to which the participants were able to integrate into the environment was largely impacted by the

quality of the interaction they experienced with their immediate team members. But before proceeding to the quality of these interactions, the key *approaches* used to facilitate these interactions will be discussed.

Illeris (1998) emphatically acknowledged the central role that the interaction between the social and the individual levels played in facilitating any manner of learning in working life (Illeris, 2004, p. 440). Although the facilitation happened through various approaches, what proved to be most significant was coaching and mentoring. The participants reported this as the prevalent approach through which lifelong learning strategies were imparted, alongside job-related skills, within their respective environments. This impartation took the form of team members actively enacting what Fischer (1998) refers to as the ‘symmetry of ignorance’. He expressed this concept of the ‘symmetry of ignorance’ as the dismantling of the perspective that one individual holds the answers, and instead that knowledge is distributed among all stakeholders. This approach was indeed noted as an important enabler, whereby certain environments created opportunities for knowledge to be shared by all, novices and experts alike. These environments were also intentional about uncovering value in the previous experiences through all stakeholders involved in the business challenge. This is regardless of exposure to the industry or role, rather than assuming that the expert in a specific subject matter has the answer (Fischer, 1998). This happened through teams making connections between seemingly unrelated concepts and identifying key learnings that could be transferred into solving the challenge at hand. Fischer also inferred that this approach creates an opportunity for creativity and innovation to unfold.

This ‘symmetry of ignorance’ created the platform to observe the *quality* of these team-level interactions. In several cases, both leaders and novices expressed the vulnerability to learn from their subordinates as another important enabler and example of demonstrating the ‘symmetry of ignorance’. The role of vulnerability in this capacity presents another important gap in literature. As will be shown in the discussion below concerning the leaders in the environment, the teams had to then become intentional at engaging with a high degree of vulnerability that allowed members to learn from each other, regardless of tenure in the organisation, role or the industry. This shared vulnerability was additionally powerful in helping individuals overcome the resistance to learning and to new ideas as expressed by Lee-Kelley and colleagues (2007).

However, these scholars were specifically referring to the aspect of mental models which is expanded on later. The demonstration of this ‘ignorance of symmetry’ within certain environments was in fact observed to enhance the individuals’ responsiveness to developing relevant lifelong learning strategies. They were then able to take on multiple learning approaches as they tackle unfamiliar challenges within the business. Fischer (1998; 1999) suggests that this response by the adult learner is because this shared display of vulnerability (by leaders and subordinates alike) allows for team members to embrace their limitations as individuals and instead lean on sharing knowledge with their teammates. Ranta (2018) wisely pointed out that some degree of group learning is unavoidable when considering the resultant complexity as people interact within an organisation. However, for an environment to facilitate a meaningful transformation in one’s sustained (lifelong) learning orientation these team interactions also needed to be meaningful; another aspect that speaks to the quality of the interactions. This had to happen at three levels - the individual, the team and the organisation. Again, this is in line with the observations made about the cases represented in this study, whereby the learning embedded in work practice was facilitated in a manner that respected the goals of the individual, the team and the organisation alike, making them meaningful at all three levels.

This study further demonstrated that the team learning which has to occur in an environment that is aiming to facilitate the development of lifelong learning strategies and shift learning strategies surpassed that described by Senge (2004). This is because the concern regarding learning extended beyond the act of imparting knowledge, into the transference of (mental and practical) habits associated with lifelong learning. And as already mentioned, enforcing lifelong learning habits required that both the participants’ mental models and strategies when engaging in work practice be challenged, negotiated and transformed. As pointed out by Manuti and colleagues (2015), team-structured interactions further created the platform for triggering a shift in the individuals’ orientation; the identification and expression of shared values through work activities, and as ideas and perspectives about both the environment and learning were interrogated through discussions. Therefore, the interactions with groups within the work context, whether formally or informally, played a critical role in the individual’s progression as a lifelong learner, starting with the shift in their lifelong learning orientation. And this occurred

as they navigated various aspects of their role and particularly while solving ill-defined challenges in teams.

As already shown in the discussion of the individual level and will be shown below, the team level consequently proved critical in facilitating the interaction between the individual and organisation levels. As such, the study showed that the team level is deeply interwoven into the individual's interpretation of their interaction with the organisation.

Leadership

The leaders within the organisational environments represented in this research often set the tone for the culture of lifelong learning. They also had a great deal of power over many of the enablers and inhibitors for developing lifelong learning orientations and strategies.

These organisational environments were endowed with leaders who deeply valued developing future lifelong learners. This finding aligns with observations from literature that leadership support is crucial if an organisation is to establish itself as a 'learning organisation' (Franco & Ameida, 2010, p. 800; Watkin et al., 2004). Several instances were mentioned by participants where leaders placed individuals in settings that were plentiful with opportunities for developing lifelong learning strategies. Marsick, Watkins and Yang's research also inferred that although individuals can initiate change, strategic leadership is pivotal in "*facilitating structures to support and capture learning*" (Watkin et al., 2004, p. 49). This feature about the leaders was also observed in these organizations. Participants regularly relayed scenarios of their organisational environments being open to developing skills from the ground up and enacting strategies that facilitated the imparting of lifelong learning strategies. Such examples also served as observable testimonies to the leaders' commitment to shifting learning orientations and developing lifelong learning strategies to produce self-directed lifelong learners.

The strategic element of the leaders was pivotal in moving the participants beyond a focus on activities while also soliciting their buy-in to the organisation's vision. Such leaders were described by participants in this study as intentional about communicating the "why" behind the activities. Some participants conveyed that this element was seen through leaders

consistently communicating the unique contributions made by the business in the community and the industry. One example is the coffee company whereby the leader regularly expressed that commitment to excellence translated into advancing the coffee industry in South Africa. And that the transferring of industry-related skills was an important way to support this goal. This type of leadership is discussed extensively by Marsick, Watkins and Yang (2004) in using learning to steer and redirect the organisational vision. In fact, they referred to this type of leader as *providing leadership for learning*. According to Marsick and colleagues, these leaders, therefore, acted as one of the intermediaries between individual-level learning and organisational outcomes. They further hypothesised that the positive impact of this attribute of *providing leadership for learning* is observable through the organisation's financial performance (Watkin et al., 2004). This aspect was however not covered in the scope of this research.

Another facet of this above-mentioned type of leadership – who *provides leadership for learning* – was observed in this study. Several of the organisations had leaders who not only displayed an inherent commitment to imparting these strategies across their organisation but also portrayed the attributes of lifelong learners. Lans, Beggan and colleagues (2016) further suggested that small-enterprise entrepreneurial managers value, and in fact capitalise on the learning potential of the environment. As such, the leaders within the organisations that were incorporated in the research were observed as committed to discovering and developing various lifelong learning strategies in their own learning journeys. From an organisational level, in some instances, this dedication to impart lifelong learning strategies was observed through well-defined skills development paths. However, the extent of structuredness through which these were undertaken varied within each environment.

The imparting of lifelong learning strategies sometimes took the shape of creating well-defined growth paths within selective career options in the organisation, and in certain instances, individuals were afforded the opportunity to make non-linear transitions (such as switching from marketing to production manager). The approach of well-defined development paths was observed with the coffee company. The enterprise established a development academy that incorporated multiple learning approaches – experimentation, theory, simulations and shadowing – to impart diverse skills (metacognitive and job-related) to its teams. The

participants from this organisation constantly referred to this approach as core to the founder's vision and initiative to advance skills in the coffee industry. This example points to the type of leader that Marsick, Watkin and Yang (2004) refer to in their research, who *provides leadership for learning*. In other organisations represented in this study, this took the form of coaching, mentoring and individuals teaching each other regardless of seniority. This aspect is already discussed above in the section on the team level.

Learning on-the-job

Another unique aspect of the organisations included in the study was the openness to provide on-the-job exposure and learning opportunities across the diverse areas of the organisation. One of the key approaches was by providing the opportunity to learn by doing, and as such learning primarily occurred through work-related activities. As a study conducted by Lans, Beggan and colleagues (2016) on entrepreneurial learning suggested, work environment elements such as work design, organisation of work and decision power were some of the leading contributors to effective learning systems. They inferred that work activities were important facilitators of work-related learning outcomes. These are the same work activities through which the development of the lifelong learning strategies under discussion was achieved in the environments represented in this research.

The research by Lans, Beggan and colleagues suggested three primary modes through which demonstration of the above-mentioned environmental elements could be observed – *job control*, *problem demand* and *perceived opportunities*. According to their research, these also (indirectly) contributed to entrepreneurial learning among SMEs, which was also an important attribute within the SME environments included in this research (Baggen et al., 2016, p. 196). This is based on the observation that the participants consistently brought up the need for their enterprises to practise agility and regularly rethink their business models to stay relevant. Lans, Beggan and colleagues defined *job control* as the autonomy over the design of their role and execution of their responsibilities. According to their research findings, this form of autonomy acted as an important intrinsic motivator to the organisational learner, as they have the opportunity to select approaches and strategies to tackle and solve work-related challenges. *Problem demand* was understood as the frequency and difficulty of tasks or activities allocated, to facilitate the discovery of new problem-solving strategies. *Perceived opportunities* refer to

the organisational learner's perception of environmental opportunities. Lans and colleagues identified this as an important predictor of opportunity identification and the extent to which they exploit learning opportunities (2016, p. 197). These environmental dynamics were expressed by participants across the majority of organisations included in this research. Most of the participants consistently emphasised the autonomy they experienced within their respective environments – within their roles and the approaches used to solve complex business challenges. However, in some of these organizations, autonomy existed to an extent. An example is the electrical company, whereby the participants described their experience as being expected to fill a role as expected and work according to prescribed guidelines. Another was the railway manufacturing company which also emphasised strict working guidelines, rather than allowing individuals to define or adjust processes according to their discretion. The fact that all the participants within this study described being regularly plunged into situations with ill-defined challenges aligns with the problem demand aspect. As predicted by Lans and colleagues, the participants further articulated that the opportunity to engage with teams across different units and stakeholders within the industry enhanced their perceptions about the available opportunities.

For the organisations in the study to effectively create opportunities for imparting lifelong learning strategies through on-the-job exposure, they therefore needed to foster an *empowering* environment through several modes. As observed through multiple findings, the factors which the participants emphasised as pivotal were *autonomy*, *open communication* and *recognition*. The modes identified by Lans and colleagues, therefore, closely align with the factors identified by the participants as central to creating an *empowering* environment within their organisations. Unsurprisingly, incorporating these modes into the design of on-the-job learning strategies was observed as one of the enablers to the development of lifelong learning orientations as the participants interacted with their respective organisations.

In fact, in their argument that lifelong learning extends beyond training and the continuation of education, Fischer and Kommers (1999, p. 5) asserted that lifelong learning needs to “*support learning opportunities including exploring conceptual understanding as well as narrowing practical application of knowledge.*” They argued that lifelong learning can be integrated into the work process and activities by promoting learning opportunities in diverse settings. He

mentioned the important role of the organisational environment being designed to support and promote exploration and the solving of real-life problems. Again, his emphasis was placed on the self-directedness of this process based on the assumption that the individual is already inclined towards a lifelong learning orientation. Furthermore, his research makes very little mention of the development of the strategies relevant to engaging as a lifelong learner, which includes being self-directed. Ironically, his study was intended to understand lifelong learning in virtual environments (Fischer & Kommers, 1999).

Loosely connected systems acting as enablers

Beyond the role of the organisation to facilitate regular training that is aligned with industry needs, oftentimes emphasis is placed on the design of *connected systems* and process structures as the key to enabling individuals within an organisational environment to become (and act) as lifelong learners. These operational structures and processes play an important role in the organisation's ability to effectively facilitate on-the-job learning and offer wide exposure across the organisation. As such, one would expect operational systems and structures to feature more prominently than observed in this study. Ironically, the organisations presented in this study had very undeveloped systems and process structures. Especially when these were considered based on their objective of integrating diverse operations and streamlining activities across the organisation. Yet, high levels of engagement were observed in terms of the development of participants' lifelong learning strategies and orientations. In fact, the operational processes and systems were hardly mentioned by the participants as important enablers in their development journeys. It seems that the underdevelopment in this aspect provided an additional opportunity for individuals to discover and exercise certain lifelong learning strategies that would have otherwise been ignored or remain inactivated if the organisation's systems were more prescriptive in how activities ought to be completed. This is another distinguishing feature of most SME organisations; their systems and processes are loosely *connected* when compared with large corporations. As much as this can be regarded in a negative light, this study shows that it can also serve as an advantage when developing individuals from the ground up. Such encounters are also opportunities for the individual to partake in the defining of those operational systems and structures, hence providing a unique opportunity to discover and recognise connections and trends across various levels of the business. This is when the majority of metacognitive and lifelong learning strategies are activated and developed, in

environments where individuals have the opportunity to tackle realistic, open-ended, ill-defined problems (Azevedo, 2005; Fischer & Kommers, 1999). This observation ties in with the assertion made by Manuti and colleagues (2015) that the acquisition of knowledge occurs beyond structured programs and structures. Manuti and her team were further alluding to the critical learning which takes place in informal settings within work environments – such as work colleagues bumping into each other at cafeterias and ending up brainstorming ideas about a pending work challenge. Similar encounters and opportunities were expressed by participants to having created or translated into some of the most critical mentoring and coaching experiences.

