

Sustaining the life insurance industry in the Fourth Industrial Revolution

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ABSTRACT

As the Fourth Industrial Revolution (4IR) continues to change the ways of doing business across industries, organisations around the world are grappling with the unprecedented challenges imposed by radical and widespread technological change. In the face of this dilemma, the South African life insurance industry has remained remarkably resilient, exhibiting very little adaptation in terms of structural, cultural, or business model innovation. However, the stable environmental conditions that once enabled this position for incumbent organisations are weakening. Transformational change, like that in the adjacent financial services industry, is imminent and adaptation on the part of incumbent insurers will be vital to sustaining relevance. This research examines the organisational beliefs and capabilities of South African insurance companies regarding the 4IR in order to gauge the current challenges within the broader industry. Semi-structured interviews were conducted with 12 senior leaders and decision-makers from across the industry. A qualitative inductive analysis shows the inhibitors and enablers of digital innovation within the organisations. The pervasive lack of trust, agility, and urgency within the sector are cited as inhibitors of digital innovation. Enablers include a continuous learning mindset within the organisation, partnerships within the broader ecosystem, and the role of senior leaders for shaping cultural attitudes and structures. Overall, these findings show a disparity between what insurers know they must do to proactively lead change, enact digital innovation, and remain relevant, and what they are actually executing. Recommendations are provided for addressing this gap.

KEYWORDS


Fourth Industrial Revolution; life insurance; strategy; leadership; agility

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1. INTRODUCTION

1.1 The influence of technological innovation on private industry is progressing beyond the automation and digitisation of the late 1990s and early 2000s to a large-scale, multi-sectoral coalescence of technologies that aspire to elevate every facet of life. This shift is commonly referred to as the Fourth Industrial Revolution (4IR) (Schwab, 2016a; Shook & Knickrehm, 2017; Spelman & Weinelt, 2018). The 4IR is not only radically changing the way that people live, work, and interact, but is challenging tried and tested organisational strategies that have offered success in the past (Anthony et al., 2017; Christensen, 1997; Ismail et al., 2014; Reeves et al., 2015). In order to transition into this new era successfully, businesses need to formulate new ways of operating. The organisations that are thriving in the early movement of this new era are not the stable and reliable brands that were trusted by prior generations, but instead agile, technology-based start-ups and technology giants like Google, Amazon, and Facebook.

1.2 One industry that has managed to evade the wave of change is the life insurance industry (Bose & Bastid, 2018; Catlin & Lorenz, 2017; Malherbe & Dixon, 2017). Although insurtech has emerged as the industry's own disruptive technology-enabled entity, the broader structure and mechanics of the industry have remained largely unchanged (Bose & Bastid, 2018; Malherbe & Dixon, 2017; Shi et al., 2016). This is largely attributed to conditions in the industry environment that have minimised incentives for incumbents to change and discouraged both newcomers and disruptors: industry protection mechanisms and the precarious role of trust.

1.3 Protection mechanisms in the life insurance industry include its complexity, dense legislation, sophisticated distribution models, large and entrenched incumbents, and significant capital requirements (Catlin & Lorenz, 2017). Trust is deeply woven into the fabric of the life insurance industry and is a strong influence on strategic decision-making. A life insurance contract is ultimately a trust transaction, where customers pay premiums to facilitate protection in the event of an occurrence which may only happen many years in the future, or not at all. However, the social outrage caused by such cases as the recent Ganas claim¹ indicates that trust remains a major obstacle for the industry.

1 Daniels, L-A (2018, November 21). #Momentum's decision to pay R2.4m claim illustrates the power of social media. *IOL*. Retrieved from <https://www.iol.co.za/news/opinion/momentums-decision-to-pay-r24m-claim-illustrates-the-power-of-social-media-18207245>; Khumalo, S (2018,

1.4 A recent IBM survey showed that only 43 per cent of insurance customers trust the insurance industry and the portion of customers that do trust their insurance provider has consistently remained below 50 per cent since 2007 (Kesterson-Townes, 2015). This feature offers a dual barrier to innovation: the risk of further disappointing customers hampers incumbent insurer's appetite for innovation, while it also paradoxically hampers the competitiveness of new entrants who lack the proven track records of trusted long-standing incumbents (Malherbe & Dixon, 2017; Swiss Re, 2017). However, given the all-encompassing and transformative nature of the 4IR, the protection offered by these conditions will likely weaken, making change in the industry inevitable. Underlying the threat to the industry is a further threat to the actuarial profession that dominates the industry as actuaries have been increasingly occupying positions of power within insurance organisations (Brown, 2018; O'Brien et al., 2016; Stefan, 2010). If the industry is forced to shift amidst the 4IR, one can expect that the leaders and professionals who control it will also experience change in some way.

1.5 The purpose of this research is to understand the current attitudes of South African life insurance companies in order to ascertain how they can retain relevance in the context of the 4IR in future. Senior executives and decision-makers from various types of life insurance companies—in terms of the organisation size and level of technology engagement—were interviewed about their organisational beliefs and capabilities regarding technology. A thematic analysis of their responses was performed to highlight the enablers and inhibitors of digital innovation within the organisations. Recommendations for life insurance leaders, organisations, and other key role players are provided in light of these findings.

2. THE FOURTH INDUSTRIAL REVOLUTION

2.1 A departure from linear thinking

2.1.1 Although it follows a similar pattern to its predecessors, the 4IR diverges in one important way. On the one hand, rapidly falling technology costs and the combinatorial effect of blending technologies are enriching basic digitisation to create larger gains in productivity (Spelman & Weinelt, 2018) in a manner similar to past technological revolutions. However, the impacts of the 4IR are not exclusively directed toward industrial or environmental advancement. The 4IR is radically changing the way that humans engage with technology, “blurring the lines between the physical, digital, and biological spheres” (Schwab, 2016b, para. 2). Brynjolfsson & McAfee (2015) explain that “digital technologies are doing for human brainpower what the steam engine and related technologies did for human muscle power” (p. 68). Whereas steam, electricity, and microchips offered mankind

November 19). Momentum sticks to its guns despite outrage over R2.4m life policy claim. *Fin24*. Retrieved from <https://www.fin24.com/Companies/Financial-Services/momentum-we-rejected-r24m-life-insurance-claim-for-the-sake-of-our-other-clients-20181119>; Modise, K (2018, November 22). Insurance ombud stands by ruling in Denise Ganas claim. *EWN*. Retrieved from <https://ewn.co.za/2018/11/22/long-term-insurance-ombud-laws-around-non-disclosure-need-to-be-relooked>

empowering tools, the advancement offered by the 4IR is the far more expansive power of human augmentation delivered through human-technology collaboration (Brynjolfsson & McAfee, 2015; Schwab, 2016a; Shook & Knickrehm, 2017).

2.1.2 Previous industrial revolutions have led to notable leaps in productivity and economic growth. However, thus far the 4IR has led to contraction, evidenced by slowing growth in global labour productivity (Brynjolfsson & McAfee, 2015; Shook & Knickrehm, 2017). Both Shook & Knickrehm (2017) and Davis (2016) suggest that this anomaly is the result of a general lack of appropriate skills and workplace ecosystems to adequately exploit the power introduced by the 4IR. Business leadership can play an inhibiting role in preparing companies for the 4IR and seizing its opportunities. Davis (2016) explains that this happens when leaders focus on isolated fragments of technology and fail to recognise the transcendent role that people introduce by effectively collaborating with the technology.

