

FUTURE **RISK**

longevity risk & opportunity



A Technical Paper for Members

Longevity Risk & Opportunity
A Personal Approach



The Institute of Risk Management
SOUTH AFRICA

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Sponsored by FutureRisk Coaching and Consulting
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If you don't know where you're going,
what do you have to look forward to?

Kay Darbourn

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About the author - Kay Darbourn

FutureRisk is an independent Coaching and Consulting entity, focusing on Longevity Risk and Opportunity. Set up by Kay Darbourn in 2013, FutureRisk has provided support to a number of individuals and companies around Risk Management, Risk Financing, Insurance and Coaching.

Kay's association with IRMSA started in 2003 when the Society of Risk Managers SA (SRM) and the South African Risk and Insurance Management Association (SARIMA) were closed and merged to create the Institute of Risk Management South Africa.



"I am proud to have been IRMSA's first President and to have been involved in the set up of this new entity, I am even more delighted to see how the Institute has grown and succeeded over the past 15 years. As you can see from the logos above, the IRMSA logo was our attempt to incorporate the two previous institutes to maintain some continuity - so the RM from SRM and the SA from SARIMA, the "I" in the centre for Institute and similar colours.

As an IRMSA Fellow and Honorary Life Member, I have maintained contact with my institute colleagues and have been involved in a number of initiatives over the years - most recently, the completion of the first Risk Research Report on the Impact of the Failure of the Kariba Dam. This was a fascinating project and my thanks to Aon South Africa for sponsoring that particular report. The set up of the Risk Intelligence Committee within IRMSA allowed the team to consider new and innovative Risk Management issues and was the conduit for the design and publishing of the first IRMSA Risk Report in 2015.

My focus for the past ten years has been around planning for my own retirement, experiencing the move from the relative security of the corporate world to running a small business and learning about living a healthy and proactive life. This document is my opportunity to share some of the things I have learned with our IRMSA community.

I hope you enjoy this paper - please let me have any comments via e-mail - kay@futererisk.co.za

If you find the topics of interest, follow me on Facebook and Twitter and connect with me on Linked-in.

www.facebook.com/LongevityRisk
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If you would like further information on FutureRisk, please visit the web site - <http://www.futererisk.co.za>



Executive Summary

Entities are run by individuals – whether they are small or large businesses, for or not for profit bodies or government departments – individuals are responsible for many distinct personal decisions and in many instances, collective decision making, such as which political party might run our country in future!

Understanding your individual longevity and how this will impact your future is key to your ability to provide insight to your businesses and your family, it is never too soon, or too late to work on your next phase of life! Many of you will have some sort of financial plan and this might include some future changes in your lives but have you considered your future holistically?

Continuing to follow the ISO 31000 2009 guideline where risk is defined as “the effect of uncertainty around objectives” we will combine some risk management concepts and coaching principles as we unpack the impact of longevity for our IRMSA community. How long we might live, how satisfied we might be with our future lives and how we might participate in the longevity economy or industry are challenges for consideration.

A concept around Longevity Risk Management is introduced for you to apply to your own specific circumstances and to share with your companies as part of our proposal to improve employees awareness of the need to focus on their own future. We include:

- A framework or model showing the integration of aspects and elements recommended for your future planning.
- Our suggested process to address future planning around longevity.
- Proposed life stages to consider as you plan at different times of your life.
- A risk and opportunity category listing under each of the aspects within the model.
- Broad examples to demonstrate the process - #NewRisk, #@Risk and #LegacyRisk.
- Articles and comments reflecting Risks and Opportunities that might be relevant as you complete your future plan.
- Results from our Longevity survey.

Research on this concept was completed over the past five years and reflects information from various sources with links and further details for the reader to review where relevant. Once you reflect on the topic of longevity, you may approach a number of challenges, both personal and professional, from a different perspective! Some of the key challenges raised by people I have coached and spoken with include:



Strategy & Stakeholders - The need to involve your partner in your future plans - many couples have separate careers and even their own businesses, so deciding where you want to live and work and when to purchase significant assets needs to be a joint decision. Your children and parents also need to appreciate how they may fit into your future plans and decisions.



Science & Technology - Getting the right advice and having a young person to help is the key here. There is no point having a top of the range cell phone, for example, if you don't understand all the features and benefits - you may just be opening yourselves up to more risk and wasting money in the process.



Information - So many have made little effort to understand the benefits they are entitled to from their employer, from pension or provident fund savings to healthcare and training opportunities. Attracting staff in future will require a different focus on employee benefits and individuals should take the time to check out all benefits on offer before accepting a post.



Personal Health - Many "lifestyle" diseases are preventable and living a healthy life throughout the number of years you have been given will improve your longevity and enjoyment of your future years. Regular moderate exercise and a healthy diet together with a balanced lifestyle is easier if you start as early as possible - no excuses.



Social & Recreation - Smartphones, Netflix and other similar products take up too much of our time - we need to be interacting with people of all age groups and actually talking "in person" as far as possible. Watching people in restaurants using their phones instead of having a conversation is really sad and don't be surprised when your children do the same thing at the supper table.



Physical Location - Inter-generational living and the concept of "Ageing in Place" are key topics of discussion as families consider how to manage their lives. In your earlier years you might need to go where the work is and your home location may be at the same place or you may choose to travel back to your family on a regular basis, leaving them in another location. Security and safety are major considerations, including the risks of regular road travel from home to work.



Continuous Learning - It's great to get that qualification but learning really should never stop and it's not only about learning within your profession or discipline - your job may be at risk as the 4th industrial revolution takes hold and you may need to consider a career change. Take the time to look at options and consider some of the free training available on the internet or from your employer. Become a life-long learner.



Finance - So much is about how we take decisions and how we use the funds available to us, some say they wish they hadn't bought the fancy car - others wish they had travelled more when they were younger. Understanding how debt and interest rates work seems to be a challenge for our younger colleagues - many are trying to save but have taken out loans as well for seemingly unimportant purchases. Peer pressure is something that we need to learn to ignore in terms of what we own and display to the world.

The focus of the paper is on South Africa as a country and was written for our IRMSA community including our IRMSA individual and corporate members and other partners and interested parties that we communicate and work with on a regular basis however the methodology can be applied world-wide.

We bring in topics from around the world to consider where we can learn from how other countries and individuals have addressed their specific needs whilst understanding their different economies, age and population demographics.

Our thanks to those of you who completed our recent longevity survey - some of the results are included for your interest.

If you would like to review a different type of Executive Summary or share the concept with friends and colleagues see our Executive's Summary - [please refer to Annexure 2.](#)

You are one of our Big Thinkers - take the time to look at your personal future and longevity.