This is one aspect that neither organisational learning nor lifelong learning literature makes explicit mention of regarding the organisation and its effectiveness or ability to facilitate lifelong learning strategies among individuals and within its teams. And especially concerning the development of these strategies (Fischer & Kommers, 1999; Junhee et al., 2015; Kirby et al., 2010; Ranta, 2018; Walters, 2006). This is not to suggest that operational systems and processes did not play an important role in the enabling elements identified by the participants. Although most of these organisations were still in the early stages of developing their operational systems and processes, the work was undertaken with very structured approaches. This suggests that the already existing structures were not designed in a manner that stifled exploration and learning-on-demand through work activities (Fischer & Kommers, 1999; Kirby et al., 2010). Instead, it raises important awareness about how critical the design and implementation of operational systems and structures are. To the extent that they enhance rather than stifle the environments' pursuit towards developing and enabling lifelong learners. An enabling environment is, as observed in this study and acknowledged by several researchers, one that fundamentally allows individuals to maintain dynamic interactions with different parts of the business (operationally, team-wise and stakeholder-wise) (Fischer & Kommers, 1999; Kirby et al., 2010).

Two common barriers are often present in organisations regarding maintaining these dynamic interactions. Firstly, as often observed with organisations that utilise legacy systems that tend to function in a more hierarchical structure, over time this can become a barrier that is very complicated to resolve. Examples of legacy systems include (but are not limited to) obsolete

technology or process flows that are outdated and no longer mimic how the organisation does business or operates. A second barrier, which also came through as a strong theme in this study, are work platforms that rigidly define how one functions within their role. This is another aspect that has not received a lot of attention from scholars. The research by Fischer and Kommers (1998; 1999) and later by Azevedo (2005) have somewhat examined this aspect of an environment in relation to lifelong learning, although their focus is specifically on lifelong learning in computational environments. An aspect of organisational systems that is also explored through the Dimensions of a Learning Organisation Questionnaire, an instrument that was also used in this study as an alternative data collection instrument, from the objective to capture and share learning (Watkin et al., 2004). That is, connecting the individuals within the organisation such that they are able to collectively engage in continuous learning as they tackle business problems. Watkins and colleagues (2004) deem this connectedness as critical as organisations are increasingly expected to become agile at navigating ever-changing environments internally and externally. Again, the underlying assumption with this perspective is that individuals already possess the relevant lifelong strategies to effectively engage in this continuous learning. Hence, for an organisation to passively enact connected systems is not sufficient towards achieving the objective of developing lifelong learners. Especially in the South African context where language and computer literacy levels, and access to primary school education are alarmingly low.

5.2 Practical implications (Praxis)

This study has helped to identify that the nature of lifelong learning, specifically in an organisational context, and in this instance the business environment, can be very nuanced and can take several forms. From a practical perspective, several key observations were made that can be implemented by businesses and organisations. The first is providing opportunities for individuals to *learn from the ground up*, by tackling real-life business challenges. This speaks to allowing individuals to develop from a novice status to becoming experts by removing prescriptive definitions to roles, and instead allowing the individual the space to interact with various levels of the organisation so that they understand the challenge from a macro and a micro level. In this way, the solutions are more likely to prove relevant to and well-integrated with other parts of the business vision and goals, rather than isolated and possibly result in an upset to other parts of the business.

One suggestion for achieving the above is by converting parts (allocated spaces) of the work environment; these could be restructured into ‘simulation labs’ wherein scenarios are created for the most inexperienced individuals to gain initial exposure to the concepts relating to the business activities. These ‘simulation labs’ can be operated as a central point whereby experts within the enterprise congregate to conduct research, discuss, and collaborate. Following this, they can then be assigned actual business challenges to tackle, while also maintaining interaction with the ‘simulation labs’ to access coaching and mentorship from this community.

Another goal for organisations seeking to develop self-directed lifelong learners is the *commitment to intentional mentorship and coaching*, such that inter-team and inter-person coaching becomes an active culture within the environment. In addition to this is the encouragement of team learning, whereby collaborations and open discussions of business challenges are undertaken, as opposed to a siloed work culture (among individuals and departments). These two traits already have the added advantage of paving the way and creating space for wide exposure across various aspects of the business. Such diverse exposure is also beneficial for the organisation as it encourages and facilitates the sharing of knowledge and innovative ideas.

Perhaps one of the most under-appreciated impacts of work environments is their hidden potential to mentor and develop future entrepreneurs. This is an objective that organisations can strive towards. Facilitating the development of lifelong learning strategies, as well as the shift in orientation, so that individuals can identify untapped opportunities and innovate business models that expand the current reach of African businesses. One of the approaches could be to place individuals who display an exceptional commitment to developing as lifelong learners in areas of the organisation with pressing needs for change or innovation for a fixed period as a strategy for *unearthing their leadership and/or entrepreneurial potential*. This is one of the opportunities that work environments can take on to address issues related to skills transfer. This strategy would simultaneously assist individuals to uncover their talents and repurpose their unique life experiences, while simultaneously identifying areas to impact through those talents and unique experiences.

A final practical application that could be explored extends beyond a single organisation. Incorporating scaffolding strategies (Azevedo, 2005) into developing an individual's skills portfolio to trigger a reflective approach to their upskilling and reskilling process. This can be undertaken in collaboration with a community of coaches, with skills and exposure at various levels and contexts, to advise and propose real-life challenges towards building levels of competency in a given field. The latter would offer an alternative for addressing the issue of shortage in opportunities for on-the-job training. It is also an alternative strategy to addressing the immediate need for massive reskilling and upskilling of the current workforce.

5.2.1 The tensions associated with organizations acting as facilitators of lifelong learning

Several tensions were, however, identified from this study about the elements discussed in the findings which contributed heavily to the development of lifelong learning strategies and the shifting of the participants' lifelong learning orientations. These should be kept in mind, especially as the practical implications of this study are taken into consideration. The three main tensions are discussed below.

An unexpected tension that was uncovered through this research was that not every organisational environment can identify the value of diverse work exposure. As observed in one of the cases, external business environments may be unable to place the relevance and value of diverse exposure within their own contexts. In the same way, the individual may struggle to articulate this value and potential contribution, whether it be through a business proposition if they intend to undertake a business venture or as they seek work opportunities in new environments. As such, individuals may potentially find themselves stuck career-wise or unable to progress via the traditional career progression route, especially within professions or environments that tend to view growth and development from a linear perspective. This may potentially be the situation in the South African context, especially within large organisations whose recruitment processes tend to emphasize academic qualifications rather than proven track records in projects executed.

The second tension, which also came through very strongly in this study is the organisation's reluctance to take on and develop individuals only for them to leave the organisation. Especially if they have no prior experience in the industry or the intended role. This reluctance has to do

with the resources and time investment required to achieve this level of development, which is often perceived by organisations as a sunken cost. In an example from the study, the persons who had been trained went on to start their own businesses and became direct competitors of the organisation or moved on to work for an existing competitor. So, the underlying frustration was that this specific organisation was investing time and energy in identifying and training people with no prior experience, only for it to backfire when they either became or joined the competitor.

It is also worth acknowledging that not all individuals interacting with an organisation may be willing or even share the vision of becoming lifelong learners. In such an instance, resistance to the lifelong learning approach should be expected. An example was observed in this study whereby an individual was willing to engage in the development process to the extent that it did not interfere with family priorities. From this example, it is apparent that the development process, especially the growth from novice to expert level, may oftentimes compete with the pursuit of work-life balance, hence the need for the individual's buy-in as well. This specific tension also raises the importance of clearly defined business goals that are linked with the development journey, to help regulate and manage the individual's anxiety about pursuing the moving target of unending (lifelong) learning, which can feel like the situation in our current society of limitless access to knowledge.

There is then the matter of formal education qualifications, in which both sides of the coin must be taken into consideration as they introduce conflicting tensions. In a socio-economic environment such as South Africa, formal qualifications are prioritised and automatically regarded as proof of an individual's competence in a given domain, and of their potential for future development. Also, the generally held assumption is that the possession of a tertiary education qualification is a guarantee that one holds a predisposition to lifelong learning and already possesses the relevant lifelong learning strategies. The lack thereof may automatically disqualify an individual from opportunities that may result in the transformative development of becoming a lifelong learner. Therefore, contrary to these popular assumptions, the possession of a formal qualification may not necessarily translate to either a lifelong learning disposition or the possession of lifelong learning strategies. Especially, considering that academic institutions still often follow the 'all-knowing ignorant-learner' approach to learning. In

essence, a person with and without a tertiary qualification could be found to be at the same level in terms of the need to develop lifelong learning orientations and strategies. In fact, as also observed in this study, individuals without tertiary qualifications may at times prove better at tackling ill-defined problems where no perfect solution exists compared to a graduate, who is accustomed to solving problems based on a model answer. In addition, the prescriptive learning that is sometimes observed in academic institutions has the potential to hinder one's ability to truly uncover their core talents and values. The absence of an academic qualification also has its own additional drawbacks, such as the inability to comprehend concepts relating to a specific domain or business.

5.3 Limitations of study

Several limitations were encountered in this study which will be discussed below. Firstly, the participants were obtained from registered small and medium-sized enterprises. Consequently, they provide a very limited representation of unregistered, informal or large organisations. These organisations have wide-ranging missions and business operations, and although they were identified and selected based on their expressed commitment to fostering a lifelong learning culture, they are not academic or learning institutions. The *generalisability* of the findings may therefore be limited to similar contexts. In addition, on an organisational level, the findings cannot be regarded as conclusive representations in similar contexts as organisations in themselves are unique entities (Moser & Korstjens, 2018). Therefore, since the study only considered the interaction from the participant's perspective, certain dimensions of the organisation were taken into consideration while others may have been overlooked.

Secondly, the research only focused on the organisational aspects and their influences on the development of lifelong learning strategies and the shift of one's orientation. It did not emphasize the cultural, educational and family background of the participants, as well as other factors outside the organisational environment that influence an adult's approach and strategies to learning. Furthermore, the definitions of lifelong learning orientation and strategies were guided by previous research on the topic of lifelong learning. In addition, the research findings were based on a limited number of case studies, which is not sufficient to make *generalised* assumptions about adult experiences. All of the above-mentioned place further limitations on

the *transferability* across physical (organisational and geographical, to name a few) and cultural boundaries.

5.4 Suggestions for future research

An overview of the landscape of this study is presented in the table below (figure 16) in an attempt to allude to potential future research areas. As can be seen, several opportunities for future research exist, which can be drawn from the uncovered gaps in theory or with the aim to explore this research question in other environments. However, three main suggestions will be made.

The first suggestion is twofold and would be an important comparison of the findings uncovered in this research to environments outside of the SME domain - exploring this research question in a large corporation or a group of corporations. Within a single corporation, several departments can be investigated to compare the findings across them. The reason for this is that departments can be regarded as organisations within organisations, in as much as they are impacted and directed by the dynamics of the overall corporation. Otherwise, the exploratory study can be conducted across a group of subsidiaries/divisions of the same organisation. By exploring this phenomenon across the divisions, variations can be noted within the clusters of the same organisational environment. It is an opportunity to observe the degree to which the expressed commitment by the larger corporation regarding the development of lifelong learning orientations and strategies is embraced and implemented across its different clusters.

The second suggestion is to further explore the role of vulnerability and shared values in shifting lifelong learning orientations and the subsequent development of lifelong learning strategies. These can be explored together or separately, although the findings of this study suggest that these are closely connected.

The third suggestion for future research is to explore the extent to which loosely connected systems in organisational environments can effectively facilitate the development of lifelong learning orientations and strategies. That is, uncovering the limits whereby the loosely connected systems that are intended to facilitate lifelong learning orientations and strategies start to act against the organisation as it expands. This would assist researchers and practitioners

alike identifying the boundaries when defining systems and structures so that they don't ultimately act as barriers but facilitate effective social interactions in an environment that seeks to enact lifelong learning orientations and practices.