2.1.3 The state of heightened uncertainty that prevails in the post-global financial crisis world, coupled with global economic contraction, highlights the clear imperative for industry to actively pursue change. And yet, business leaders within the most entrenched industries, particularly those in the life insurance industry, have struggled to visualise a future target state and develop their strategies accordingly (Brynjolfsson & McAfee, 2015; Curran et al., 2017; Davis, 2017; Kane et al., 2015). Kane et al. (2015) have found that a technology-centred approach is an indication of maturity whereby “less digitally mature organizations tend to focus on individual technologies and have strategies that are decidedly operational in focus” (p. 3).

2.1.4 In order to leverage the complex and systemic changes introduced by the 4IR, leaders need to adopt a new mindset that envisions technology at the core of corporate identity and purpose, rather than as peripheral tool to be acquired and incrementally upgraded over time. However, insurers must also not view technology as a panacea. As Catlin & Lorenz (2017) suggest, “what is actually required is a fundamental rethink of the corporation, for which digital technology is but the catalyst” (p. 1).

2.2 The speed of change

2.2.1 The most significant impediment to implementing and sustaining digital innovation is often the organisation itself. Davis (2017) suggests that the power structures and decision-making protocols embedded within many companies today will obstruct the transition to the 4IR era, which requires speed, agility, and innovation. The speed of change also appears to be preventing business leaders from formulating a clear technology strategy, with over one-third of business leaders stating that a “lack of clear digital strategy” and “moving too slowly” have been the biggest mistakes that companies are making regarding digital transformation (Davis, 2017, p. 5).

2.2.2 Contrary to the insurance industry’s reputation as technology-avoidant, insurance companies in South Africa have been increasing their digital capabilities with technologies like large-scale data analytics, the internet of things, artificial intelligence, machine learning, and wearable devices (Bose & Bastid, 2018; Catlin & Lorenz, 2017; Kane et al., 2015; Malherbe & Dixon, 2017; Willmott & Jose, 2015). However, they have cultivated

these as peripheral innovations while failing to shift fundamental structures, business models, or culture.

2.2.3 Of course, in environments of high uncertainty, leaders may be hesitant to take actions that threaten their current position and rather opt to wait for more information. However, this approach is incompatible with the urgency imposed by the increasing speed of change of the 4IR (Anthony et al., 2017; Bose & Bastid, 2018; Camarate et al., 2017; Ismail et al., 2014). Reeves et al. (2015) provide the example of Kodak to illustrate the risk of sluggishness to incumbents.

2.2.4 Kodak swung from being the leader of its industry in the 1990s to filing for bankruptcy in 2012 because it failed to position itself for the rapid growth of digital cameras. In fact, Kodak had been the first to develop and patent the digital camera in 1975 but had decided to set this aside and exploit film technology for as long as possible. A source from Kodak is quoted by Reeves et al. (2015) as saying, “We wanted to put money into the new technology, but we’d gotten some false security because the speed of technology substitution had been historically slow. When, in the early 2000s, quality, cost, and usability aligned, we were unprepared” (p. 72).

2.2.5 The Kodak example serves as a warning for companies who have seen the future and still fail to act. In the words of Klaus Schwab, founder and Executive Chairman of the World Economic Forum, “In the new world, it is not the big fish which eats the small fish, it’s the fast fish which eats the slow fish” (Malherbe & Dixon, 2017, p. 42).

2.3 The emergence of ecosystems

2.3.1 One prominent feature of the 4IR is the emergence of platforms and ecosystems that link specialised service providers to partners in both the traditional and emerging business spheres (Bose & Bastid, 2018; Catlin et al., 2018; Curran et al., 2017; Kashyap et al., 2017). At the root of this feature is what Davis (2016) describes as the reconstitution of value chains, which happens “as organisations and industries blend and combine in an emerging digital context” (p. 6). As increasingly specialised roles and functions become valued as stand-alone entities, platforms provide a technological scaffold that supports value chain disaggregation.

2.3.2 Ecosystems provide a clear opportunity for industry leaders facing high uncertainty to partner with individuals or organisations that convey greater knowledge or expertise in a particular area, and use this as an opportunity to learn and adjust (Bose & Bastid, 2018; Bughin et al., 2018; Camarate et al., 2017; Kane et al., 2015; Malherbe & Dixon, 2017). In their 2018 assessment of the state of the world insurance industry, Bose & Bastid (2018) explain that digital agility can be nurtured by proactively developing win-win partnerships with insurtech companies, thereby cultivating insurtech capabilities whilst moving from legacy infrastructure to cloud-based solutions that better enable speed and scalability.

2.3.3 These configurations are becoming increasingly common across the broader financial services industry but are yet to be fully embraced by the life insurance industry (Bose & Bastid, 2018; Catlin et al., 2018; Curran et al., 2017; Kashyap et al., 2017).

In a 2017 global fintech survey by PWC, 45 per cent of incumbents indicated that they were currently partnering with fintech companies and 82 per cent indicated that they were planning to increase partnerships with fintechs in the next three to five years (Kashyap et al., 2017, p. 6). Curran et al. (2017) reiterate the imperative of viewing the 4IR as an expansive movement. They emphasise that it is vital for organisations to think not only beyond the application of individual technologies, but beyond the confines of the organisation itself.

2.4 Skills relevance

2.4.1 A common, if pessimistic, view of the 4IR associates the digital transformation with widespread job loss (Schwab, 2016a; Shook & Knickrehm, 2017). Brynjolfsson & McAfee (2015) have identified that it is a particular segment of the workforce which will be most significantly affected. Their analysis shows that although real GDP per capita and labour productivity have continued to climb, albeit at a decreasing rate, median family income and the rate of private employment have levelled off since the turn of the century. This disparity demonstrates a decoupling of what Brynjolfsson & McAfee (2015) refer to as the “two halves of the cycle of prosperity” (p. 69), or The Great Decoupling.

2.4.2 The root cause for this divergence is what economists call skills-biased technical change: a decreasing demand for lower skilled information workers coupled with an increasing demand for highly skilled information workers (Violante, 2008). A persistent and widening skills gap is noted across the literature (Gratton, 2011; Shook & Knickrehm, 2017). Davis (2016) found that 94 per cent of executives surveyed in 2015 believed that a moderate or severe digital skills gap was impeding their ability to reach their digital future.

2.4.3 The skills gap is amplified through both supply- and demand-side dynamics: slow, inflexible educational systems producing graduates with skills that are no longer relevant coupled with an increasing and changing demand for skills as the business environment transforms. In order to access the limited group of people with the required skills, businesses will need to position themselves as attractive workplaces for the digital elite (Davis, 2016).

2.4.4 A more optimistic view of the future workplace comes from the observation that humans remain superior to digital technologies in essential skills like creativity, emotion/interpersonal relations, and dexterity (Brynjolfsson & McAfee, 2015; Davis, 2016). Having noted the same decoupling pattern articulated by Brynjolfsson & McAfee (2015), Shook & Knickrehm (2017) have demonstrated that by doubling the current rate at which workers are able to acquire relevant skills, the occurrence of jobs that are at risk of total automation decreases significantly, e.g. a reduction in risk of over 80 per cent for Germany by 2035 (p. 9).