FutureRisk Longevity Framework and process

Why is our longevity important?

Whether we are talking about our lifetime, or a product or service that we are involved in, our understanding of our personal and family's future risks and opportunities is really important. We spend a lot of time working on our company's risk management systems but do we ever apply the same principles to our personal lives?

FutureRisk has put together a process to help you consider your future life plans and incorporate your risks and opportunities - this paper will suggest concepts for you to apply to work on your own "life plans" using coaching and risk management principles.

It is worthwhile to unpack what Longevity means and to understand population and age demographics while you consider your risks and opportunities, specifically in South Africa.

Longevity is the Specific Risk focus for this paper and may be seen as the duration of a specific life or group of lives. The term is used in many different ways currently and some relevant examples might include:

- Career longevity - the amount of time you work in a given career. As you may be living longer than you anticipated, you may enjoy a number of different careers.
- Sports longevity - related to the sportsperson and other supporting staff, coaches and sponsors, changing the types of sport you participate in, adapting to health restrictions.
- Job Longevity - time in a specific role and/or time at the same entity.
- Product longevity or sustainability - how long a product or service might last.
- Board/Chairman longevity - with thanks to the King Committee for the guidelines - this aspect may depend on the size of the entity and its objectives, balancing experience, innovation, compliance and business development needs.
- Shareholder/Investor longevity - as individual decision makers change their views, considering emerging risks and with greater access to information, companies may find changes in their investor or shareholder profiles.



With thanks to Wikipedia - The word "**longevity**" is sometimes used as a synonym for "life expectancy" in demography. However, the term longevity is sometimes meant to refer only to especially long-lived members of a population, whereas life expectancy is always defined statistically as the average number of years remaining at a given age. For example, a population's life expectancy at birth is the same as the average age at death for all people born in the same year (in the case of cohorts). Longevity is best thought of as a term for general audiences meaning 'typical length of life' and specific statistical definitions should be clarified when necessary.

Reflections on longevity have usually gone beyond acknowledging the brevity of human life and have included thinking about methods to extend life. Longevity has been a topic not only for the scientific community but also for writers of travel, science fiction, and utopian novels.

"But overall, people are living longer. A number of factors have contributed to this upswing in our longevity, including declining infant deaths, better management of infectious diseases, and more widespread access to clean water. In the decades leading up to the nineteenth century, much of the improvement in life

expectancy was not because people were living into what we now consider old age — it's because fewer children were dying before they reached adulthood.

In the 20th century, we finally began to see the trend that's continuing now: fewer deaths at older and older ages.

The 85-and-over population is projected to increase 351% between 2010 and 2050.

The most interesting thing about that trend, the report notes, is that it was totally unexpected: "The progressive increase in survival in these oldest age groups was not anticipated by demographers, and it raises questions about how high the average life expectancy can realistically rise and about the potential length of the human lifespan."

"Most scientists agree that there is in fact a limit on how long, physically, we can live : rising averages aside, no one has ever been documented as living beyond 122. "Getting to about 110 is really approaching the limit of the human lifespan," explains Thomas Perls, an attending geriatrician at Boston Medical Center and professor at the Boston University School of Medicine."

"What Is the Limit of Our Life Span?"

(Science Times, July 3)

As a cell and molecular biologist, I can say with certainty that human longevity is based on several factors, but it can be generally divided into two large categories.

One is genetics (takes into consideration genes and cell behavior; DNA mutations; exposure to pathogens; hormonal fluctuations; pregnancy; biological stress; tissue trauma and repair, etc.) and the second category is environmental (diet; geographical location; exposure to harmful chemicals and radiation; clean air and water; access to sanitation and health care, etc.).

This combination of nature and nurture ultimately decides how long any human being lives, irrespective of ethnicity or gender.

MICHAEL HADJIARGYROU

CENTERPORT, N.Y.

Professor of life sciences at the New York Institute of Technology.

Changes to the causal factors of longevity - infant mortality, infectious diseases, healthcare, nutrition, education around lifestyle and health and attention to middle age and old-age diseases have clearly impacted how long you live, however it seems that where you were born and where you spent your younger years has a major impact on your potential longevity, the question is how can you "live your best life" going forward, whatever age you are now?

Longevity, animals and other food - did you know there is an animal ageing and longevity database? Refer to AnAge which is "a curated database of ageing and life history in animals, including extensive longevity records. AnAge was primarily developed for comparative biology studies, in particular studies of longevity and ageing, but can also be useful for ecological and conservation studies and as a reference for zoos and field biologists."

If human future health might depend on the availability of adequate animal and plant food, we may need to consider how we manage conservation of a number of species and focus differently on the impact of climate change.

Associated Press 30 July 2018 - "NEW YORK — McDonald's is fighting to hold onto customers as the Big Mac turns 50, but it isn't changing the makings of its most famous burger.

The company is celebrating the 1968 national launch of the double-decker sandwich whose ingredients of "two all-beef patties, special sauce, lettuce, cheese, pickles, onions and a sesame seed bun" were seared into American memories by a TV jingle. But the milestone comes as the company reduces its number of U.S. stores. McDonald's said last week that customers are visiting less often. Other trendy burger options are reaching into the heartland."

Product longevity can be impacted by a number of risks, reputation being a key exposure with the speed of social media and the ability to understand the changing needs of different generational customers.

Lack of maintenance to key infrastructure remains a challenge in our country which clearly impacts the longevity of projects and plant, this aspect is reflected in more detail in the IRMSA Risk Report 2018.



The Longevity Economy

Whether this will be a key feature in SA's future will be an interesting opportunity to debate. A briefing paper prepared by Oxford Economics for the AARP in the USA, focusing on the longevity economy, gives us some insights but we need to reflect on SA's population and age demographics creating a different market segment for us to focus on.

"The Longevity Economy is transforming the larger US economy. The distinctive consumer preferences, work-life choices, personal needs, and family responsibilities of Americans over age 50 are pushing the broader economy in new directions, helping to mould its profile for decades to come. Companies that are able to recognize and capitalize on this trend will enjoy a market of over \$106 million that is expected to grow by over 30% in the next 20 years, however, the demands of this market segment can be more complex than those of younger consumers.

Meeting the Longevity Economy on its own terms will require important shifts in understanding and approach, including:

- Recognizing new spending habits. The Longevity Economy's distinct wants, needs, likes, and dislikes continue to shift, and are not always predictable.