Theoretical implications	Tensions and limitations
Individual	Tensions
Enactment of continuous learning attributes as trigger of LLL strategies	Organization's Identify value of diverse work exposure
Congruency in values of organisation & individual?	Reluctant to develop – potential sunken cost
Organisation	Potential interference with work-life balance
Team as bridge between individual and organizational interaction	Academic and tertiary qualifications
Shift in mental models (orientation) held about lifelong learning	Limitations
Shared vulnerability to learning (regardless of seniority) as enabler to developing LLL	Registered SMEs
Loosely connected systems facilitating development of LLL strategies	Cultural, family and educational background

Figure 15: Further outline of the potential landscape for future research

6. Conclusion

The phenomenon of lifelong learning holds the potential to enhance the state of engagement that adults of diverse backgrounds have with their organisations. An engagement that respects and appreciates the expression of their unique talents, experiences, values and life visions. Where adults interacting with organisations are not expected to act as passive recipients and executors of tasks but are approached from the perspective of shared vision, agency and vulnerability. And where the role of the organisation is not to merely dictate outcomes, but to act as stewards and impart similar values to the individuals it interacts with. And adults are empowered to become stewards of the organisational vision and of the goals and dreams that they envision beyond it. The fifth barefoot guide illuminates this perspective with such clarity (Reeler et al., 2005)... *“When ordinary people are able to create, link and strengthen their own organisations, and through them to voice and act out what they think, feel and want, they acquire more power over the choices and decisions that affect their lives.”* However, a sober-minded realisation and acknowledgement must be reached regarding its intricate features - orientation, strategies and practice. That lifelong learning cannot truly exist or manifest if any of these features are ignored or not fully appreciated, as each is the building block of the other. This acknowledgement is important if an organisation expects to realise the expressed intention

of becoming a learning organisation. Also, since an organisation is the organising of people, these same people must equally evolve into lifelong learners. Therefore, the organisational environment holds the unique potential and imperative to guide and facilitate this evolution of adults into lifelong learners within it. The beauty of aligning the development of lifelong learners with the pursuit of congruence between the vision and values of the organisation and the individual is that both benefit in the long run. The individuals immersed in such an environment have the agency to discover and define with growing clarity their unique purpose within the organisation, and beyond it. They also experience connectedness within the organisation. They can embrace the notion and expectation of being agile and innovative, not for the sake of the declared mission, but as an expression of their unique self-identity and allegiance to the organisation. The organisation, on the other hand, is able to thrive in the now, and through its people's persistent ability to engage in reflective practice, it is also well-positioned to continually adapt and innovate in ever-changing conditions.

The lifelong learning phenomenon has the potential to emancipate individuals and organisations, alike, from 'the dictatorship of no alternatives' (Unger, 2015). My fundamental belief is that life-long learning cannot be fully embraced by individuals unless a basic element of discovery exists. Not just about their work or the world around them, but about themselves. And for this discovery process to also facilitate the development of agency to identify opportunities wherein they can express that individuality even through their work, and to also recognize options that are beyond those already presented to them. Most importantly, the ability to identify the potential for these possibilities to be lived out beyond a specific environment or context, while still being empowered for making a unique impact.

7. Appendices

Appendix 1: Sample of questions for semi-structured interview

a. Interview Questions

1. Can you tell me about a time when you had a great workplace learning experience – which started with you being really frustrated by something you needed to learn and couldn't figure out how? **Environment. "story"**
2. How does your everyday work in your organization help you learn? **Environment "reflection"**
3. Can you tell me about a time when you collaborated with an organization or team outside your industry for a work project? **Community. "story"**
4. How would you say your organization has impacted how you approach your skills and career development? **Environment "reflection"**
5. Can you tell me about a time when you worked on a project [personal or not related to your job or organization] and you needed to collaborate with a person/s with different skills or from a different industry? **Community "story"**
6. How do you see digital transformation impacting your organization and your role within the organization? **"reflection"**

Appendix 2: Questionnaire 1 - Attributes of a Lifelong Learner (Kirby et al., 2010)

CHARACTERISTICS OF LIFELONG LEARNING						
Characteristic (Cropley and Knapper 2000)						
		Strongly disagree		Neutral		Strongly agree
	Item	-2	-1	0	+1	+2
A	Goal setting					
B	Application of knowledge and skills					
C	Self-direction and evaluation					
D	Locating information					
E	Adaptable learning strategies					
	Question: What are your opinions on learning?					
1	I prefer to have others plan my learning					
2	I prefer problems for which there is only one solution					
3	I can deal with the unexpected and solve problems as they arise					
4	I feel uncomfortable under conditions of uncertainty					
5	I am able to impose meaning upon what others see as disorder					
6	I seldom think about my own learning and how to improve it					
7	I feel I am a self-directed learner					
8	I feel others are in a better position than I am to evaluate my success as a student					
9	I love learning for its own sake					
10	I try to relate academic learning to practical issues					
11	I often find it difficult to locate information when I need it					
12	When I approach new material, I try to relate it to what I already know					
13	It is my responsibility to make sense of what I learn at school					
14	When I learn something new, I try to focus on the details rather than on the 'big picture'					

Appendix 3: Questionnaire 2 – Dimensions of a Lifelong Learning Organisation

DIMENSIONS OF A LEARNING ORGANISATION					
	Never/ Rarely	2	Some times	4	Almost always
	1	2	3	4	5
Individual level					
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
Team or group level					
In this section the term "team/group" means your current project.					
14					
15					
16					
17					
18					
19					
	Never/ Rarely	2	Some times	4	Almost always
	1	2	3	4	5
Organization level					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
31					
32					
33					
34					
35					
36					
37					
38					
39					
40					
41					
42					
43					
	Not Correct		Not Sure		Very Correct
Additional Information about You and Your Organization					
56					
a.					
b.					
c.					
d.					
e.					
57					
58					
59					
60					

Appendix 4: Sample of consent form



MASTER OF PHILOSOPHY IN INCLUSIVE INNOVATION

INTERVIEW CONSENT FORM:

Participant name:

.....

I volunteer to participate in a research project conducted by **Thabile Bhengu** as partial fulfilment of the requirements for the MPhil Degree at the Graduate School of Business. I understand that the research is designed to gather information about **“What are the potential enablers and barriers to cultivating self-directed lifelong learning in the workplace in African economies – a South African case study?”** and that I will be one of approximately **18** people being interviewed for this research.

Background and purpose of the research

The African economy is not exempt from the impacts of the changing nature of work, as a result of the adoption of technology and the increased digitization of functions within the workplace across all industries, though these disruptions are occurring at different rates. Studies by several bodies and organizations have been highlighting the trends already being observed in the changing skills needs as a result of increasingly digitized task executions in the workplace. The South African economy is specifically vulnerable considering its complex socio-economic challenges – high levels of unemployment, high illiteracy rates and major employment inefficiencies. Lifelong learning has been proposed as a potentially viable strategy towards executing adult learning and reskilling, especially for adaptability towards the future of work and an increased potential to innovate. Historically, the phenomenon of lifelong learning has been considered on a policy level, and attempts to translate it an education framework have been fragmented across different departments. These have also been unable to yield measurable and observable outcomes beyond policy reforms. Considering that a large fraction of the adult population has little or no formal educational background, the organization is a rather conducive environment within which lifelong learning strategies can be further developed.

The purpose of this research is therefore to understand how adults’ interaction with their work environment influences their engagement in lifelong learning, specifically relating to their career and skills development. The research seeks to understand this phenomenon with adults across the various skills – unskilled/semi-skilled, skilled and professional, within the SMME sector in South Africa.



To find out more about our world-class academic programmes, executive education short courses and customised programme offerings contact 0860 UCT GSB (828 472) | INTL +27 (0)21 4061922 | info@gsb.uct.ac.za or visit www.gsb.uct.ac.za