2.4.5 These findings have a critical implication for companies: the ability to enhance technological outputs through human collaboration, and hence capture the full value offered by the 4IR, still requires human technical ability. In a 2016 Accenture survey of 10,527 workers across ten countries, 58 per cent of workers indicated an awareness of the need to develop their skills in order to remain relevant and 85 per cent of these said that they were willing to invest their free time in order to learn new skills (Shook & Knickrehm, 2017). This suggests that a significant opportunity for upskilling exists within the current workforce. Rather than relying on an external, largely independent education system to deliver the

required skills, experts suggest that in order to keep pace with the rate of change, leaders and workers need to adjust their mindset to one of continuous learning at all levels of the business (Bender & Willmott, 2017; Spelman & Weinelt, 2018).

2.5 Digital transformation and digital innovation

2.5.1 Where enhanced human–technology collaboration is an overarching outcome of the 4IR, digital transformation and digital innovation are the practical organisational objectives. Digital transformation involves adapting business operations to changes in technology, whereas digital innovation involves proactively instigating new changes (Kletzkine, 2018; Newman, 2017). Where digital transformation is about meeting the rising standard of parity, digital innovation is about aspiring to break new ground. Given the increasing speed of change, both objectives are needed for companies to sustain themselves in this new era. However, the skills needed to achieve each of these objectives are vastly different and as a result, many organisations continue to struggle with them.

2.5.2 Using PWC’s metric of ‘Digital IQ’ as a “measurement of an organisation’s abilities to harness and profit from technology” (p.2), organisational capacity for digital transformation has declined over the past ten years (Curran et al., 2017). According to Curran et al. (2017), this is indicative of the struggle for business to keep up with the ever-accelerating rate of change and is consistent with the prevailing theme of uncertainty highlighted by Schwab (2016a).

2.5.3 Further, rather than bolstering financial performance, digital transformation efforts appear to have eroded average revenue and earnings growth figures across multiple industries by reducing barriers to entry and increasing competition with further downward pressure expected as digital penetration deepens (Bughin et al., 2017). However, by dissecting these averages, it becomes clear that companies with strong digital capabilities continue to outperform. It is the digital laggards that pull down the averages by struggling to respond to competition and contributing to a long tail of poor performance. On average, 48 per cent, but up to 70 per cent, of companies across industries either generate negative returns or fail to return their cost of capital on digital initiatives (Bughin et al., 2017).

2.5.4 Casadesus-Masanell (2014) explains that the deployment of robust technology and innovation are both important but cannot be mistaken for strategy. Digital transformation is required first and foremost to retain relevance before digital innovation efforts can be applied to seek out opportunities to differentiate and sustain relevance. However, these studies suggest that the 4IR is rapidly raising the bar for what is sufficient to achieve parity with competitors, further challenging the strategies of industry leaders.

2.6 The influence of actuaries as leaders

2.6.1 Life insurance is a traditional area of practice for actuaries and remains the industry with the highest involvement of actuaries overall (Institute and Faculty of Actuaries, 2019). In 2018, 56 per cent of the Actuarial Society of South Africa’s (ASSA) members operated in the life insurance industry (Actuarial Society of South Africa, 2018). This dwarfed the next largest practice area by almost three times. Although the roles of actuaries

are changing in the life insurance space, changes in regulations and an increasing regard for the parallel field of data science are ensuring that actuaries increasingly occupy positions of leadership and influence (Brown, 2018; O'Brien et al., 2016; Stefan, 2010).

2.6.2 In spite of this trend, the operational changes triggered by the 4IR favour those with alternative skillsets which exist outside the actuarial sphere. Jewell & Thomson (2014) demonstrated how the actuarial function has evolved at a local leading life insurance player. Where 71 per cent of the function was supported by actuarial skills in 2006, it dropped to 52 per cent in 2014. This transition was largely steered by an increasing need for technology skillsets. At the time, Jewell & Thomson (2014) recommended that the profession “must get actuaries out of the actuarial corner” (p. 12) by augmenting their existing skillsets and experiential learning. This was echoed by Lowther & McMillan (2014), who sought to modernise ASSA’s continuous professional development (CPD) programme to increase the relevance of actuarial skillsets.

2.6.3 ASSA fellows are formally bound to provide relevant and up-to-date actuarial services through its Code of Professional Conduct (2012). Like many professional bodies, ASSA subscribes to a self-reported and randomly audited CPD programme which seeks to ensure that members maintain a relevant and up-to-date skillset. Following research by Lowther & McMillan (2014), ASSA has begun to transition from a rigid time-based system to a more fluid outcomes-based system, which seeks to more closely match CPD efforts with intentionally identified required skills and active learning. The outcomes-based system aligns well with the continuous learning model supported by the 4IR literature.

3. THE CONTEXT OF CREATIVE DESTRUCTION

3.1 The business life cycle: a path to destruction

3.1.1 Although the 4IR imposes many unique challenges on companies, other aspects of the revolution echo the fundamental business challenges that have been identified and studied by scholars for almost a century. Economist Joseph Schumpeter coined the term “creative destruction” in 1942 as part of his broader theory of economic innovation. The term refers to the enduring search for profits that drives a repeating process by which new ideas and innovations continuously emerge, destroying the existing equilibrium and establishing new one (Tidd et al., 2005). Schumpeter described it as an “industrial mutation ... that incessantly revolutionises the economic structure from within, incessantly destroying the old one, incessantly creating a new one. This process of Creative Destruction is the essential fact about capitalism” (1942, p. 83). Tushman & O’Reilly (1996) describe this more simply as the consistent pattern across industries by which success precedes failure. Creative destruction is supported by the traditional business life cycle and its unintended outcomes.

3.1.2 The standard pattern of organisational evolution is commonly illustrated in the form of the “S-curve”, as shown in Figure 1 (Tushman & O’Reilly, 1996). The curve demonstrates how organisations evolve from a position of novelty and innovation when they first enter a market, to one of differentiation as competition increases, and finally to a position of maturity focused on efficiency, control, and cost reduction. Throughout this evolution, the organisation’s strategy, structure, capabilities, and culture evolve consistently to enable

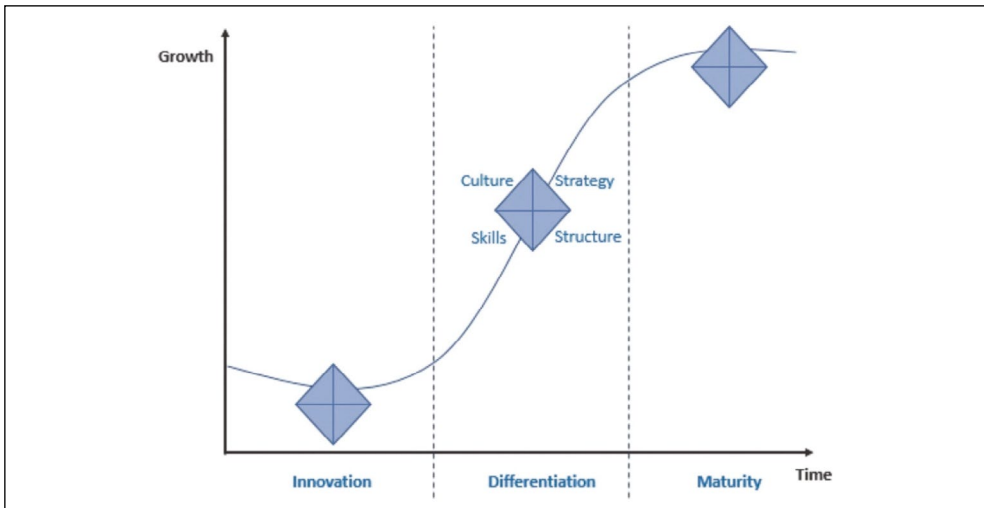


FIGURE 1. Organisational evolution S-curve (adapted from Tushman & O'Reilly, 1996)

and optimise for the current position. This ultimately leads to the success syndrome and the cultural paradox, which inhibit the company's ability to adapt and can lead to its demise.