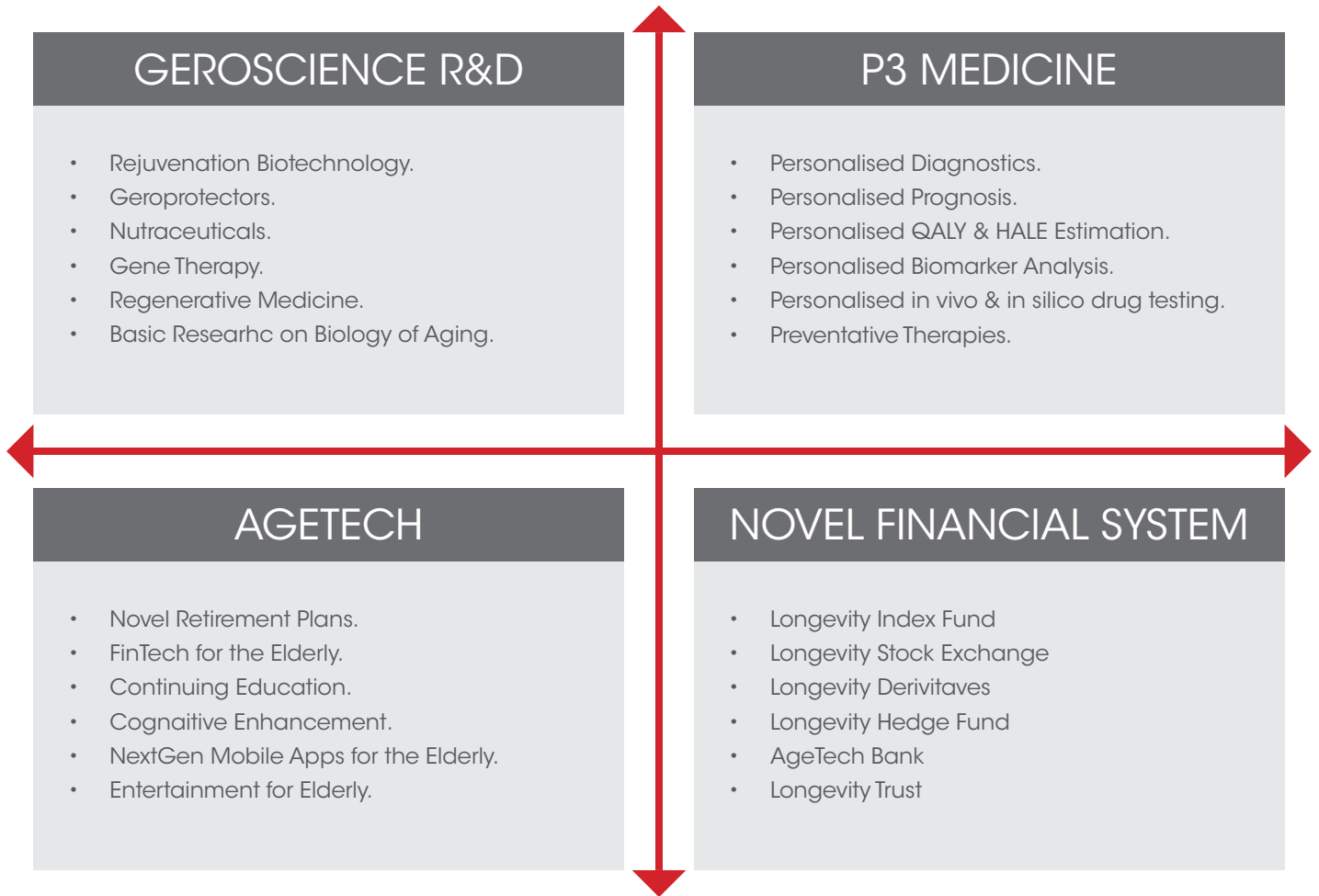
- Understanding the digital side of the Longevity Economy. Companies must not dismiss technology as irrelevant to the Longevity Economy, and instead determine which technologies these customers prefer and which best support their needs.
- Keeping ahead of health care trends. The Longevity Economy's health care spending patterns are evolving, dictated in part by their preference to age in place.
- Adjusting to longer working lives. As more over-50 workers opt to stay in the labor force, employers that want to retain their skills need to accommodate their physical requirements and their preference for greater flexibility.
- Adjusting to a multigenerational labour force. Likewise, employers will have to create an inclusive culture that accommodates the needs of both younger and older workers."



The Longevity Industry

This is more about the products and services available. With thanks to Longevity International and their recent report (<http://longevity.international/longevity-industry-landscape-overview-volume-2>)

This is the longevity industry classification framework



It is clear that the word or term "longevity" is used in many ways but in general it seems to reflect how long someone or something will last.

FutureRisk Longevity Risk & Opportunity Framework - Fig 1



FutureRisk Longevity Risk Management Process

1. Consider your own personal context

- Your dependents and what responsibility will you have for them going forward, what other stakeholders might be involved?
- Are you generally risk averse or do you like to take risks, are you resilient, do you adapt well to change, are you open to new ideas?
- Are you future focused or do you spend a lot of time on current or past issues?
- What is your purpose in life, what are your dreams for the future, what is on your "bucket list" to do in future?

2. Decide on your objectives or goals for the planning period

- Use the SMART concept to describe your goals:
 - Specific.
 - Measurable.
 - Attainable.
 - Relevant.
 - Time-bound.
- Keep a note of the risks and opportunities you identify as you go through the process.
- Review the FutureRisk Life Stages table (fig 3) and consider for each of your dependents.
- Decide on an overall objective and one for the eight FutureRisk aspects (fig 1) - you may have more than one objective under some of the aspects and possibly none under some but ensure a balanced approach, consider the categories listed under each aspect further in the paper - [starting on page 17](#).

3. Review and list the risks and opportunities that may create "uncertainty" around your objectives

- For the period of your plan only, don't make assumptions - verify information as far as possible, accept that emerging risks are something to keep an eye on in future.
- Consider risks and opportunities that are inter-dependent on each other and combine to reflect one item.
- Ensure you have integrated the various stakeholder elements into your risk listing, your dependents, advisers, employer etc.
- Once you have your list, consider a basic impact, frequency and probability ranking approach to end up with 3 - 5 risks per aspect.

4. Consider risk control or mitigation initiatives for each risk to reduce the impact (how much), probability (how likely) or frequency (how often) of the risks identified and the cost of each initiative together with the timeframe to complete and likely effectiveness. Remember to consider opportunities and how to maximise them. Options:

- Treat - an initiative to enhance or reduce the risk.
- Tolerate - live with the risk as it is.
- Terminate - stop doing whatever creates the risk or opportunity.
- Transfer - pass the risk on, perhaps by insurance or contractually.
- Take more risk - accept more risk for yourself.