Figure 18: Described modes of learning approaches within environments



Figure 19: Participants description of their previous environments

Appendix 6: Analysis of participants' development within coffee company



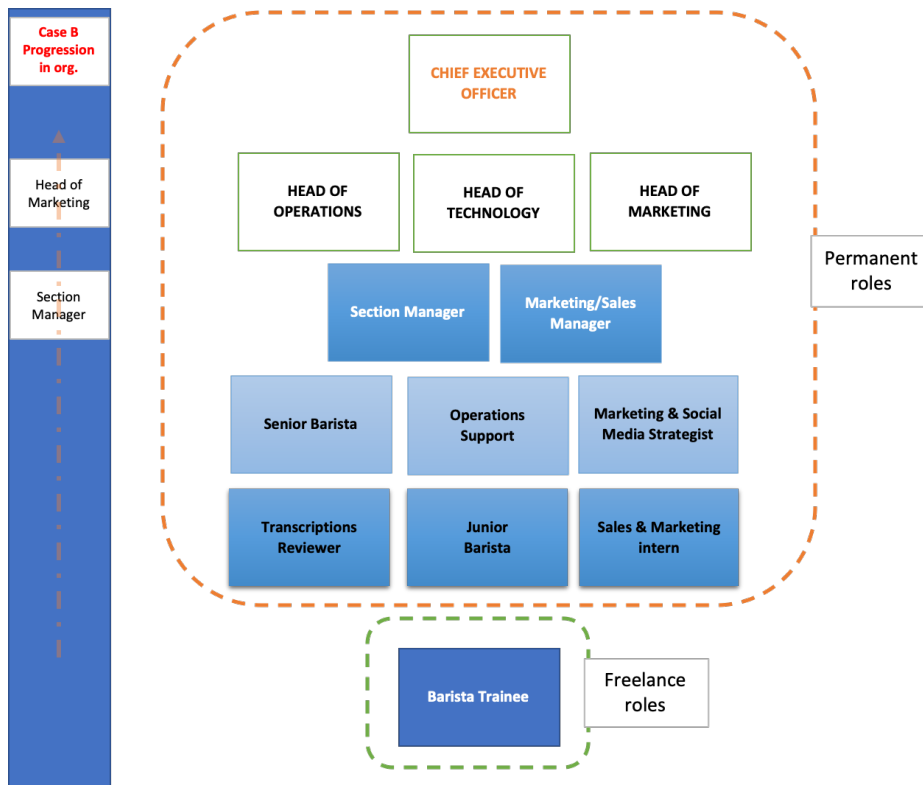


Figure 25: Analysis of Case B organogram and case progression in organisation

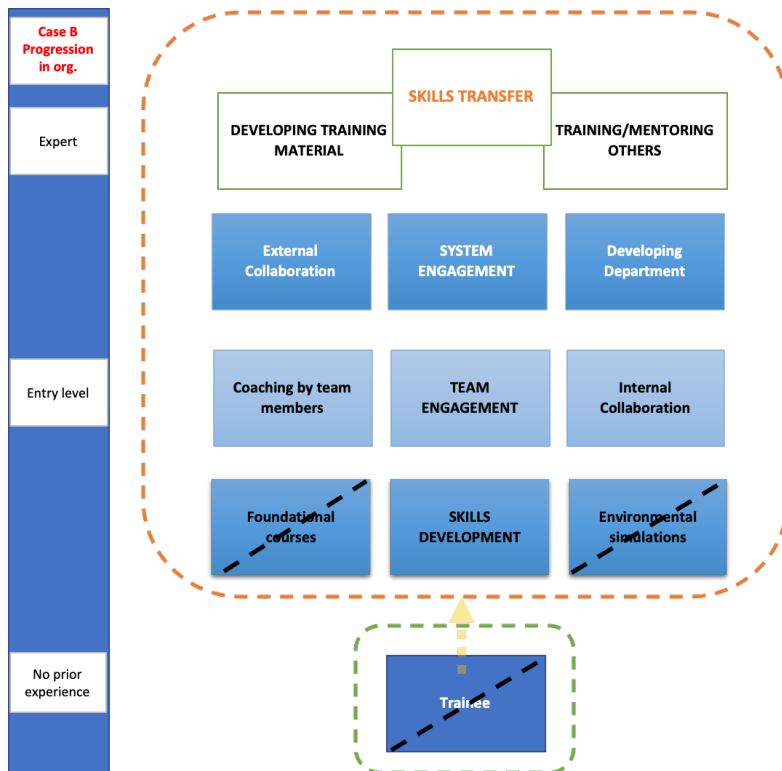


Figure 26: Development model followed by organisation for Case B

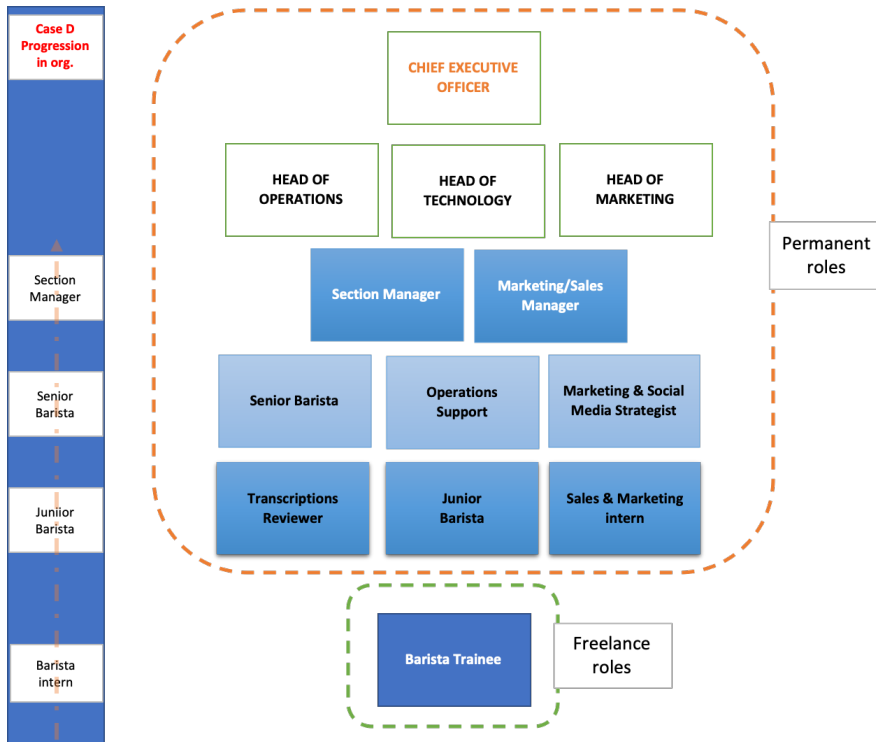


Figure 27: Analysis of Case D organogram and case progression in organisation

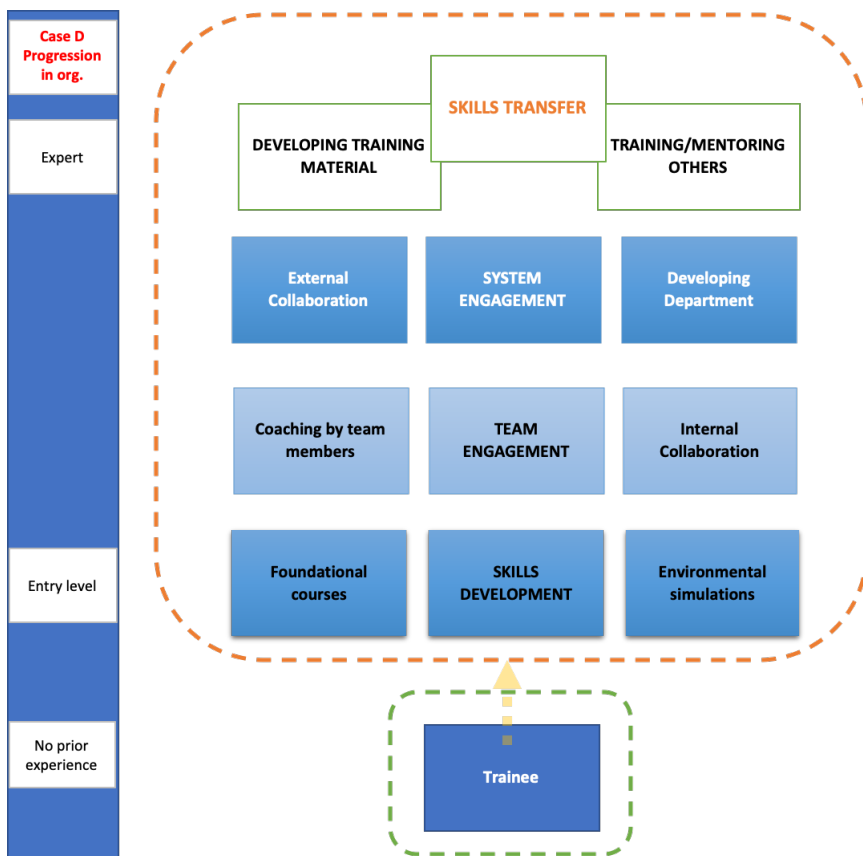
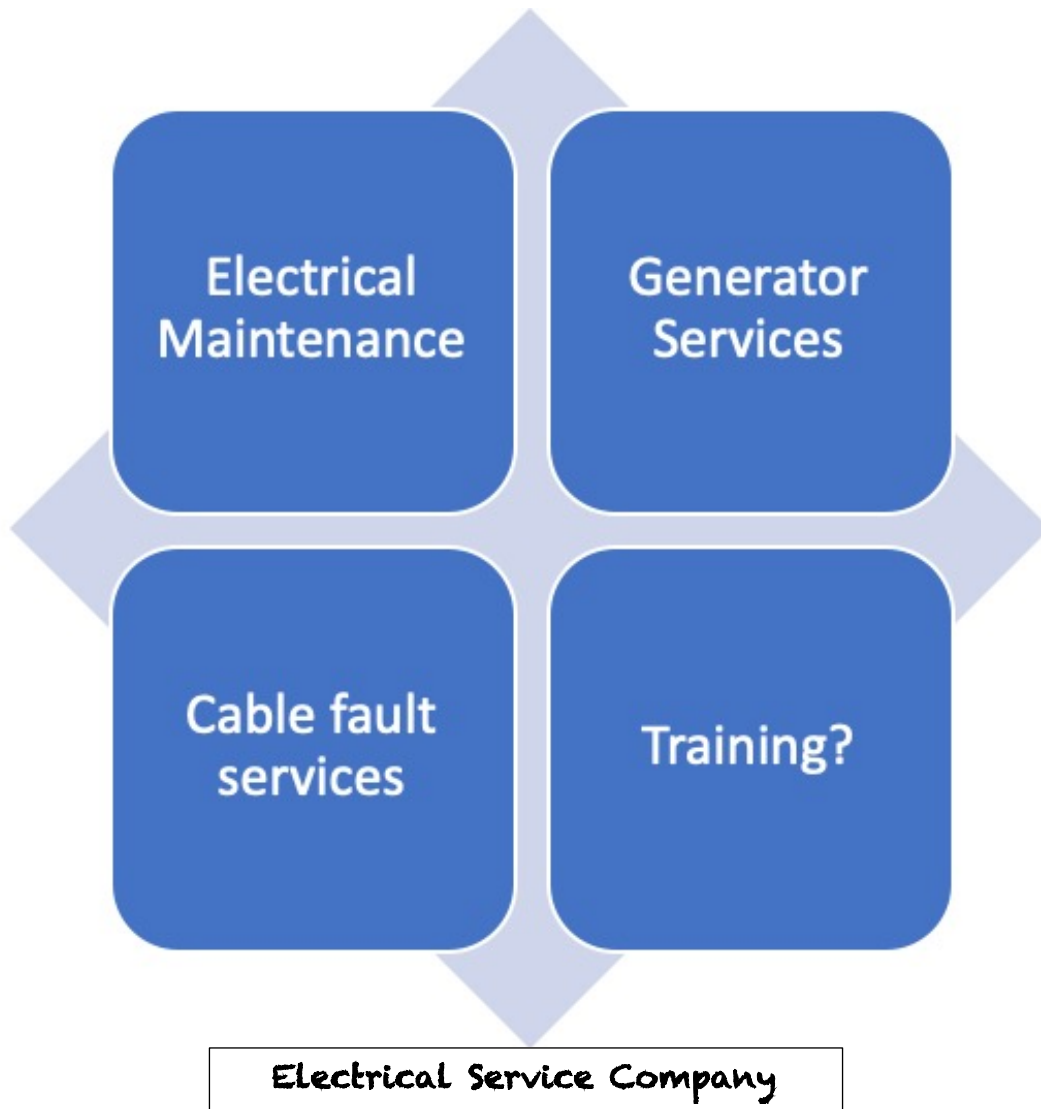


Figure 28: Development model followed by organisation for Case D

Appendix 7: Analysis of participants' development within electrical service company



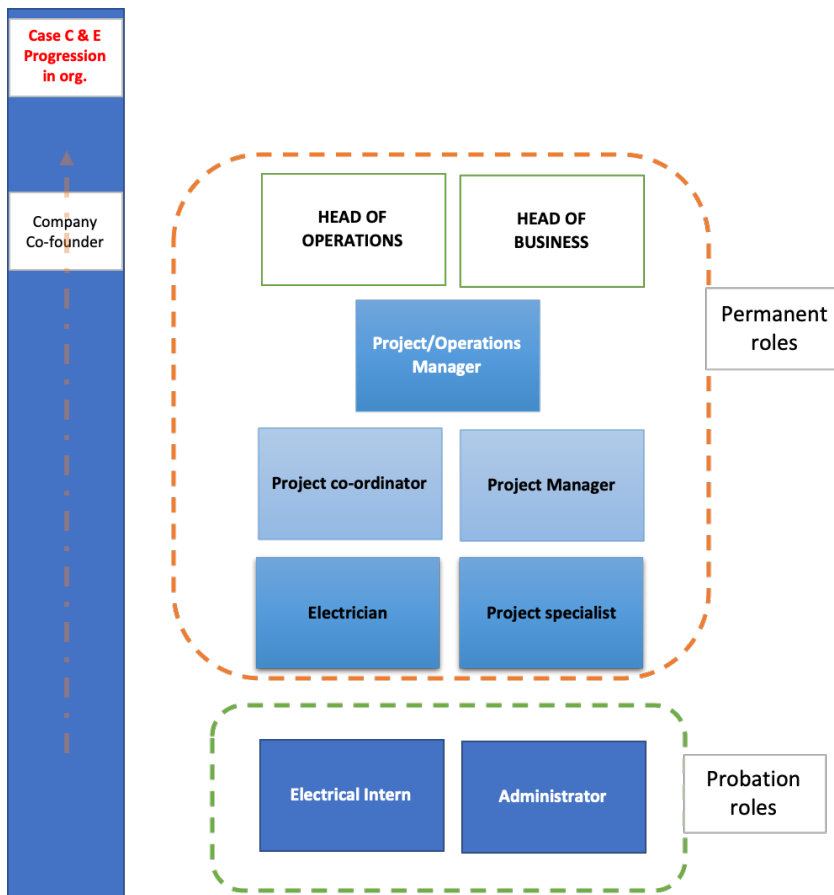


Figure 29: Analysis of Case C & E organogram and case progression in organisation