3.1.3 The success syndrome describes the natural tendency for organisations to seek feedback from the market in order to refine their organisational processes and optimise their ability to achieve their mission. Tushman & O'Reilly (1996) further suggest that since the alignment of strategy, structure, people, and processes is never perfectly consistent, aspiring towards congruence is an ongoing process of enhancement and incremental change. This kind of evolutionary change is a vital component of success in the short term.

3.1.4 However, the flip side of this optimisation process is that, as systems and processes are developed to efficiently manage the complexity associated with a growing organisation, structural and cultural inertia are produced. Structural inertia is "a resistance to change rooted in the size, complexity, and inter-dependence in the organisation's structures, systems, procedures, and processes" (Tushman & O'Reilly, 1996, p. 18). Cultural inertia is the shared experience of how things are done, which becomes deeply embedded within the organisation over time. The culture paradox emerges when the culture which has supported an organisation's prior success becomes the chief obstacle that prevents required change and leads to its downfall. Jack Welch, CEO of General Electric between 1981 and 2001, acknowledged this paradox in the early 1990s saying, "In the nineties the heroes, the winners, will be entire companies that have developed cultures that instead of fearing the pace of change, relish it" (Tushman & O'Reilly, 1996, p. 20).

3.2 Dynamic capabilities and a paradoxical mindset

3.2.1 The incongruence between pursuing exploitative (business-as-usual) activities and explorative (innovative) activities when responding to creative destruction was explored by March (1991). As he explained, the fundamental problem facing all organisations

is a need to dedicate efforts to exploitation to maintain their current viability, whilst simultaneously devoting enough energy to exploration so as to ensure their future viability. March found that, given the predictability of returns associated with exploitative activities as opposed to the uncertainty of those associated with exploratory activities, adaptive processes tend to prioritise exploitation and although this is more effective in the short term, it becomes self-destructive over a longer period.

3.2.2 Many researchers have sought to identify business models that allow organisations to pursue exploitative objectives and innovation in equal measure in order to ride the wave of creative destruction for long-term success. Notable examples of proposed approaches from recent literature include McKinsey’s ‘Three Horizons of Growth’ (Baghai et al., 1999), *Exponential Organizations* (Ismail et al., 2014), *Your Strategy Needs a Strategy* (Reeves et al., 2015), and *Dual Transformation* (Anthony et al., 2017). This may be a simple concept but the means and capability of cultivating an appropriate balance between these two activities is the fundamental challenge that continues to provoke debate. Some experts have even argued that although desirable, given the paradoxical competencies required for exploring and exploiting, effectively managing the trade-offs between these two activities is impossible, particularly for large, established incumbents (Adler et al., 2009; Christensen, 1997; O’Reilly & Tushman, 2004, 2008; Raisch et al., 2009).

3.2.3 However, the traditional objectives of exploitation and exploration align compellingly with the dual objectives of digital transformation and digital innovation imposed by the 4IR. Tushman & O’Reilly (1996) provide practical and proven means to achieve both with their conceptualisation of the ambidextrous organisation model (Adler et al., 2009; O’Reilly & Tushman, 2004, 2008, 2011, 2013; Raisch et al., 2009; Sinha, 2016; Smith et al., 2010; Smith et al., 2016; Tushman, 2017; Tushman & Euchner, 2015; Tushman et al., 2015). Ambidexterity “challenges the widely held assumption that innovation and efficiency are orthogonal and trade-offs must always sacrifice one for the other” (O’Reilly & Tushman, 2008, p. 202). It provides a practical and proven solution—through the likes of organisations like IBM, USA Today, and Ciba Vision—to enable businesses to pioneer disruptive innovations while continuing to pursue incremental gains (O’Reilly & Tushman, 2004, 2008, 2011, 2013; Raisch et al., 2009; Smith et al., 2010; Tushman & O’Reilly, 1996).

3.2.4 For the purposes of this research, one pivotal aspect of the ambidextrous model is pertinent: the presence of a leadership team that exhibits the dynamic capabilities to balance and integrate the paradoxical requirements of the established and emerging business activities. According to O’Reilly and Tushman (2008), “dynamic capabilities are reflected in the organisation’s ability, manifest in the decisions of senior management, to maintain ecological fitness and, when necessary, to reconfigure existing assets and develop the new skills needed to address emerging threats and opportunities” (p. 189). This capability is vital to achieving sustained success given that organisations need to have the competencies and structures to compete successfully in existing markets, but also an ability to reconfigure assets and structures to adapt to emerging markets and technologies.

3.2.5 Smith et al. (2016) describe the tensions or opposing goals that leaders constantly grapple with and how, in order to be dynamic, leaders need to be able to adopt

a paradoxical mindset. Notable opposing goals that are relevant for life insurers include: (1) innovation paradoxes, which encompass tensions between current and future needs, existing and new offerings, stability and change, and (2) globalisation paradoxes, which capture the tensions between local needs and global interconnection, balancing depth and breadth, competition and collaboration. To adopt a paradoxical mindset and balance these tensions, leaders must be able to counteract inclinations toward consistency, stability, and zero-sum thinking, which are entrenched in traditional leadership and management theory.

3.2.6 Consistency speaks to a way of thinking whereby if one course of action is “right”, then the opposite must be “wrong”. Smith et al. (2016) suggest that a hostility towards contradiction is a pervasive dogma in the Western world. Psychologist Leon Festinger describes the gnawing feeling of discomfort associated with taking actions that are inconsistent with our perception of the truth as cognitive dissonance (Smith et al., 2016). In practice, and particularly when developing ambidextrous organisations, leaders need to be able to accept and support multiple conflicting truths.

3.2.7 Asserting control and minimising complexity to counter instability and uncertainty within an organisation is an established leadership competency advocated by traditional leadership theorists (Smith et al., 2016). However, in an environment that is experiencing an increasing rate of change, avoiding uncertainty can be detrimental to achieving sustained success. Leaders are increasingly required to embrace dynamism and change, and to create an environment within their organisations that encourages experimentation and embraces failure for the value of the lessons learned.

3.2.8 Finally, a traditional leadership mindset is frequently underpinned by zero-sum thinking: the belief that resources are limited and organisations must compete for them. This naturally drives leaders to look for sources of constraint, often in the form of competitor threats or market expectations, and ultimately results in conflict as different businesses compete for resources. Rather than aiming to cut the pie thinner and thinner, leaders need to adopt value-creating mindsets that seek to grow the pie through exploration of new partnerships, new technologies, and new ways of working.