5. Write up your future plan

- Confirm your overall and aspect objectives.
- Confirm your key risks and opportunities with the proposed control or mitigation measures.
- Determine how you want to achieve your objectives over the period of your plan and list what you are going to do and when, quarterly

if a short term plan (3 years) and annually if longer.

- Communicate where appropriate or relevant to those you are responsible for, or to other stakeholders.

6. Keep your plan "top of mind" and update regularly

- Set time with yourself to review your plan regularly and update with your achievements and risks or opportunities that may have been identified since your previous review, quarterly is suggested.

- Do a complete overhaul of your plan and follow this process as often as you feel necessary, depending where you are in your life. A review every three years or so is suggested.



FutureRisk Longevity Profile examples

We have designed three imaginary profiles to briefly demonstrate how this process works but it is important to understand that each person's own context and life plan will be different and most experts who might assist you on your planning journey will go into far greater detail with you.

#NewRisk

a 30 year old who has just met the "love of her life".

#@Risk

a 50 year old with no work-life balance

#LegacyRisk

a 70 year old focusing on her family and where to live

Fig 2 - FutureRisk Longevity Risk and Opportunity profiles

	#NewRisk	#@Risk	#LegacyRisk
	Female aged 30	Male aged 50	Female aged 70
Profile details and context	Living in a flat in Midrand, rented	Own home in Edenvale, bond with a small amount outstanding	Living with daughter, rented home in Brits, great relationship
	Employed by a Financial Services entity	Employed by a Government entity for the past 30 years	Working part time as an administration assistant, contributing to home expenses
	Saving R1,000 per month in the bank	Savings invested in tax effective instruments	Provident fund money invested, nominal monthly income received to support expenses need
	Parents working - to retire in 5 years	Parents no longer living	Daughter planning to go overseas, no other children
	Siblings all working and doing well	Siblings all retired and financially stable	Siblings have all passed on
	Recently met the "love of her life"	Married, 2 children - one working one finishing university	Divorced, husband living overseas
	Contributing to a Provident Fund	Government pension fund - allow early retirement at 55 or full pension at 65	Provident fund income will allow a modest rent and expenses but no "extras"
	Working on a 10 year "life plan"	Working on a 15 year "Life plan"	Working on a 5 year "Life plan"
Objective	Overall objective - Get married and have two kids, buy own home, take a trip overseas	Overall objective - Change work-life balance and improve poor health and eating pattern	Overall objective - find suitable rental property and help daughter reach her dream to go overseas
Strategy & Stakeholders	Work as hard as possible in the next few years to earn money and start a family.	Retire early at 60 and start a business locally.	Talk to friends and suggest a communal property/living arrangement to best use income
Science & Technology	Focus on work related technology	Understand scientific advances in chosen franchise and embrace new technologies relevant to business	Use "free" learning platforms to understand new technology to support the community living concept
Information	None	Investigate franchise opportunities	Use social media and free information platforms to maintain an interest in the world
Physical health	Maintain a healthy diet and exercise plan.	Major change in eating plan required and exercise regularly	Walk more often and take up gardening to support the community
Social & Recreation	None	Work on networks - social and work	Maintain contact with friends and family as far as possible
Physical Location	None	None	None
Continuous Learning	None	None	None
Finance	Save as much as possible and buy own home, create education fund for children.	Work with Financial Adviser to understand current funds and funds available for business	None

Risks & Opportunities			
Low	Lack of social & fun elements may lead to a poor work-life balance.	Early retirement may be too soon, additional income and benefits for 5 years may be useful	Seek financial/legal advice around community living arrangements and options
	Take advantage of work training available.	Some business training required before starting new entity	Ensure location of new home is safe and secure and close to transport
Medium	Provide support for parents retirement if needed, potential carers for children.	Possibly insufficient income for future longevity and/or family support	Ensure network and IT options at new home are suitable
	Clarity on home location required and information around location/s.	Opportunity to turn health around - focus on improvements	Find local Yoga/Pilates classes to support health and socialise
High	No plan for overseas trip	Identify other work-life balance options	Consider moving overseas with daughter

Notes:

- 1. Profiles are imaginary and do not reflect any specific person or persons.
- 2. Profiles are basic to demonstrate the process only, working with a professional to help you further is recommended.
- 3. Treatment plans will depend on the specific profile - use standard risk management treatment or control principles.
- 4. Both short and long term plans should be re-visited regularly and emerging risks considered.



FutureRisk Life phases or stages

There are a number of models available to suggest the different phases of life we might go through. In general we have the "learning years", then the "earning years" and supposedly then we retire but it is clear that as we live longer, we may decide to work longer or start a new career before formally retiring.

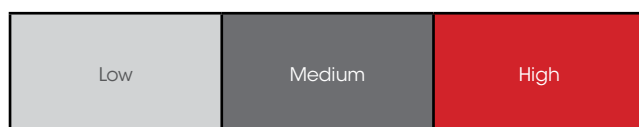
Early childhood development is key to growth and development for SA and with our demographic profile reflecting 46% of our population under 25, job creation

will be a priority, particularly with an unemployment rate of 27.2% or 9.6m people. (July 2018)

The eight FutureRisk aspects will vary in importance as you go through life - we suggest that the following table might assist you as you work on your life plan, both for those you have responsibility for and for yourself. Again your own individual experience and circumstances will require that you adjust what is important to you and when.

Fig 3 - FutureRisk Life stages table

FutureRisk Aspects		Strategy & Stakeholders	Science & Technology	Information
0 - 12	Childhood			
		Location	Learning	Health
		School		Vaccines
12 - 21	Education			
		Location	Learning	Career options
		Schools		
22 - 35	Career development			
		Carers		
		Experience	Value add	Work related
36 - 45	Career specialisation			
		Growth options	Work related	Growth related
46 - 55	Career sustainability options			
		Consolidate	Future work	Future work
		Benefits review		
56 - 65	Future work options lifestyle			
		Businesses	Relevant	Small Business
		Time planning	Future life	Part time
66 - 75	Future work options			
				Franchises
		Set up	Relevant	Brain training
76 - 85	Part time Volunteering			
		Communicating	Future life	Exercise
				Health
86 - 120	Relax and enjoy			
		Community	Careing	Lonliness
		Legacy	Reminders	Health
86 - 120	Relax and enjoy			
			Emergency	
		Legacy	Reminders	Lonliness
86 - 120	Relax and enjoy			
		Acceptance	Emergency	Health
			Lifestyle	