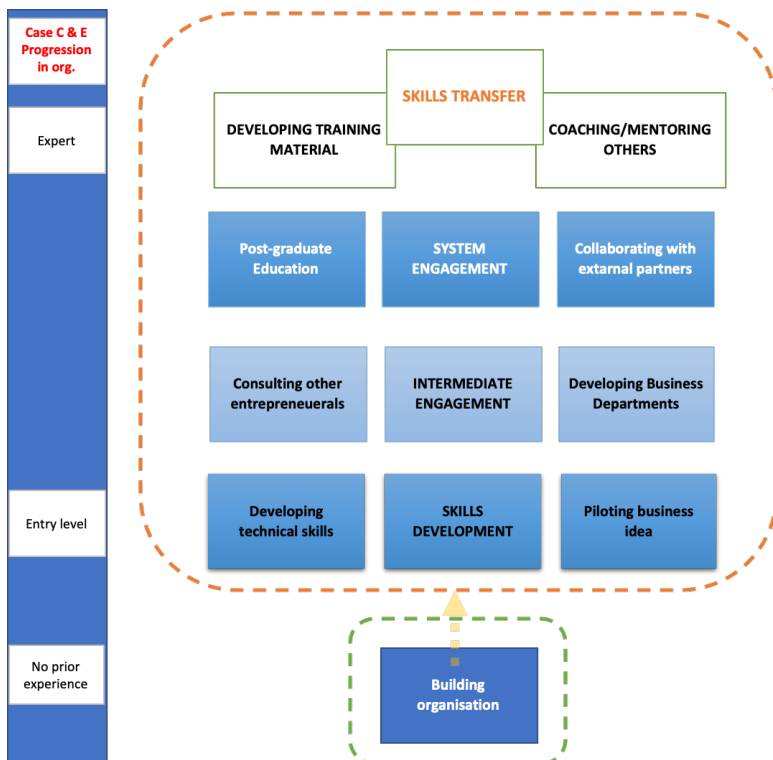


Figure 30: Development model followed by organisation for Case C & E

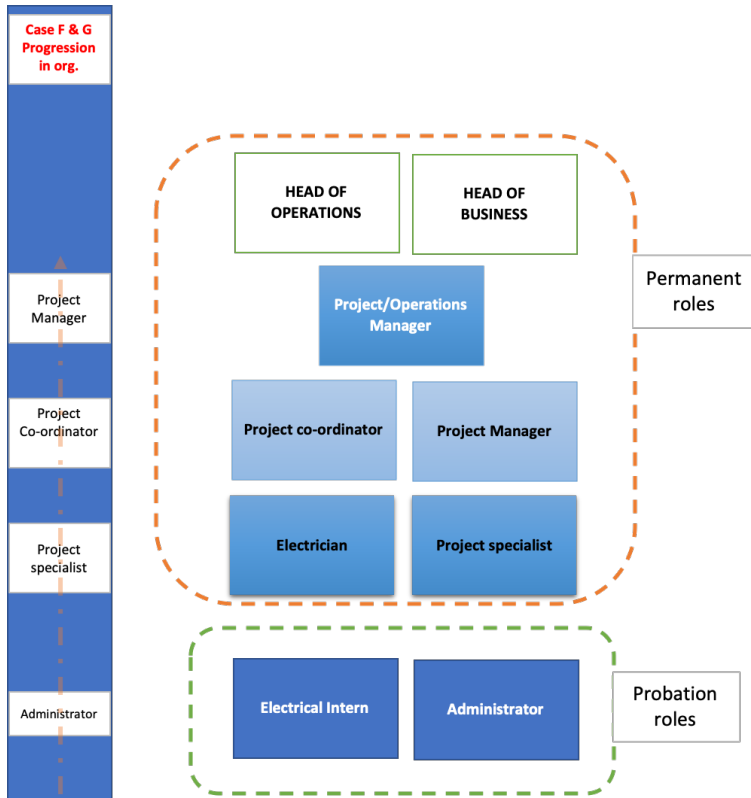


Figure 31: Analysis of Case F&G organogram and case progression in organisation

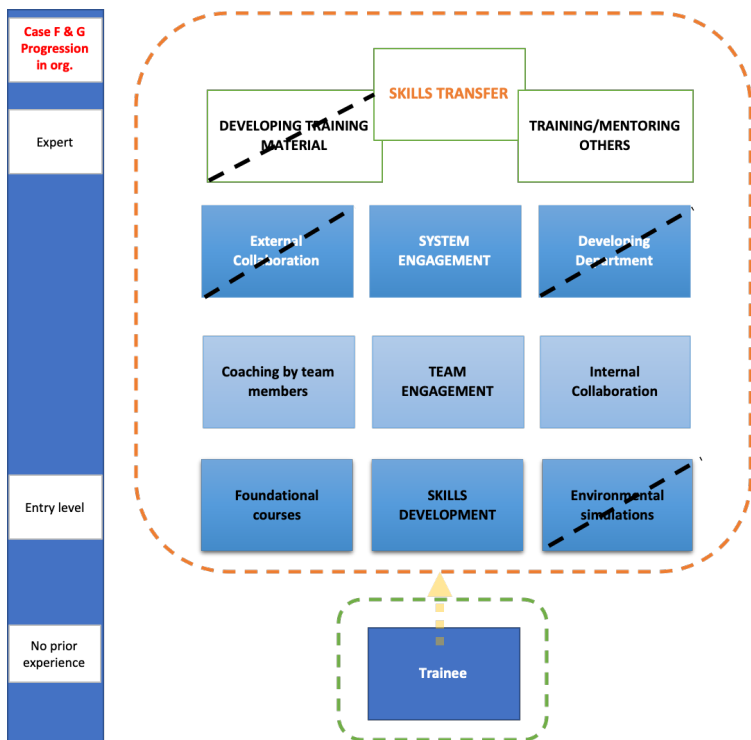
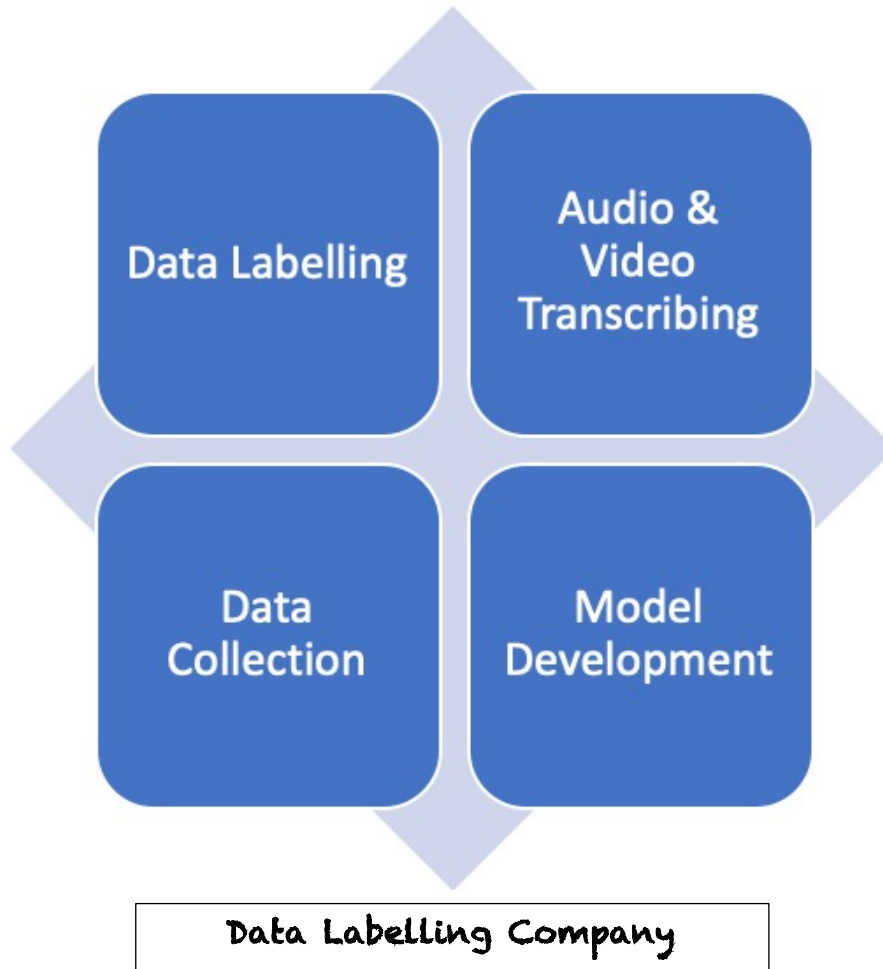