4. RESEARCH PROBLEM

4.1 The life insurance industry is widely held to be slow, staid, and averse to change (Bose & Bastid, 2018; Catlin et al., 2018; Malherbe & Dixon, 2017). This approach runs counter to the increasing speed of technological change and the subsequent need for continuous adaptation, which have become accepted features across other industries. And yet, to date, the insurance industry has remained remarkably resilient to transformational change, which has both soothed insurance leaders and reinforced a backward-looking business model. Catlin & Lorenz (2017) suggest that the root cause of this resilience is a set of protective industry conditions. The critical role of trust in moderating the relationship with customers, which discourages risk-taking on the part of insurers, is another major factor in deterring change action (Malherbe & Dixon, 2017; Swiss Re, 2017). However, these protections are being challenged by the disruptive effects of the 4IR, which include the disaggregation of

value chains, the coalescence of complementary technologies, and the elevation of highly specialised firms in the wider ecosystem.

4.2 In order to retain relevance in this changing ecosystem, insurers and the actuaries who dominate the key operational and leadership roles within the company will need to act quickly and correct course. This research study strives to inform change actions within the industry by exploring the existing organisational beliefs and capabilities regarding 4IR. Understanding the areas where key leaders and decision-makers align or misalign with the recommendations from the literature may highlight the next steps for the South African life insurance industry more broadly.

5. RESEARCH METHODOLOGY

This research study follows an exploratory qualitative approach. Gray (2017) suggests that exploratory studies seek to delve into a phenomenon in search of understanding and are particularly useful when little is known about the phenomenon, which is true of the current organisational attitudes of the South African life insurance industry toward the 4IR. A qualitative approach was used to gather data through individual semi-structured interviews as the purpose of the research was to describe, explain, and explore (Leedy & Ormrod, 2016). An inductive approach was used to synthesise themes and meaning from the interview data.

5.1 Sample selection

5.1.1 Purposive sampling was used to identify organisations and interview subjects who could provide the appropriate data for the research topic. In their analysis to determine the optimal sample size when using non-probabilistic sampling, Guest et al. (2006) show that 12 interviews provide data saturation. Based on Leedy & Ormrod's (2016) guide to sample selection, two key selection criteria were employed. First, participants were selected from a diverse range of life insurance companies in terms of the organisation's size, age, and level of technology engagement, which was assessed through publicly available information. This meant the eight organisations in the study represent both large, established insurers (5) as well as smaller, emerging start-up insurers (3).

5.1.2 Second, individuals in positions of leadership, in decision-making roles, or with access to executive decision-making attitudes were targeted for the study. These individuals were identified through publicly available information and referrals from participants. The 12 interview participants included three CEOs, two technology executives, four senior leaders focused on established business operations, and three senior leaders focused on emerging business operations. Half of interviewees were members of the actuarial profession. The participants have been anonymised for the discussion as per Table 1.

5.2 Data collection

Interview questions were carefully crafted to avoid directing interviewees or pre-empting certain responses. A pilot interview was conducted to eliminate any potentially leading wording from the questions. Interviews were conducted in a quiet and informal space

to build rapport (Gray, 2017), and create a safe space in which the interviewer felt comfortable (Quinlan et al., 2015). An audio recording was made of all interviews and stored securely. The audio recordings were transcribed for the data analysis and coding process. Notes were made during and after the interview to capture information related to body language, facial expressions, and the manner in which questions were answered (Quinlan et al., 2015).

TABLE 1. Study sample

Participant	Role	Organisation size
Andrew	CEO	Small
Brad	Technology executive	Large
Clark	Established business focus	Medium
Dan	Emerging business focus	Large
Ewan	Established business focus	Large
Frank	Established business focus	Large
Greg	Technology executive	Large
Hugo	Emerging business focus	Large
Ian	CEO	Small
John	Established business focus	Large
Kelvin	Emerging business focus	Large
Lon	CEO	Small

5.3 Data analysis

5.3.1 Creswell's (2013) 'data analysis spiral' was used to analyse the data. The data, including interview transcriptions and researcher notes, were aggregated and ordered within a digital database. Large bodies of text were reduced into smaller units of words, sentences, or short stories. This technique enabled a more granular appreciation of potential emerging themes.

5.3.2 The entire dataset was then reviewed several times in order to formulate a general sense of the data and what it contains as a whole. Notes were made throughout this process to inform the next step of creating an initial coding template.

5.3.3 Using an approach recommended by King & Brooks (2017), an initial coding template was developed with reference to the first six interviews. General categories and themes, as well as possible subcategories and subthemes, were identified and colour-coded. Through this process, a sense of the patterns and underlying meanings within the dataset was developed. The initial coding template provided a starting point for the final coding template, which was developed by incorporating the remaining six interviews and cycling iteratively through all interviews.

5.3.4 In the final phase of analysis, overarching themes were synthesised to link the various codes and categories to the research area. Themes were carefully defined in order to be consistent with interviewee responses and adequately capture the concept. This

provided another means to check both the relevance and distinctiveness of each theme. The synthesis process also formed a basis for developing conclusions and recommendations.

5.4 Validity

Two tools were used to strengthen internal validity: involving interviewees in checking the data for accuracy and faithfulness of representation (Gray, 2017), and clearly distinguishing between transcribed data and researcher memos in order to keep interpretations and observations separate (Leedy & Ormrod, 2016).

5.5 Research ethics

Official ethical clearance for this study was obtained from the University of Cape Town Research Ethics Committee. All interviewees participated in this study on a voluntary basis and provided informed consent prior to data collection. The identities of all interviewees and their organisations were kept confidential and pseudonyms have been used in the results.

6. DISCUSSION OF RESULTS

Six themes emerged from participants' descriptions of their organisational beliefs and capabilities regarding the 4IR. As shown in Figure 2, these themes formed two distinct categories, which will be explored in further detail: enablers and inhibitors.

6.1 Enabling beliefs and capabilities

6.1.1 PARTNERSHIPS AND ECOSYSTEMS

6.1.1.1 Adopting a partnership mindset involves leveraging both internal and external networks to explore opportunities for innovation. Eight interviewees noted a partnership mindset as a fundamental aspect of the 4IR. A wider analysis of associated words, such

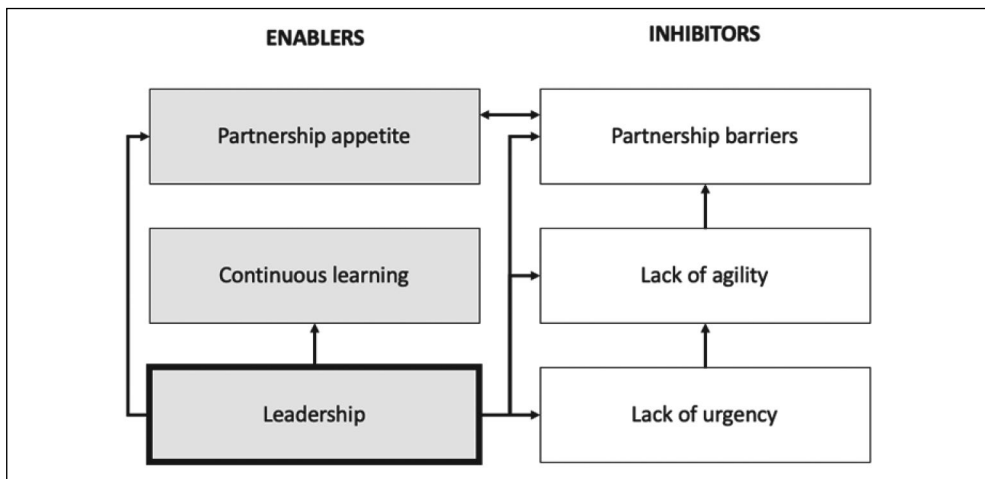


FIGURE 2. The relationship between the enablers and inhibitors of organisational beliefs and capabilities in the life insurance industry

as ‘partnership’, ‘collaboration’ and ‘relationship’, were used 103 times across all interviews, highlighting the prevalence of this theme in leaders’ conception of the 4IR.