Physical Health	Social & Recreation	Physical Location	Continuous Learning	Finance
Open air	Socialising	Open air	Curiosity	Savings
Exercise		Safety, Security		Value of money
Sports	Social skills	Safety	Education	Student loans
	Community		Leadership	Car
			Teamwork	Entertainment
Work-life	Marriage	Rent / Buy home	Planning	Invest/save
Sports	Kids	Transport	Education	Insurance
Exercise	Networking	Kids school	EQ	Pension Fund
Healthy eating	Holidays		Leadership	Budget
Work-life	Relatives	Consolidate	New skills	Invest/save
Sports	Kids		Mentoring	Insurance
Exercise	Networking			Pension Fund
Healthy eating	Community			
Work-life	Relatives	Future plan	New skills	Invest/save
Sports	Community		Mentoring	Insurance
Exercise				Pension Fund
Healthy eating				
Work-life	Grandkids	Future plan	Business	Consolidate
Sports	Community	De-clutter	Marketing	Plan
Exercise	Networks	Move		Discounts
Healthy eating				
Work-life	Community	Consolidate	Business	Manage funds
Sports	Socialising	Transport	Marketing	Re-budget
Exercise	Networks			
Healthy eating	Volunteering			
Brain training	Community	Re-assess need	Communication	Manage funds
Balance	Socialising	Move		Carer
Exercise		Transport		
Healthy eating				
Brain training	Community	Security & Safety	Communication	Manage funds
Balance	Socialising	Transport		Carer
Exercise				
Healthy eating				

Low	Medium	High
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Personal objectives or goals

Consider your goals or objectives for each of the FutureRisk aspects and record them for your future plan, remember to keep a note of risks and opportunities as you go through the process.



Strategy & Stakeholders

Strategy - a plan of action designed to achieve short term and longer term objectives, plans or goals. Your personal longevity strategy needs to consider how best to remain healthy and how to finance your life, and those you are responsible for, until you pass away.

Unless you are able to rely on someone else to finance your lifestyle when you stop working, it will be up to you to plan how you are going to consider all of the aspects necessary to achieve a happy and healthy future.

Your overall personal objective might be to be able to stop working or retire at a certain age and to live a similar or improved lifestyle as you currently enjoy at a location of your choosing. You may identify additional objectives as you work through each of the aspects of longevity detailed in the FutureRisk model.

Stakeholders - list and understand the relationship with all individuals and entities who may be involved in your future, from your family to the entities you trust and invest with.

Looking at risks and opportunities around your objective you might consider:

- Scenarios - what are the likely options for the future, your nation, your family, your career.
- Planning - complete a written plan to be updated regularly - one for the short term (1 - 3 years) and one for the longer term (15 years).
- Stakeholders - address family responsibilities - parents and other dependents, employers and work colleagues, volunteer organisations, faith based organisations, social relationships, contracts, investments and financial aspects.
- Family businesses - succession planning.
- Career - what might impact your current role and ability to earn and develop.
- Skills - what new skills might you need to develop as technology and the world of work changes.
- How do you maintain your networks - work and personal/social.
- What sources of information and data do you trust to use for taking decisions.



Science & Technology

This aspect will potentially have the most impact on our increasing longevity. Healthcare improvements have certainly led to less infant deaths and new technological innovations will continue to improve our quality of life as we age.

Science is defined as the systematic study of the nature and behaviour of the material and physical universe, based on observation, experiment, and measurement. It also involves the formulation of laws to describe these facts in general terms. Technology is science or knowledge put into practical use to solve problems or invent useful tools.

Concerns over technological advances and products taking over some of our current roles are certainly valid but some new innovations will make our lives easier and allow us to develop in other areas. Personal objectives around this aspect would certainly involve keeping up with new technology and scientific advances but in addition we must be willing to embrace change and acquire new skills in the longer term.

Categories to consider under Science and Technology:

- Internet of Things (IOT), Industrial Internet of things (IIOT).
- Medical, Bio-Medical Science, Bio-Technology.
- Gig economy, Digital Nomads.
- Robotics.
- Artificial Intelligence (AI), Virtual Reality (VR), Augmented Reality (AR).
- 3D Printing, including replacement body parts.
- Block chain.
- Internet access, IT products, Back-ups.
- Home devices, Smart Glasses, Sporting innovations.
- Work devices, Telecoms.
- Digital assets.
- Security.
- Transport, Vehicles.
- Fraud, cyber-crime, Data protection, Identity theft.
- Training and behavioural aspects around the use of new technology.



Information

Information relates to data and facts provided or learned about something or someone. We have an abundance of information available – how do we determine what information to trust, who to get advice from and how to take decisions based on relevant information for our future?

There have been a number of financial schemes where individuals have lost significant amounts of money, medical advice can sometimes be a challenge and “fake news” or identity theft can significantly affect our wellbeing.

Your information objective should be about researching the aspects you might need advice around and then considering the professionals available to help you, forming a longer term relationship with them and testing their advice from time to time with other relevant professionals. Consider how you might recover financially from such professionals if they give incorrect advice and check if they meet industry regulatory standards for their profession.

Categories to consider under information:

- Current and proposed legislation, regulation and policies.
- Societal challenges.
- Processes – Government, Financial, Documentation - ID's, Passports.
- Statistics, Biased reporting, Insufficient or incorrect data.
- Politics, National Economy, World Economy.
- Governance – Employment, Living environment.
- Trusted sources, Verifying information.
- Social Media – Reputation.
- Trends and Emerging issues.
- Approved Service providers.



Personal health

Personal health includes wellness and is much more than merely physical health, exercise or nutrition. It is the full integration of states of physical, mental, and spiritual well-being.

Understanding and managing your physical health as early in your life as possible is likely to be of considerable advantage as you age. Lifestyle diseases are on the increase and most can be treated with the improved science and medical knowledge we have, but prevention is the greatest opportunity we have going forward.

Mental health includes our emotional, psychological, and social well-being. It affects how we think, feel, and act. It also helps determine how we handle stress, relate to others, and make choices. Mental health is important at every stage of life, from childhood and adolescence through adulthood. Serious mental conditions such as Dementia and Alzheimer's may significantly impact our latter years.

Spiritual wellbeing discusses our ability to experience and integrate meaning and purpose in life through our connectedness with self, others, art, music, literature, nature, or a power greater than oneself. Whatever your religious or spiritual beliefs, your meaning and purpose in life will continue to be an important factor driving your future.

An objective around personal health should incorporate all three aspects and seek to achieve balance in your life.