Figure 32: Development model followed by organisation for Case F and G

Appendix 8: Analysis of participants' development within data labelling company



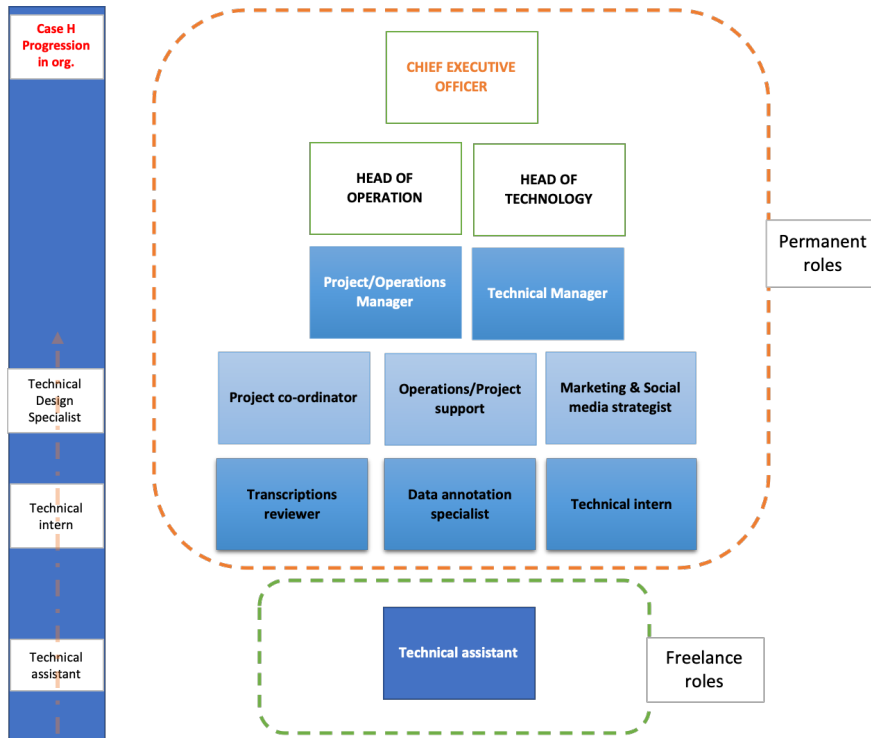


Figure 33: Analysis of Case H organogram and case progression in organisation

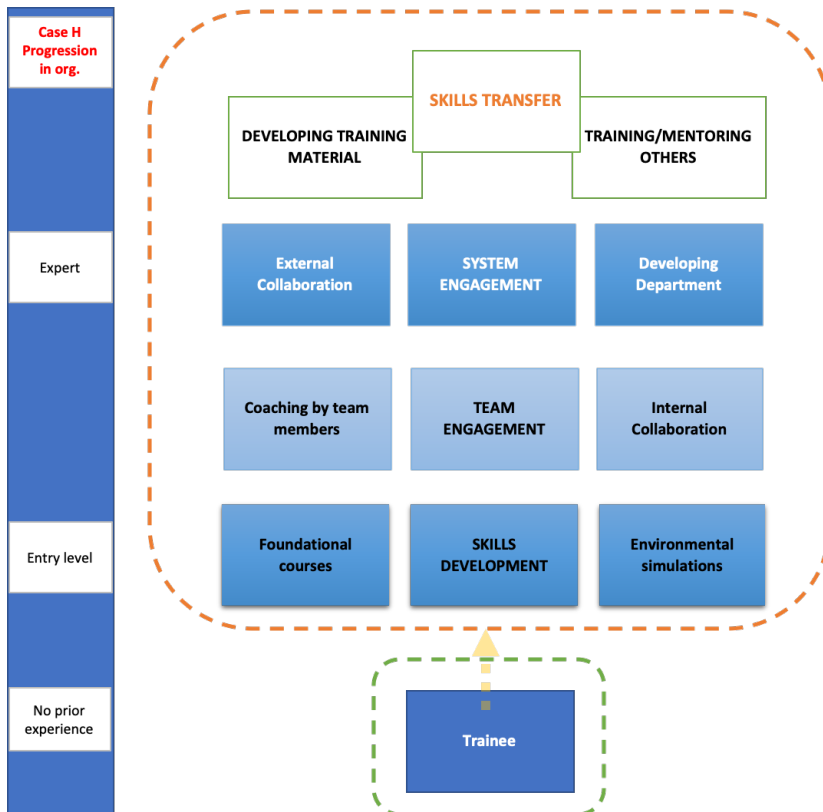


Figure 34: Development model followed by organisation for Case H

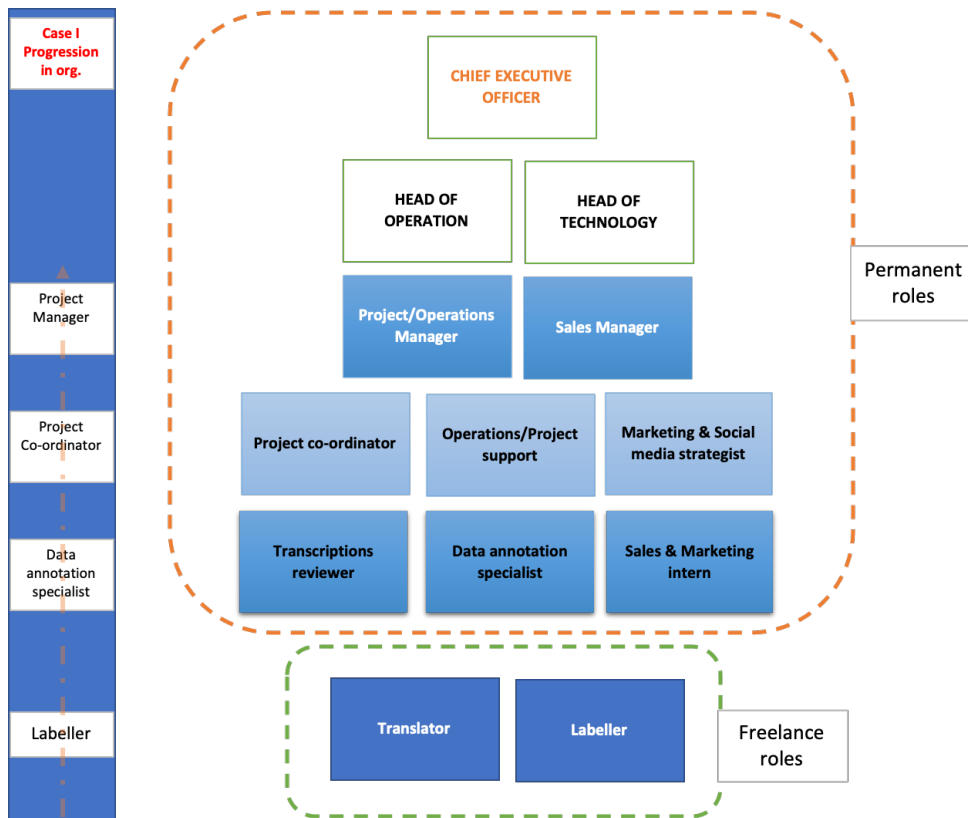


Figure 35: Analysis of Case I organogram and case progression in organisation

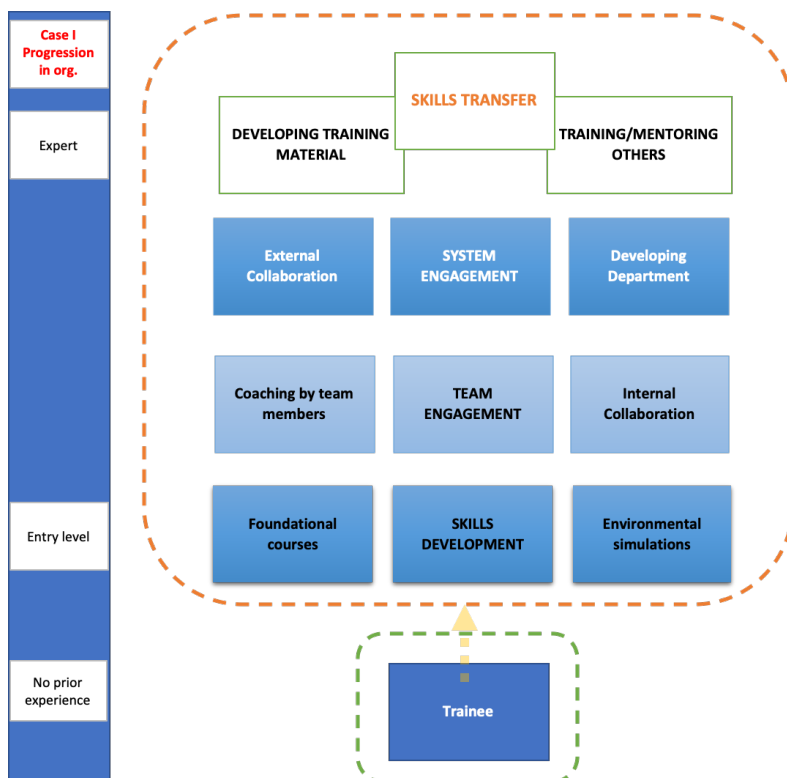


Figure 36: Development model followed by organisation for Case I

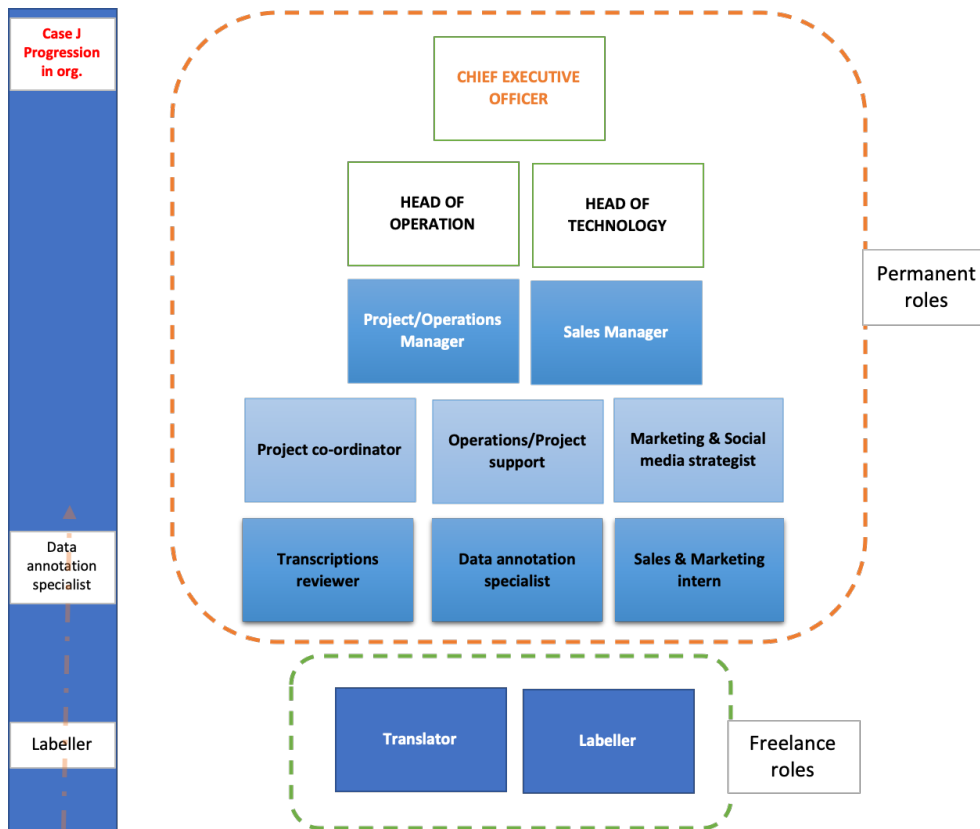


Figure 37: Analysis of Case J organogram and case progression in organisation

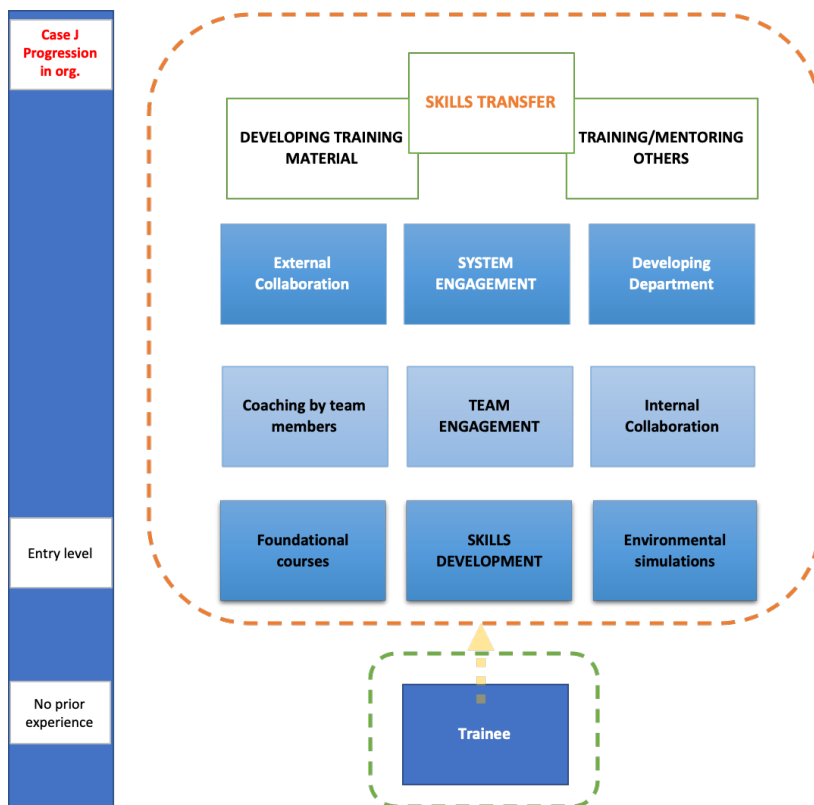
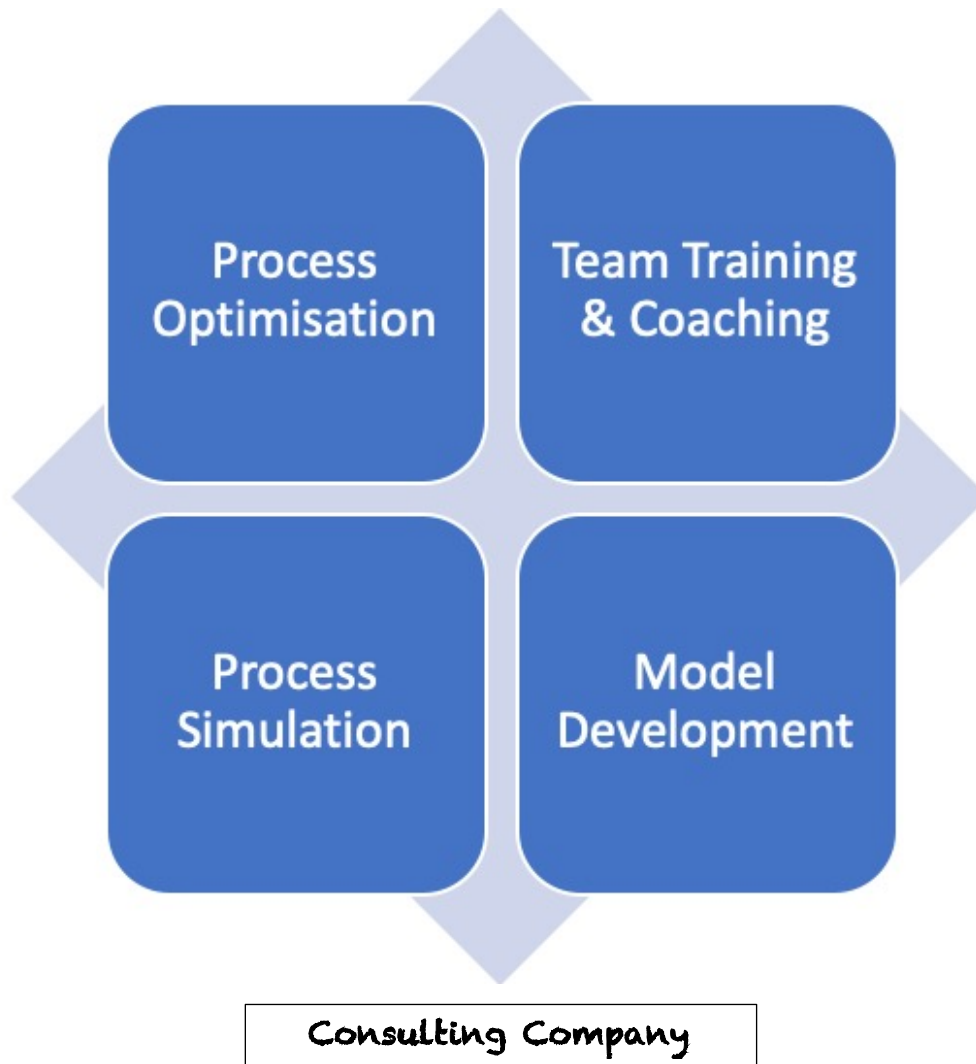