6.1.1.2 Within the context of a partnership mindset, the word ‘ecosystem’ emerged distinctly from six interviewees. Clark (medium insurer, established business focus) described an ecosystem as “a collaborative network of people in different domains” including “fintechs, accelerators, incubators, academic institutions, industry think tanks, and global partners in financial services who are non-competing”. Brad (large insurer, technology executive) further linked ecosystem and a partnership mindset as follows: “I think in future we will see more crowd-sourced innovations potentially leveraging an ecosystem of innovation partners to provide a richer offering.”

6.1.1.3 Although the two concepts are related, there is a distinction between partnerships and ecosystems in this context. Whereas ‘ecosystem’ typically refers to a network of external, cross-industry parties, the partnership mindset refers to an organisation’s ability to draw value from this network by adopting a collaborative and mutually beneficial approach. An inclination to leverage partnerships and ecosystems as a means of digital innovation came across strongly from interviewees. This suggests an acceptance within the industry that the expertise needed to innovate and/or adequately respond to the 4IR is not necessarily found within the confines of the incumbent organisations. It further highlights their awareness and value of cross-industry networks for developing a digital strategy.

6.1.1.4 Seeking partnerships aligns with the tactical approach recommended in the literature, which is being increasingly adopted in global financial services, as an interim means for incumbents to learn and develop in their changing context (Bose & Bastid, 2018; Camarate et al., 2017; Catlin et al., 2018; Curran et al., 2017; Kane et al., 2015; Malherbe & Dixon, 2017). This broad awareness within life insurance organisations offers the industry a clear jumping-off point for its adaptation journey.

6.1.2 LEADERSHIP AS THE ROOT OF CHANGE

6.1.2.1 All interviewees noted the importance of company leaders in navigating the changing business environment. However, although confident with their leadership’s ability to prioritise and steer business-as-usual, nine interviewees raised concerns about their ability to promote exploratory activities and radical change. Brad (large insurer, technology executive) explained this in relation to his own organisation: “We’ve got a very capable team, but not necessarily fully bought into a transformed way of working.”

6.1.2.2 Greg (large insurer, technology executive) linked this lack of internalisation across leadership teams to change aversion, as well as a destabilising increase in the rate of change. He said, “Humans don’t like change, so our tendency is to be more incremental. Many leaders have come from a world where change was something that you went through and then it finished and there was stability. We now live in a world where change is constant.”

6.1.2.3 These responses highlight both an opportunity and a threat for insurers: leaders appear to have the power and influence to guide a transformation of the industry but will be unable to do so until they recognise and authentically promote the need for transformation.

6.1.2.4 In addition to prioritising business-as-usual, a third of interviewees expressed a view that general risk aversion across the life insurance industry is linked to the prevalence of actuaries in leadership or other influential positions. Risk aversion is investigated in more detail in Section 6.2. Within the context of leadership influence, it is clear that in future, shifting the biases leaders have developed from their professional training would require the actuarial profession to also recognise and accept the need for change in order to maintain relevance in a changing industrial landscape.

6.1.2.5 An embedded bias towards business-as-usual and prioritising short-term wins aligns seamlessly with Abernathy's productivity dilemma, which sustains the cycle of creative destruction that has destroyed countless organisations (Adler et al., 2009). It also reflects Christensen's (1997) innovator's dilemma, which leads organisations to under-prioritise the technologies and innovations that require investment to meet customers' emerging needs.

6.1.2.6 There is a stark difference between identifying a required action and enacting it, and it is the latter that receives priority in this research. Leaders may publicly declare their commitment to innovation and the future orientation of their businesses, but what both the productivity dilemma and the innovator's dilemma speak to, what March (1991) empirically verified, is that there is a natural inertia which draws leaders and businesses away from these stated intentions to over-prioritise short-term, less uncertain activities. The means to achieve sustained success, even more so in the context of the 4IR, is cultivating an unswerving dual focus on both business-as-usual and innovation.

6.1.3 PEOPLE AND CONTINUOUS LEARNING

6.1.3.1 Eight interviewees linked the optimal functioning of an organisation with the people within the organisation. Specifically, they discussed the strength and capabilities of these people and their ability to drive or inspire action across the business. Reference to people as a primary enabler was most commonly mentioned when discussing exploration or innovation efforts. Andrew (small insurer, CEO) believes that organisations should place their "best people" within their innovation units. Frank (large insurer, established business focus) expanded on this to say that innovation teams should consist of those who "are looking for opportunities and can live with the ambiguity and the uncertainty that comes with it".

6.1.3.2 A people focus resonates with recommendations from the literature about how organisations of the future can make the most of the 4IR. According to Davis (2016, p. 5), "The digital era will rely on machines, but winning will require—perhaps more than ever—talent pools that can thrive in an increasingly digitised economy." Interviewees tended to lean towards the strategy of sourcing people with adequate skills and expertise rather than upskilling current staff members who show potential or interest in learning more. This runs counter to the continuous learning mindset encouraged by the literature (Bender & Willmott, 2017; Brynjolfsson & McAfee, 2015; Gratton, 2011; Shook & Knickrehm, 2017; Spelman & Weinelt, 2018), which may be an indication of a cultural paradox within the industry.

6.2 Inhibiting beliefs and capabilities

6.2.1 LACK OF URGENCY

6.2.1.1 All interviewees agreed that the life insurance industry has been slow to respond to the changes and opportunities presented by the 4IR, with half of interviewees acknowledging that this is a disappointment and the other half considering this to be a deliberate and carefully considered strategy. As a strategy, this approach runs counter to the high speed of change and demand for urgency noted across the literature (Bose & Bastid, 2018; Christensen, 1997; Ismail et al., 2014; Reeves et al., 2015), which is supported by the falling average lifespans of S&P500 companies (Anthony et al., 2018).

6.2.1.2 A lack of market readiness for change was provided as justification for this measured approach by four interviewees. Kelvin (large insurer, emerging business focus) explained that insurers “need to go at a pace that the customer is used to. So radicalising technology before a market is ready for it is a wasted use of your energy”.

6.2.1.3 This attitude is supported by the characteristics of the South African market. Lower levels of social and economic development within the country mean that a large portion of the market has low levels of financial literacy and limited access to technology. The older age profile of the intermediary workforce and the dominant forms of distribution were suggested to contribute to a lack of consumer readiness. Clark (medium insurer, established business focus) explained that “we can do exciting stuff on a computer and an iPad, but it seems that a lot of brokers still want paper”.

6.2.1.4 Accepting these conditions as justification for avoiding change suggests companies are taking a linear, all-or-nothing view of technology and the 4IR—a view that has inhibited business leaders globally (Brynjolfsson & McAfee, 2015; Davis, 2016; Shook & Knickrehm, 2017). The power of the 4IR is not only found in the most advanced and radical technologies, but also in opportunities for value creation which are unlocked by the combinatorial effect of multiple smaller and less drastic technologies, as well as true human-technology collaboration. The South African market may have real constraints for insurers, but this does not negate the global trend of changing customer expectations as a result of advancements in other industries (Catlin et al., 2018; Malherbe & Dixon, 2017). It also does not preclude the use of emerging technologies, ecosystems, and human augmentation to improve the industry’s effectiveness at meeting its customers’ current and future needs.