Categories to consider under personal health:

- Lifestyle diseases, stress, diabetes, obesity.
- Physical health, mobility, exercise, healthy eating, alcohol, smoking.
- Mental health, brain training.
- Spiritual health, Religion, Purpose, Meditation, Mindfulness.
- Ethics, values, beliefs.
- Technology – Medical, Exercise, Geroscience, Bio-printing of body parts.
- Medical check-ups, Health screening.
- Medication, Generics, Herbal remedies, Vitamins, Supplements.
- Dental, Optical, Hearing.
- Healthcare providers, Specialists, Clinics.
- Emergency support.
- Social interaction, Independence, Loneliness.
- Travel, Travel Insurance.
- Employer benefits, Leave, Medical Aid, Clinics, Employee Assistance Programmes.



Social & Recreation

Social activities are those in which you meet and spend time with other people, generally when you are not working and is usually aligned with leisure and your discretionary time. The "need to do something for recreation" is an essential element of human biology and psychology. Recreational activities are often done for enjoyment, amusement, or pleasure and are considered to be "fun".

Although part of personal wellness, a separate aspect around social and recreation allows us to focus on a more balanced lifestyle, interacting with others whether family, friends or meeting new people and this can be key to addressing loneliness at any age.

Objectives around Social and Recreation involve making time to meet and socialise with others - we can sometimes get so involved in our working lives that we neglect our families and friends. Involving others in our planning is important and planning for leave due and vacations gives us something to look forward to.

Categories to consider under Social and Recreation:

- Significant other, Romance.
- Family.
- Training, Learning, Personal Growth.
- Fun events, sports, clubs.
- Hobbies.
- Friends.
- Pets.
- Community, Volunteering, Charities.
- Social events.
- Networking.
- Social Media.
- Faith Based Organisations.
- On-line dating.
- Relaxation, Spa and other treatments.
- Travel, Travel Insurance, Emergency Support.
- Driving, visiting historic places, Museums.



Physical Location

Where you work and live may change as you go through your life, perhaps being close to your child's school or your work is important at this current stage of your life. Your physical location refers to where you will be living and working at various times in your life and considers the environmental aspects around your choice.

You may have different short and longer term objectives around your location. Moving to another country or living by the sea might be something that you consider as you age and decide to retire. This aspect is one that might be key as you consider your other objectives - investing in property might be one of the most expensive decisions you make during your lifetime and your location may also have a significant impact on your future health and wellness.

Categories to consider under physical location:

- Work environment, office, travel for work.
- Home environment.
- Work-home commute, Transport.
- Work from home.
- Travel for pleasure.
- Smart Cities, Mega Cities.
- Healthcare proximity.
- Emergency response capacity.
- Home support, Maintenance, Security, Domestic, Carers.
- Exercise and recreation, Arts, Culture, Sports, Shops.
- Schools and other learning institutions.
- Weather.
- Quality of life, Pollution, Industrial diseases, Environmental.
- Climate change, Water, Utilities, Access, Roads.
- National/area history.
- Security, Safety.
- War, Conflict.
- Local government, Municipalities.
- IT access, E-commerce, Digital Nomads.



Continuous Learning

Continuous learning refers to the ability to continually develop and improve one's skills and knowledge in order to perform effectively and adapt to changes in the workplace and even in our residential environment. It is important to remain active in learning new things as we age and change our formal working life whether we retire, rehire, rewire or just take a break from the challenges of modern life.

With innovations in Science and Technology, jobs as we know them today may change and you will need to have the necessary skills to be able to adapt to new roles to maintain the income you have described under your finance objective.

It may be necessary to continue to earn an income after you stop work or retire formally and you may decide to work part time, set up a small business or start an entirely new career, sometimes known as your "encore career". As you move into your latter years you will need to maintain your mental agility and with the number of free learning opportunities available to you through the internet you should be able to do this quite cost effectively.

Your continuous learning objective might be to understand how the world of work is changing and to ensure that your skills set continues to meet the needs of employers whilst maintaining your mental, physical and financial health into your retirement years.

Categories to consider under continuous learning:

- Additional or new skills.
- Intangible assets - Family, Friends, Skills and Knowledge, Physical and Mental Health.
- Understand your work benefits, training etc. and use them.
- Research and development.
- Pre-retirement planning, Second career.
- Skills transfer and ability to measure success.
- Skills required for a small business.
- Business support requirements for a small business.
- Coaching and Mentoring.
- Training options, Podcasts, on line, bartering.
- Networking.
- Innovation.
- Dealing with ageism.
- Age diversity.
- Games for mental agility, brain training.
- Social skills, listening.



FutureRisk aspect - Finance

Finance - money, assets or other liquid resources available to you now or at a future agreed date that will meet your personal needs throughout your life. Intangible assets are mainly dealt with under the continuous learning and social aspects.

Considering your overall personal objective, you need to determine the likely funds you will need to change your everyday life or stop working at the age you have set and to achieve the lifestyle you require, including the dependents you have responsibility for. Your finance objective might be to research your potential longevity and the money required until you pass away and plan how you will acquire, maintain and grow those funds but this will depend on what age you are starting this process.

Consider the following risks and opportunities:

- Identify current assets, consider future projections, investment methods, inflation.
- Look at your current individual expenses budget and project into the future with inflation.
- Unpack your current career and future earning capacity, what are your options.
- If you are running your own business or thinking of doing so, a separate budget is recommended.
- Plan asset replacements, maintenance and lifestyle changes.
- Ensure you have a debt management and repayment plan - house bond, vehicle finance, business finance.
- Look at your savings plan, how to ensure the best returns and use of the funds, look at tax effective options.
- Understand your retirement fund options/future funding – institutions, advice from experts, what if you decide to retire abroad, what access might you have to a state pension at a specific age, what if you decide to move to another employer.
- Clarify the cost of banking services, short term investment rates and options.
- Identify your projected income sources and expenses after you finish working full time.
- Identify discounts available once you reach a certain age, retail and vacation options.
- What are your insurance requirements – short term and long term products, consider professional indemnity cover if you decide to consult and if you join a Board check out their Director's and Officer's cover.
- What health funding will be needed, Medical Aid, Long-term care.
- Understand tax complexities, trusts, businesses, investments.
- Ensure you have taken advantage of available training from your employer.
- What will the cost of training and other learning involve for your ongoing growth and development.
- Is your documentation in order, Contracts, Will, Trusts, Estate planning.
- If divorce could become a possibility, make sure you understand the financial impact.
- Verify your sources of information and people giving you advice.

Integration and Interdependency

Your future life plans will involve others that you are responsible for and other stakeholders - it is important to understand the interdependency of some of your goals or objectives. If you do not achieve your financial objectives, you may have to work longer, find other sources of income or cut out some of the things that you had planned to do.