Figure 38: Development model followed by organisation for Case J

Appendix 9: Analysis of participants' development within consulting company



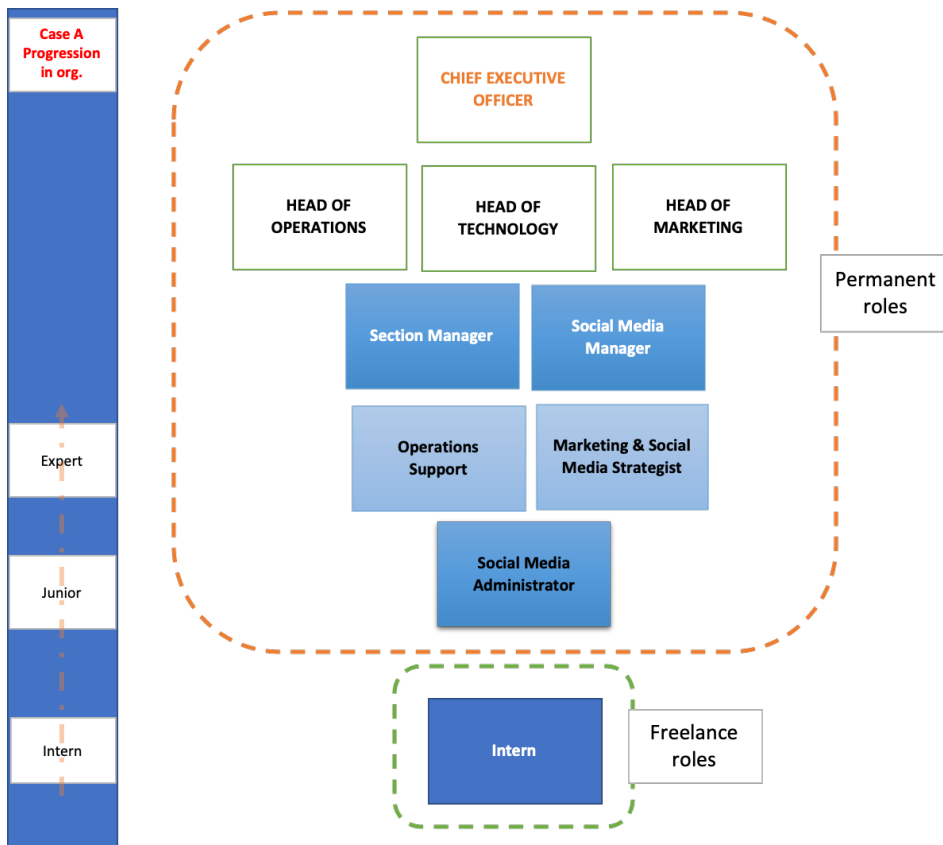


Figure 39: Analysis of Case A organogram and case progression in organisation

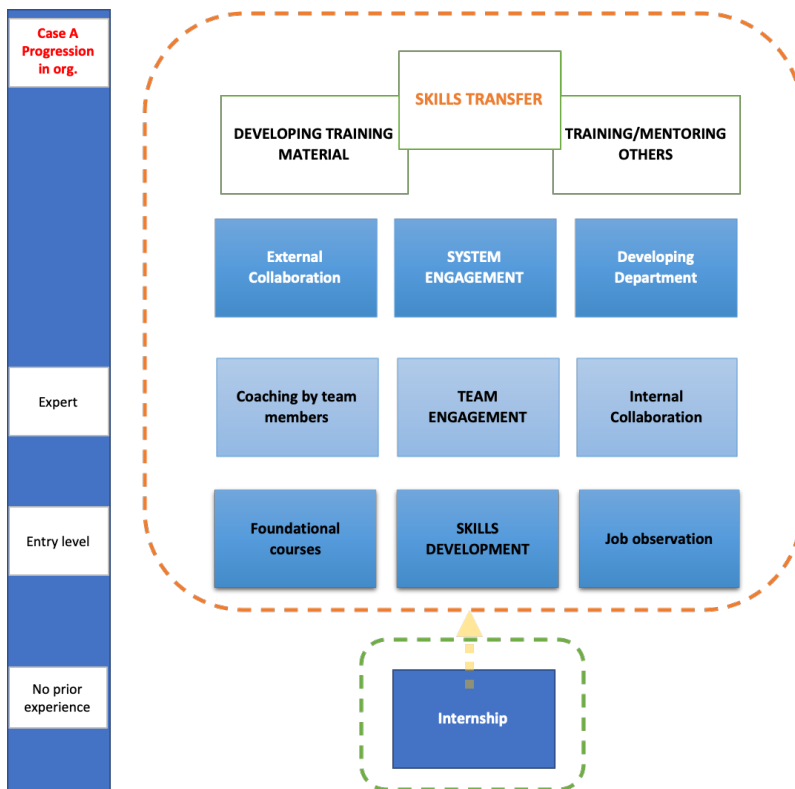


Figure 40: Development model followed by organisation for Case A

Appendix 10: Analysis of participants' development within train manufacturing company



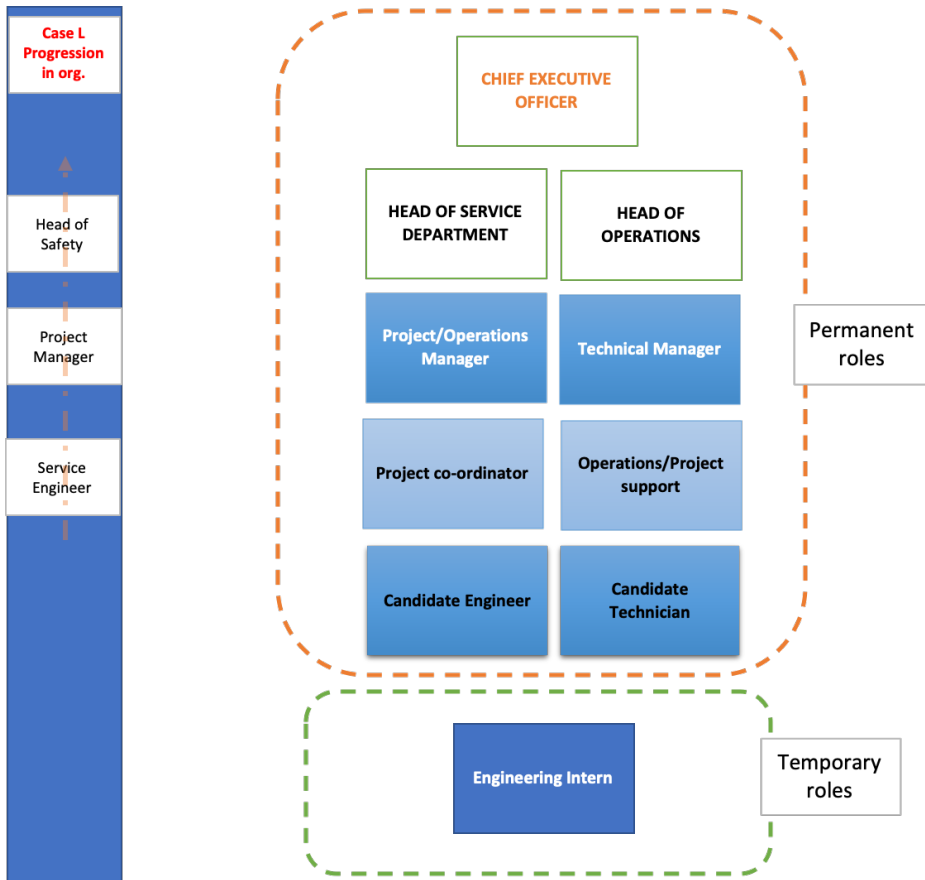


Figure 41: Analysis of Case L organogram and case progression in organisation

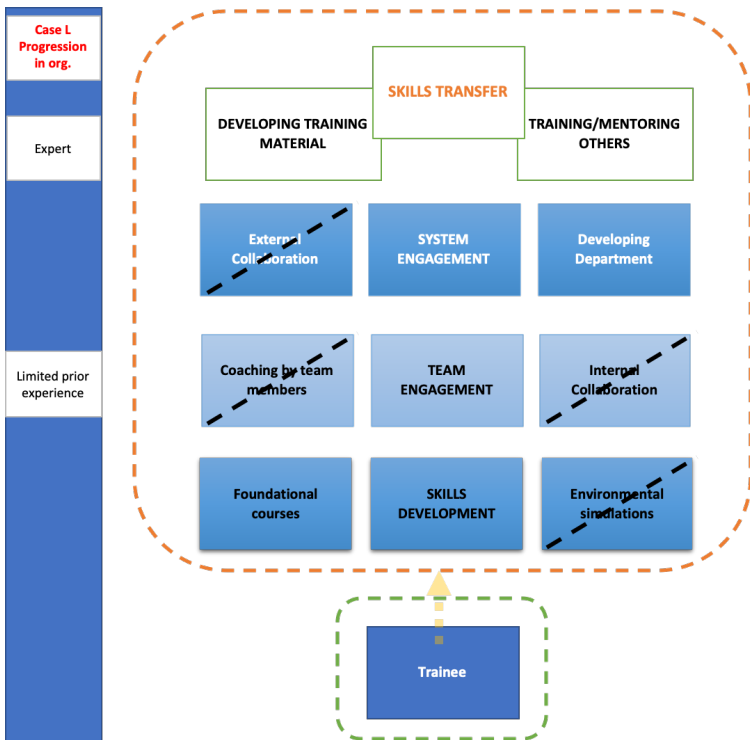


Figure 42: Development model followed by organisation for Case L

8. References

- Arias, E., Eden, H., Fischer, G., Gorman, A., & Scharff, E. (2000). Transcending the Individual Human Mind—Creating Shared Understanding through Collaborative Design. *ACM Transactions on Computer-Human Interaction*, 7(1), 84–113. <https://doi.org/10.1145/344949.345015>
- Azevedo, R. (2005). Using hypermedia as a Metacognitive tool for enhancing self learning? The Role of self-regulated learning. *Educational Psychology*, 40(4), 199–209.
- Azevedo, R., & Hadwin, A. (2005). Scaffolding self-regulated learning and metacognition—Implications for the design of computer-based scaffolds. *Instructional Science*, 33(5), 367–379.
- Babajeva, L. (2012). *Contemporary theories of adult learning*. 450–458.
- Badescu, M., & Saisana, M. (2008). *Participation in lifelong learning in Europe: What can be measured and compared ?*
- Baggen, Y., Miemans, H., Kempan, J., & Lans, T. (2016). Fostering Entrepreneurial Learning On-the-Job: Evidence from innovative small and medium-sized companies in Europe. *European Journal of Education*, 51(2), 193–209.
- Balle, M., Morgan, J., & Sobek II, D. (2016). *Why learning is central to sustained innovation*. 1–12.
- Billet, S. (1994). Situated learning: A workplace experience. *Australian Journal of Adult and Community Education*, 34(2), 112–130.
- Billet, Stephen. (2002). Critiquing the workplace learning discourses: Participation and continuity at work. *Studies in the Education of Adults*, 34(1), 56–67.
- Brookfield, S. (1984). The contribution of Ed Lindeman to the development of theory and philosophy in adult education. *Adult Education Quarterly*, 34(4), 185–196.
- Brookfield, S. (1995). Adult Learning: An Overview Major Areas of Research on Adult Learning Self-Directed Learning. *International Encyclopedia of Education*, 1–11.
- Bughin, J. (2018). Preparing for the Coming Skill Shifts. *How AI Is Transforming the Organization*, 1–4. <https://www.jstor.org/stable/26357799> Comparing Adult Learning Systems : an emerging political economy
- Campbell, S. Greenwood, M., Prior, S., Shearer, T., Young, S., Bywaters, D., Walker, K. (2020). Purposive sampling: complex or simple? Research case examples. *Journal of Research in Nursing*, 25(8), 652–661. <https://doi.org/10.1177/1744987120927206>
- Chick, N. (2013). *Metacognition—Thinking about one’s thinking*. Vanderbilt University Center for Teaching. <https://cft.vanderbilt.edu/guides-sub-pages/metacognition/>
- Choi, H., Jeon, Y., Hyerim, P., & Nah, K. (2018). Collaborative workshop between client and agency for open innovation. *Journal of Open Innovations Technology, Market and Complexity*, 4(13). <https://doi.org/10.1186/s40852-018-0082-7> CASE
- Collins, J. (2004). Education techniques for lifelong learning: Principles of adult learning. *Radio Graphics*, 24(5), 1483–1489.
- Corley, M. A. (2011). *Adult Learning Theories*.

- Coyne, I. (1997). Sampling in qualitative research—Purposeful and theoretical sampling; merging or clear boundaries. *Journal of Advanced Nursing*, 26, 623–630.
<https://doi.org/DOI: 10.1046/j.1365-2648.1997.t01-25-00999>
- Creswell, J. W. (2014). *Research design—Qualitative, quantitative and mixed methods approaches*. SAGE.
- Cropley, A., & Knapper, C. (1983). Higher Education and the promotion of Lifelong Learning. *Studies in Higher Education*, 8(1), 15–21.
- Crossley, J., & Jensen, D. (2020). *Qualitative data coding 101: How to code qualitative data, explained simply*. <https://gradcoach.com/qualitative-data-coding-101/>
- Davenport, J., & Davenport, J. A. (1985). A chronology and analysis of the andragogy debate. *Adult Education Quarterly*, 3(35), 152–159.
- Dawson, T. (2008). Metacognition and learning in adulthood. *Prepared in Response to Tasking From*, 1–22.
- De Ven, A., & Johnson, P. (2006). Knowledge for Theory and Practice. *Academy of Management Review*, 31(4), 802–821. <https://doi.org/10.5465/AMR.2006.22527385>
- Duff, A., & McKinstry, S. (2007). *Students' Approaches to Learning*.
- Elmusharaf, K., Farrokhi, F., & Mahmoudi-Hamidabad, A. (2012). Qualitative Sampling Techniques. *Theory and Practice in Language Studies*, 2(4), 784–792.
- Feldman, D. (2013). *Senge's fifth discipline—A model for school leadership*. 21–25.
- Fischer, G. (1993). Beyond human computer interaction: Designing useful and usable computational environments. *In Proceedings of the Conference on People and Computers*, 17–31.
- Fischer, G. (1998). Conceptual Frameworks And Innovative Computational Environments In Support Of Self-Directed And Lifelong Learning. *Report to BMBF, Center for Lifelong Learning and Design, University of Colorado in Boulder*, 1–47.
- Fischer, G., & Kommers, P. (1999). Lifelong learning—More than training. *International Journal of Continuing Engineering Education and Lifelong Learning*.
- Flavell, J. (1979). Metacognition and cognitive monitoring: A new area of cognitive-developmental inquiry. *American Psychologist*, 34(10), 906–911.
- Franco, M., & Ameidá, J. (2010). Organisational learning and leadership styles in healthcare organisations: An exploratory case study. *Leadership and Organisation Development Journal*, 32(8), 782–806.
- Freeman, E. R., & Freeland, J. (2018). *The time for retraining is now*. 1–5.
- Fretwell, D., & Hopper, R. (2003). *Life-Long Learning and the knowledge economy*.
- Goldstuck, A. (2018). *How technology is reshaping South Africa's small business economy*. Xero; World Wide Worx.
- Gono, S., Harindranath, G., & Özcan, G. B. (2016). The Adoption and Impact of ICT in South African SMEs. *Strategic Change*, 25(6), 717–734.
<https://doi.org/10.1002/jsc.2103>
- Gratton, L., & Scott, A. (2017). The Corporate implications of longer lives. *MIT Sloan Management Review*, 1–13.