6.2.2 LACK OF AGILITY

6.2.2.1 A pervasive lack of agility across the life insurance industry emerged as the primary inhibitor, cited by 11 interviewees. Lack of agility refers to an inability to respond quickly to business challenges and opportunities as they arise. Dan (large insurer, emerging business focus) expressed his overall sense of this across the life insurance industry by explaining that “there’s lots of opportunity, but nobody is really grabbing the bull by the horns”.

6.2.2.2 Four characteristics emerged as key contributors to a lack of agility: structural inertia (cited by 8), cultural inertia (5), risk aversion (5), and execution ability (6). Frank (large insurer, established business focus) highlighted how structural inertia

inhibits progress: “Quite often we are trying so hard just to keep the wheels turning in the current world, that it’s hard to imagine what the future world is going to look like.” This speaks directly to the trade-off between exploitative and exploratory activities in the classic management literature.

6.2.2.3 In describing why his organisation struggles with innovation, Hugo (large insurer, emerging business focus) explained it was “because of the dual forces of the antiquated systems and the cultures in which they operate”, thereby linking the forces of structural and cultural inertia. Alluding to cultural inertia Dan (large insurer, emerging business focus) warned, “You end up with a lot of stone throwers—people who will try and take this thing down because it’s a threat to what they’re doing.” These anecdotes dovetail closely with the work of Tushman & O’Reilly (1996) who described how the success syndrome creates structural and cultural inertia within an organisation which serves to reinforce the existing way of operating and limit organisations from accessing the means to operate differently.

6.2.2.4 Risk aversion refers to a resistance to undertake activities that are associated with uncertainty. Although risk aversion converges comfortably with efficiency, optimization, and business-as-usual type activities, this mindset runs counter to the future-looking and variance-increasing activities associated with exploration and innovation (Adler et al., 2009; Dorado, 2002; Smith et al., 2010). Four interviewees linked this aversion to the actuarial mindset dominant within the industry. This was described by Hugo (large insurer, emerging business focus) as “that rational, highly cynical actuarial mindset”. Frank (large insurer, established business focus) indicated that this presents a significant barrier to change, giving an example of his perception of a typical response from an actuary as, “I’m not going to do anything until I have 20 years of experience behind me that proves this”.

6.2.2.5 As was demonstrated in the case of Kodak, an awareness of change does not necessarily equate to effective responsiveness (Reeves et al., 2015). Although the insurance industry recognises the need for agility, six interviewees identified a concerning inability to execute and complete projects or plans. Clark (medium insurer, established business focus) noted that the insurance industry is generally not short of analyses and new ideas, but that “innovation is only 20 per cent of the problem, execution is the other 80 per cent”.

6.2.2.6 In addition to the importance of agility as a general enabler of innovation, it is particularly important for the local insurance industry who have largely chosen to adopt a transitional strategy in response to the 4IR. This requires maintaining a focus on the core business whilst innovating at the fringe with the intention of scaling quickly where a viable opportunity presents itself. This strategy is a viable approach to ambidexterity but is only realistically achievable where agility is present. Without this capability to quickly execute change, the transitional strategy becomes a non-starter and the precarious position of incumbent insurers becomes even more concerning.

6.2.2.7 The discussion of agility by interviewees is telling: although the lack of urgency described by interviewees suggests that they underestimate the rate of change, they do recognise the need to operate with urgency and flexibility, as the literature recommends (Bose & Bastid, 2018; Christensen, 1997; Ismail et al., 2014; Reeves et al., 2015). However,

a clear awareness of the need for agility coupled with a widespread inability to enact it indicates a deeper incongruence that must be uncovered and addressed to move forward.

6.2.3 BARRIERS TO PARTNERSHIP

6.2.3.1 Although eight interviewees recognised partnerships as a fundamental strategy to succeed in the 4IR, they again struggled with execution. Three barriers to partnership were identified: lack of trust, a strong protectionist attitude, and the tone set by leadership.

6.2.3.2 Half of the interviewees observed that a lack of trust of other actors in the ecosystem by insurers limits their ability to form enabling partnerships. This hesitance to trust external groups is rooted in the historic role of trust in insurance more broadly. The dependence of the customer relationship on trust, and the fear of further weakening it with a failed innovation, makes insurers hesitant to extend trust to unknown or new prospective partners.

6.2.3.3 Five interviewees described a corporate protectionist attitude that appears to reinforce the lack of trust in the culture. John (large insurer, established business focus) explained, “In a corporate environment, we’re being schooled to think that if you don’t protect your [intellectual property], someone will steal it.” Hugo (large insurer, emerging business focus) expanded on this by explaining that, “the corporate mindset is zero-sum—they focus on making sure that they don’t get done in, and they get that little bit more than you do”.

6.2.3.4 Bose & Bastid (2018) specifically note the importance of developing “win-win partnerships” (p. 5). A pervasive lack of trust bolstered by a protectionist attitude hampers the development of partnerships in the insurance industry through a hesitance to trust partners and relinquish control for fear of being undermined. In spite of the underlying motivation to protect trust, this behaviour further threatens customer trust and leads to a focus on short-term value maximisation at the expense of continuous learning and sustained value creation over the long term.

6.2.3.5 Finally, the enactment of a partnership mindset was linked to the example set by leaders. Ewan (large insurer, established business focus) expressed confidence in his leadership team to adopt a partnership mindset: “I’ve got huge confidence from a leadership perspective. I think they’re onto the right issues, they are investing the right amount of resources into it, and they are leveraging the right clout internationally in terms of partnerships, including the giants of technology who we’ve chosen as global partners.”

6.2.3.6 Although interviewees acknowledged the importance of leadership for supporting a partnership mindset, not all experienced a high level of efficacy from their leaders. Dan (large insurer, emerging business focus) explained his experience in organisations struggling to embrace a partnership mindset, particularly with regard to fintech. He said, “People need to stop seeing fintech as such a threat but see them as an enabler or a potential partner.”

6.2.3.7 The disparity between understanding the need for partnerships to access external expertise and committing to partnerships in practice is likely to further inhibit the industry’s ability to respond to its changing environment.

7. CONCLUSION

7.1 The life insurance industry has remained remarkably resilient throughout the early rise of the 4IR, but this has been largely due to the protection offered by various industry environmental conditions rather than the transitional technology strategy that is widely followed by industry players. As the 4IR gains momentum, the effectiveness of these protections will be eroded, and the adaptability of the industry will be put to the test. Researchers offer numerous tools and models for organisations to adapt to the 4IR, but without the right beliefs and capabilities in place, life insurers will not be able to develop effective digital strategies. By examining the current beliefs and capabilities of eight life insurance companies, this study provides a snapshot of the industry's current position in terms of digital transformation and innovation to inform future strategy.

7.2 The findings show that the South African life insurance industry is contending with a range of factors that either enable or inhibit digital transformation and innovation. Importantly, insurers are aware and accepting of the need for change imposed by 4IR. They also recognise some of the “best practices” for navigating the 4IR identified in the literature: an ecosystems approach, securing a talent pool with the right skillsets, and changing cultural attitudes toward change. However, there is a major disparity between understanding and executing on these strategic imperatives. The pervasive lack of agility, lack of urgency, and lack of trust on the part of organisations as a matter of cultural and structural inertia are inhibiting change action.