Mentoring, Reverse mentoring, Mentoring both ways - Mentors open Medical Students minds to ageing - "Beverly Archibald is 86 and she has opinions about what people around her age need from their doctors and nurses. Because she's a mentor in the SAGE program (Seniors Assisting in Geriatric Education) at the University of North Texas Health Science Center in Fort Worth, she can share her thoughts with medical students and others working toward health careers. But as Archibald knows, to a large degree she herself is the message the program sends to students."

We should appreciate the skills and diversity that we have in our country and endeavour to share wisdom to help and support the growth of our younger generations.

Chip Conley - " in my HBR article from April 2017, I suggested that a new work role was dawning for those in midlife, that of the "Modern Elder." As I learned in my role as Head of Global Hospitality and Strategy, and mentor to the CEO, at Airbnb, the most successful companies create a powerful alchemy of brilliant young DQ geniuses mixed with seasoned vets who've developed a keen sense of EQ over the decades. These Modern Elders - who are as much mentors as they are interns ("menterns") - offer more than EQ, leadership and strategic advice. They also come with a Rolodex (how's that for an old school reference?) filled with other wisdom keepers who can help steer the enterprise beyond just the launch of a new, disruptive technology."

The online social networking site Facebook launched in February 2004 - 14 years ago. How long have you been using Facebook?

Once you have created your personal risk register you will be able to identify the interdependencies of each of the eight aspects on each other. As an example, you may have set aside funds to travel but you have neglected to look after your health, travel by air becomes impossible, you can't walk very far and you are reliant on drugs that are not permitted in other countries. Or perhaps your career is standing still and your annual increases barely cover inflation, limiting your ability to save for your future.



I can't
do it

Resilience

According to positivepsychologyprogram.com, Resilience is defined differently depending on who you ask; psychological researchers may have one working definition (or many!), while those who work directly with people who are struggling often see it differently.

There is no single accepted set of components of resilience, but this set of characteristics and contributing factors can provide a useful guide as you work on your individual risks and opportunities.

- Optimism – those who are optimistic tend to be more resilient as well, since they are more likely to stay positive about the future even when faced with seemingly insurmountable obstacles.
- Altruism – the most resilient among us often turn to helping others when they need to relieve stress and boost their self-efficacy.
- Moral Compass – people with a strong moral compass or steadfast set of beliefs about right and wrong generally have an easier time bouncing back.
- Faith and Spirituality – while not a required factor for resilience, people often find their faith helpful in surviving challenges and coming through stronger and wiser on the other side.
- Humor – people who have a healthy sense of humor and are able to laugh at their own misfortune are at an advantage when it comes to bouncing back, for obvious reasons!

- Having a Role Model – this is also not a requirement for resilience, but those who have a role model in mind can draw strength from their desire to emulate this person.
- Social Supports – unsurprisingly, social support is important when it comes to resilience; those with strong social support networks are better equipped to bounce back from loss or disappointment.
- Facing Fear – this is not so much a characteristic as an action or tendency to act, but people who are willing to leave their comfort zone and confront their fears are more likely to overcome their challenges and grow as a person.
- Meaning or Purpose in Life – it shouldn't be surprising that those who feel they have a specific purpose in life or find a tremendous amount of meaning in their lives are more likely to recover from failure or disappointment; when you fervently believe you have a purpose, you are less likely to give up when faced with tragedy or loss.
- Training – while a portion of individual resilience may be somewhat permanent and unchangeable, there is opportunity for improvement; it is possible to improve your resilience through training (Staroverky, 2012).

These components are not present in each and every measure of resilience, but they form a good basis for understanding the nature and scope of resilience.

Adaptability

With thanks to Tomorrow Today, understanding adaptive intelligence - "Having the capacity to adapt to whatever comes next is essential. It is as important for individuals as it is for entire organisations and the basic DNA of 'how to be adaptive' in both instances, is the same.

Problem is that not many of us are intentionally and consistently building the capacity of adaptive intelligence and our failure to do so could lead to catastrophic results. It is a little like wanting to be physically fit, hoping that we are, but doing nothing to ensure that in fact, we are fit.

So how can we go about developing greater adaptive intelligence? There are four elements that make up what we mean by 'adaptive intelligence'. These four elements we refer to as the 'DNA' of Adaptive intelligence. Understanding the DNA of adaptability allows us to be intentional in developing the capacity to be adaptive. This is good news and by being deliberate in our pursuit of adaptability we are developing an essential life / organisational skill.

Below are the four elements and with each one a question for your consideration - Of course, these four elements invite far deeper reflection and engagement, however, simply knowing what they are is an important and significant first step forward. They are the 'exercises' that if done, will unlock the fitness (adaptability) that you will require.

They could be great discussion points with your team - take one per meeting and really delve into what it means in your context. Identify actions that can be done as you pursue the particular point and then track what happens over time."

1. Learning to live with change and uncertainty

Question: What is your 'threshold' (be that personally or organisationally) for change?

2. Embrace different types of knowledge for learning

Question: How can you 'mix up' the means whereby you / the organisation learn?

3. Nurture diversity for resilience

Question: How diverse is your circle of friends / team and how can you enhance that diversity?

4. Create opportunity for self-organisation

Question: In what area/s might you 'do less' and allow others to self-organise?

Reference: Gunderson & Holling: The four elements discussed were sourced from their research into the adaptability of coral reefs in the Pacific."



Population and age demographics in different countries

South Africa

If we refer to the latest STATS SA report - 2018 mid-year population estimates - we can reflect on the following data as a base for our future thinking.

Total Population	57,73m
Female	51,2%
Population under 25.....	46,42%
Population 25 to 59.....	45,11%
Population 60 and over.....	8,47%

Life expectancy is increasing over time with females increasing from 57.6 in 2002 to 67.3 in 2018 so over a 16 year period life expectancy has increased by 10 years.

Over the same period, male life expectancy increased from 53.8 to 61.1 - 7 years.