- Green, C., Palinkas, L. A., Horwitz, S. M., Duan, N., Hoagwood, K., & Wisdom, J. P. (2015). Purposeful Sampling for qualitative data collection. *Adm Policy Ment Health*, 42(5), 533–544. <https://doi.org/doi:10.1007/s10488-013-0528-y>
- Heller, J. (2004). *Catch-22*.
- Iftikhar, S. (2015). The importance of Metacognitive Strategies to Enhance Reading Comprehension Skills of Learners: A Self-directed Learning Approach. *Journal of English Language and Literature*, 2(3), 1–191.
- Illeris, K. (2003). Towards a contemporary and comprehensive theory of learning. *International Journal of Lifelong Education*, 22(4).
- Illeris, K. (2004). A model for learning in working life. *Journal of Workplace Learning*, 16(8), 431–441. <http://dx.doi.org/10.1108/13665620410566405>
- Illeris, K. (2007). *How we learn: Learning and non-learning in school and beyond*. Tyler & Francis e-Library.
- Illeris, K. (2009). *Contemporary Theories of Learning*.
- Illeris, K. (2016). Workplace Learning and Learning Theory. *Learning, Development and Education: From learning theory to education and practice*. London. Routledge. <https://doi.org/10.4324/9781315620565>
- International Finance Corporation. (2018). *The unseen sector: A report on the MSME opportunity in South Africa*.
- Jarvis, P. (2009). Learning to be a person in society: Learning to be me (2006). In *Contemporary Theories of Learning* (pp. 21–34).
- Junhee, K., Egan, T., & Tolson, H. (2015). Examining the Dimensions of the Learning Organization Questionnaire: A Review and Critique of Research Utilizing the DLOQ. *Human Resource Development Review*, 14(1), 91–112. <https://doi.org/10.1177/1534484314555402>
- Kane, G. (2017). *Planning for the Future of Work*. 1–5.
- Kane, G., Palmer, D., Phillips, A. N., & Kiron, D. (2016). *Winning the digital war for talent*. 1–6.
- Kirby, J. R., Knapper, C., Lamon, P., & Egnatoff, W. (2010). Development of a scale to measure lifelong learning. *International Journal of Lifelong Learning*, 29(3), 291–302. <https://doi.org/10.1080/02601371003700584>
- Knapper, C. (1985). *Lifelong learning and distance learning*. 26, 1–11.
- Knapper, C. K., & Cropley, A. (1986). Lifelong Learning and Higher Education. *The Journal of Higher Education*, 57(3), 201,337.
- Knowles, M. (1980). The modern practice of adult education: From pedagogy to andragogy. *The Adult Education Company*.
- Kolb, David A. (1984). Experiential Learning: Experience as The Source of Learning and Development. *Prentice Hall, Inc.*, 20–38. <https://doi.org/10.1016/B978-0-7506-7223-8.50017-4>
- Kovacs, Z., Kaln, C. (2022). Professional learning in the workplace. *Journal of Adult Learning, Knowledge and Innovation*, 4(2), 41-43. <https://doi.org/10.1556/2059.2021.00046>

- Kumar, S. (2018). Understanding different issues of unit of analysis in a business research. *Journal of General Management Research*, 5(2), 70–82.
- Kyndt, E., Govaerts, N., Dochy, F., & Baert, H. (2011). The Learning Intention of Low-Qualified Employees: A Key for Participation in Lifelong Learning and Continuous Training. *Vocations and Learning*, 4(3), 211–229. <https://doi.org/10.1007/s12186-011-9058-5>
- Laal, M. (2011). Lifelong learning: What does it mean? *Procedia - Social and Behavioral Sciences*, 28, 470–474. <https://doi.org/10.1016/j.sbspro.2011.11.090>
- Lee-Kelley, L., Blackman, D., & Hurst, J. P. (2007). An exploration of the relationship between learning organisations and the retention of knowledge workers. *The Learning Organization*, 14(3), 204–221. <https://doi.org/10.1108/09696470710739390>
- Lopez, B. (2017). The 21st century adult learner. *Educational Research and Reviews*, 12(8), 540–548. <https://doi.org/10.5897/err2016.2928>
- Macha, W., & Kadakia, A. (2017). *Education in South Africa*. <https://wenr.wes.org/2017/05/education-south-africa>
- Mainwaring, Deborah. (2012). *An exploration of the application of three dimensions of learning to young people in the post-compulsory sector. Thesis submitted for Doctorate in Education*. University of London.
- Manuti, A., Pastore, S., Scardigno, A. F., Giancaspro, M. L., & Morciano, D. (2015). Formal and informal learning in the workplace: A research review. *International Journal of Training and Development*, 19(1), 1–17. <https://doi.org/10.1111/ijtd.12044>
- Marra, R., Kim, S. M., Plumb, C., Hacker, D., & Bossaller, S. (2017). Beyond the technical: Developing lifelong learning and metacognition for the engineering workplace. *ASEE Annual Conference and Exposition, Conference Proceedings*.
- Marsick, V. J., & Watkins, K. E. (2003). Demonstrating the value of a Organizational Learning Culture. *Advances in Developing Human Resources*, 5(2).
- Merriam, S. (1996). *Updating our knowledge of adult learning*. 16(3), 136–143.
- Merriam, S. (2001). Andragogy and Self-Directed Learning: Pillars of Adult Learning Theory. In *New Directions for Adult and Continuing Education* (Vol. 89, pp. 3–13).
- Merriam, S. (2008). Adult Learning Theory for the Twenty-First Century. In *New Directions for Adult and Continuing Education* (pp. 93–99). Wiley.
- Mezirow, J. (1981a). A Critical Theory of Adult Learning and Education. *Adult Education*, 1(34), 3–24.
- Mezirow, J. (1981b). *A Critical Theory of Adult Learning and Education*. 1(34), 3–24.
- Mezirow, J. (1990). *Fostering critical reflection in adulthood* (pp. 1–20).
- Mezirow, J. (2009). An overview on transformative learning. In *Contemporary Theories of Learning* (pp. 90–105).
- Midtsundstad, T. (2019). A review of the research literature on adult learning and employability. *European Journal of Education*, 54(1), 13–29.
- Moser, A., & Korstjens, I. (2018). Series: Practical guidance to qualitative research. Part 4: Trustworthiness and publishing. *European Journal of General Practice*, 24(1), 120–124. <https://doi.org/10.1080/13814788.2017.1375092>

- Nguyen, X. (2007). *Knud Illeris's Three-dimension learning theory in Crosslife*. 18.
- Nier, J., Phillips, R., & Cook, R. (2017). *Learning organisations: Emerging practice from CDKN 's experience*.
- Nordin, N., Embi, M. A., & Yunus, M. M. (2010). Mobile learning framework for lifelong learning. *Procedia - Social and Behavioral Sciences*, 7(2), 130–138.
<https://doi.org/10.1016/j.sbspro.2010.10.019>
- Oudejans, S. C. C., Schippers, G. M., Schramade, M. H., Koeter, M. W. J., & Van Den Brink, W. (2011). Measuring the learning capacity of organisations: Development and factor analysis of the questionnaire for learning organizations. *BMJ Quality and Safety*, 20(4), 307–313. <https://doi.org/10.1136/bmjqs.2010.042556>
- Patton, M. Q. (2015). Variety of qualitative enquiry frameworks. In *Qualitative Research and Evaluation Methods* (4th ed., pp. 152–158). SAGE.
- Perras, C. (2014). *Metacognitive Strategies or "Thinking About My Thinking"*. 1–6.
- Peters, L. D., Johnston, W. J., Pressey, A. D., & Kendrick, T. (2010). Collaboration and collective learning: Networks as learning organisations. *Journal of Business and Industrial Marketing*, 25(6), 478–484. <https://doi.org/10.1108/08858621011066062>
- Petriglieri, G. (2020). Learning for a living. *MIT Sloan Management Review*, 61(2), 44–51.
- Pratt, D. (1993). Andragogy after twenty-five years. *Learning Theory: An Update*, 1–10.
- Preece, J., & Hoppers, C. O. (2011). Lifelong learning in sub-saharan Africa. *International Journal of Lifelong Education*, 30(1).
- Ranta, T. (2018). *Measuring learning organisations*. 1–33.
- Reeler, D., Rubert, V. B., Taylor, J., Paulsen, D., & Soal, S. (2005). *Barefoot Guide*. Barefoot Collection.
- Rees, G. (2020). Comparing Adult Learning Systems: An emerging political economy. *European Journal of Education*, 48(2), 200–212.
<https://www.jstor.org/stable/26357799> Comparing Adult Learning Systems : an emerging political economy
- Resnick, L. B. (1987). *Learning in school and out*. 13–20.
- Saar, E., Ure, O. B., & Desjardins, R. (2013). The Role of diverse institutions in framing adult learning systems. *Europe Journal of Education*, 48(2), 213–232.
<https://doi.org/10.1111/ejed.12026>
- Savicevic, D. M. (1991). Modern Conceptions of Andragogy: A European Framework. *Studies in the Education of Adults*, 23(2), 179–201.
- Savicevic, D. M. (1998). Understanding Andragogy in Europe and America: Comparing and Contrasting. In J. Reischmann, B. Michal, and J. Zoran (eds.). *Slove-Nia: Slovenian Institute for Adult Education*.
- Senge, P. (2004). *The Fifth Discipline: The art and practice of learning organisation*. Doubleday.
- Stenfors, T., Kajamaa, A., & Bennett, D. (2020). How to...assess the quality of qualitative research. *The Clinical Teacher*, 17(6), 596–599. <https://doi.org/10.1111/tct.13242>
- Strauss, A. (1987). An introduction to codes and coding. In *Qualitative analysis for social scientists* (pp. 1–31).

- Sutherland Olsen, Dorothy. (2016). Adult Learning in Innovative Organisations. *European Journal of Education*, 51(2), 210–226.
- Taylor, B., & Kroth, M. (2009). Andragogy's transition into the future: Meta-analysis of andragogy and its search for a measurable instrument. *Journal of Adult Education*, 38(1), 22–42.
- The Open University. (2016). *Understanding different research perspectives*. Open University Course. <https://www.open.edu/openlearn/money-management/understanding-different-research-perspectives/content-section-0?active-tab=content-tab>
- Tough, A. (1979). *The adult's learning projects: A fresh approach to theory and practice in adult learning* (2nd ed.). Ontario Institute for Studies in Education.
- Unger, R. M. (2015). *Conclusion: The task of the social innovation movement*.
- van Weert, T. (2011). Lifelong Learning in the Knowledge Society. *Encyclopedia of E-Business Development and Management in the Global Economy*, 16–25. <https://doi.org/10.4018/9781615206117.ch012>
- Walters, S. (1999). New challenges and opportunities for lifelong learning in South Africa. *Lifelong Learning and the Education of Mature Adults*, 35(2), 217–224. <http://www.jstor.com/stable/3099533>
- Walters, S. (2006). Adult learning within lifelong learning—A different lens, a different light. *Journal of Education*, 39, 7–25.
- Watkin, K. E., Marsick, V. J., Yang, B., & Karen, E. (2004). The construct of the learning organisation—Dimensions, measuring and validation. *Human Resource Development Quarterly*, 15(1), 31–55. <https://doi.org/10.1002/hrdq.1086>
- Wilson, A., & Kiely, R. (2002). *Towards a Critical Theory of Adult Learning / Education: Transformational Theory and Beyond*. 1–8.
- World Economic Forum. (2017). *Accelerating workforce reskilling for the fourth industrial revolution—An agenda for leaders to shape the future of education, gender and work*.
- World Economic Forum. (2019a). *Leading through the fourth industrial revolution—Putting people at the centre*.
- World Economic Forum. (2019b). *Towards a reskilling revolution—Industry-led action for the future of work. Centre for New Economy and Society Insight Report*.
- Yin, R. K. (2002). *Case Study Design: Design and Methods* (Vol. 5). SAGE.
- Yin, R. K. (2011). *Qualitative Research from start to finish*. The Guilford Press.
- Zhao, Y., & Ko, J. (2018). Workplace learning in the professional development of vocational education teachers. *Studia Paedagogica*, 23(2), 43–58. <https://doi.org/10.5817/SP2018-2-4>