7.3 Senior leaders play a significant role in shaping the attitudes and capabilities of the organisation towards key structural and cultural enablers of innovation, like partnerships with other organisations and a continuous learning mindset within the company. Some respondents suggested the cultural influence of the actuarial profession in leadership is a factor in resisting change. However, the South African market dynamics, in terms of both customers' demand for tech-based solutions and the workforce's skill level, were also cited as limiting factors of change action.

7.4 Taken together, these findings paint the picture of an industry that recognises the inevitability of change but is wholly reluctant to make the dramatic shifts that would better position it for sustainability in the later stages of the 4IR. Recommendations from the literature, borne out in the adjacent financial services sector, offer suggestions for the practical next steps South African life insurers can take. Future research in this area might take the form of action research case studies of individual organisations as they take on one or more of these proposed changes. Following the finding about the impact of the actuarial profession on organisational beliefs and capabilities, a study of actuaries within the industry could examine their skillsets, aspirations, and views of the 4IR in greater detail.

8. IMPLICATIONS AND RECOMMENDATIONS

8.1 From intention to action

8.1.1 In order to enact the transitional strategy that South African life insurers purport to be using successfully, they need to cultivate agility and remove the barriers that continue to inhibit agility. This includes an honest and severe review of the structures, systems, and processes within the organisation, as well as the narratives, attitudes, and behaviours exhibited by people that continue to sustain an irrelevant way of operating.

8.1.2 In addition, insurance leaders and actuarial professionals need to reassess their appetite for risk within the 4IR paradigm, which demands an openness to working with uncertainty. Actuarial professional associations must question whether the skillsets they prioritise for their members are keeping pace with the changing risk profile that they need to contend with in the field and, importantly, whether their training has embedded an unbalanced aversion to risk.

8.1.3 Finally, insurers need to challenge the execution gap. Onerous compliance, regulation, and decision protocols provide real barriers to agility, but leaders might look to overcome these by actively identifying and rewarding those who are able to surmount the execution gap and learning from their experiences to identify extrapolatable solutions.

8.2 The time is now

8.2.1 Identifying the time to act is a long-standing leadership challenge: too late and the organisation risks being disrupted, too soon and it risks losing its position in the existing market without sufficient gains in the emerging market to sustain itself. This question lies at the root of the innovation paradox that has led to the downfall of countless organisations. Leading thinkers in innovation and strategy have shown the importance of leading proactive change, as well as the detrimental impact of deferring change and being forced to respond reactively and sub-optimally.

8.2.2 A lack of market readiness is a valid consideration but is potentially a pretext to avoid the urgency of industrial change. As technological capabilities expand, value chains disaggregate, and new ecosystems emerge, industry protective mechanisms will fade. Radical change is upon the industry and requires action now.

8.3 Set the right tone from the top

8.3.1 The responsibility for finding a way to balance the old and the new world lies firmly with leadership. Meeting this next wave of creative destruction requires leaders to promote a dual focus, prioritising the needs of existing and emerging businesses not by the current profit stream or certainty of outcomes, but by the part that each can play in sustaining the industry into the long term.

8.3.2 The existing industry structure cannot be dismissed—this will provide the fuel to carry the organisation to its next milestone. But it cannot be prioritised ahead of activities that promote future relevance. Balancing the diverse and often conflicting needs of established and emerging businesses is an exceptional skill and one that runs counter to decades of leadership literature that prizes consistency, stability, and zero-sum thinking. It

is not possible to expect every person in an organisation to manage this paradox and the responsibility therefore rests with those who are most influential in guiding the industry and navigating the 4IR: executive leadership.

8.3.3 The actuaries who dominate industry leadership have an opportunity to meaningfully shape the industry's transformation. Developing dynamic capabilities requires intentional effort, continuous learning, and active engagement to maintain them. Leaders in the actuarial profession who have transitioned to the outcomes-based CPD framework are at an advantage in that continuous learning is already baked into their professional ethos. It is recommended that actuarial leaders dedicate a portion of their CPD training to honing their dynamic capabilities, and to building industry forums to further this endeavour more broadly.

8.4 Leverage the power of partnerships

8.4.1 For an industry that recognises that it does not have all the answers, the emergence of ecosystems provides a powerful means to learn and adapt. Partnering with ecosystem players enables experimentation in carefully confined facets of the business where risk is minimised or shared, and therefore supports a sense of freedom and creativity essential for effective exploration and innovation activity.

8.4.2 Industry players recognise this opportunity and are eager to embrace it. However, fully leveraging this approach requires a true partnership mindset and a shift away from the zero-sum thinking and protectionist beliefs that lurk across the industry. The root of these stubborn beliefs that deny fulfilment of the stated intentions and aspirations is a lack of trust that is deeply woven into the fabric of the life insurance industry: both an outward-looking lack of trust from customers and the knock-on inward-looking lack of trust of others. This leads to severe risk aversion that inhibits insurers from developing win-win relationships. Proactive action needs to be taken.

8.4.3 Insurers must acknowledge this inhibitor and invest time and energy to find comfort with the partnership mindset. This may mean finding means to be more open with collaborators, potentially by incorporating legal protections. This also means accepting a focus on future growth potential and forgoing a focus on short-term value extraction and maximisation. As with cultivating dynamic capabilities, leaders can play a significant enabling role by reimagining partnership dynamics from the top.

8.5 Strengthen the foundations

8.5.1 The 4IR is a complex and multifaceted movement that far exceeds the concept of exponential technological advancement. The full promise of the 4IR is a transformed way of life whereby humans are able to expand their potential and impact through human–technology collaboration. Organisations that are able to appreciate the essential role of people in their 4IR strategies will undoubtedly outperform their peers. Insurers' recognition of the power and need for the right people suggests an advantageous point of departure for innovation. However, the insight currently missing is that many of the 'right' people are already in organisations and searching externally for experts will only partially fill the 4IR skills gap.

8.5.2 The solution is a widespread shifting of attitudes toward skills development at all levels of the organisation. The increasing rate of change imposed by the 4IR means that individual and organisational learning can never be completed; it must become a continuous pursuit. Organisations should begin to instil this continuous learning mindset within their businesses. The sooner this transition is made, the sooner organisations will be able to vault the skills gap and forge the path towards sustained success.

8.5.3 The spotlight shines even more brightly on the life insurance industry's foremost profession. Actuaries, particularly those in leadership positions, operate from a position of influence and, yet, the actuarial mindset is perceived to thwart the industry's ability to change. This raises uncomfortable questions about the profession's ability to sustain the relevance of its members' skillsets within the current and future business environment. Gone are the days where a professional qualification was enough to secure one's future in the working world. A successful transition through the 4IR requires that every organisation and every individual continuously monitors their skills development against the evolving skillset requirement.

8.5.4 The ASSA's intent to address this is clearly evidenced by an emerging outcomes-based CPD programme, which aligns well with the continuous learning mindset. However, the onus rests on each member to determine where to allocate their learning efforts. A key recommendation emerging from this research, for both actuaries and broader industry actors, is to not only embrace the continuous learning mindset but take intentional and carefully considered steps to enact it.

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