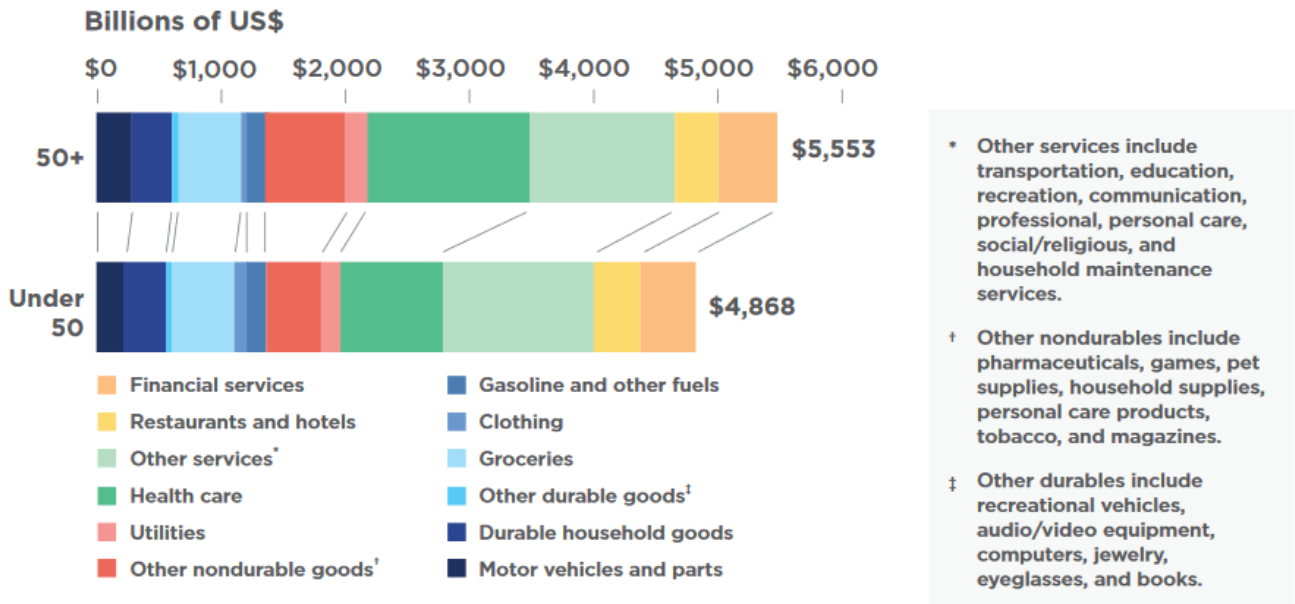
The report provides a breakdown by age, race and province and information on HIV/AIDS prevalence and is worth a read to understand our South African "numbers" particularly if you are considering participation in the longevity economy or industry.

As we look at the future for South Africa it seems that we are living longer, we have a large population of younger people and currently a relatively small population of people over 60 compared to most "First World" countries.

USA

If you are working with entities in the USA, a review of the Gerontological Society of America and the work they do is of value. Their recent report on Longevity Economics, <https://www.geron.org/images/gsa/documents/gsa-longevity-economics-2018.pdf>, although based on the ageing population in the USA, may give you some insights. It also clearly shows how this country's demographic profile is very different to ours in SA.

Spending Patterns by Age Group - United States, 2015



Americans aged 50 years or older are the predominant purchasers of goods and services in the United States, despite the emphasis on younger consumers by advertisers and marketers. Overall, older Americans spent nearly \$5.6 trillion in 2015 and were the major purchasers in several categories: health care, nondurable goods, durable goods, utilities, motor vehicles and parts, financial services, and household goods.

Source: From AARP & Oxford Economics. (2016). *The Longevity Economy: How people over 50 are driving economic and social value in the US*. Copyright © Oxford Economics Ltd. Adapted with permission.

The comment at the bottom of the picture above is worthy of note - where should your company's marketing and advertising be focused and will it appeal to all age groups?

Microeconomics is the study of individuals, households and firms behaviour in decision making and allocation of resources. It generally applies to markets of goods and services and deals with individual and economic issues.

UK - July 2017 estimates

Population: 64,769,452
Age structure:..... 0-14 years: 17.53% (male 5,819,363/female 5,532,123)
15-24 years: 11.9% (male 3,938,643/female 3,770,511)
25-54 years:..... 40.55% (male 13,387,903/female 12,873,090)
55-64 years:..... 11.98% (male 3,843,268/female 3,918,244)
65 years and over: 18.04% (male 5,246,475/female 6,439,832)

Again, the number of people over 50 is significant although recent press reports indicate that longevity is marginally declining in the UK. A Minister of Loneliness has recently been appointed in the UK to deal with the increasing challenge around older persons feeling isolated, even though 81% are living in urban areas. The Campaign to End Loneliness charity estimates that one million citizens in the UK suffer from loneliness. The charity's leaders point to research showing that isolation can negatively affect other health conditions and are calling for it to be treated as a public health issue.

Japan

"Japan is currently the world's oldest country, and it's set to get even older. The number of elderly people aged 65 or older accounts for 26.7 percent of the 127.11 million total population, up 3.7 percentage points from five years ago, a summary report of the 2015 national census shows. In 2050, it's estimated by the government that 40% of Japan's population will be over 65. In the last few decades, the country's social security budget has increased 15%. While 5 decades ago there were 12 workers for every retiree, there will be an equal 1:1 ratio in 50 years.

Slowing population growth and an aging population are creating more than a headache for the island nation, as this problem is shrinking its pool of taxable citizens, causing the social welfare costs to skyrocket, and has led to Japan becoming the most indebted industrial nation with public debt that is double its economy."

"In total numbers of centenarians (people 100 or over) Japan is second to the US, with a current population of about 30,000. However that number has almost quadrupled in the last 10 years, making the centenarians population in Japan rising more dramatically than anywhere else. At its current rate of expansion Japan's population of centenarians may rival that of the United States in sheer numbers in the years ahead. Certainly by 2050 Japan proportionally will have the most centenarians in the world. Since the death of Dominica's "Ma Pampo", the "official" world's oldest person currently resides in Japan, Yone Minigawa at 114."

Clearly it is important to understand the age and population demographics of the country or region you are operating in and also where that specific grouping lives, particularly if you intend providing a product or service to a specific country or demographic group.

Risks and Opportunities - refer to Annexure 1

The items included in this section reflect issues that may create uncertainty for your future planning, both personally and for your business interests. You may need to research some of these issues further and others listed under each of the eight aspects, specific to your own personal circumstances.

Conclusion

Whilst this paper has been focused on our IRMSA Community and South Africa, clearly other demographics and emerging issues will impact individuals, business and government around longevity risks and opportunities. Ageing is a certainty, rather than a risk but if you consider all the opportunities available you can change the direction and quality of your future life and it's never too late to start!

The decisions we make throughout our lives impact our future longevity - the suggested framework and process shared with you in this report, together with some areas for your future research and consideration will allow you to work on your future plans at any stage of your life.

This paper is not intended to be a Risk Assessment. Most entities now have a formalised Risk Management process within their companies, required in terms of good governance, but individuals may not have considered using a formal process for their personal future planning. This paper provides an opportunity for you to use your risk management skills to plan your own future life. When applying the methodology that

this paper proposes, you may benefit from talking to a Financial Adviser, insurance Broker and different types of Coaches ranging from those involved in career or business development to health, wellness and retirement.

Although risk is currently defined as "the effect of uncertainty around objectives" in terms of ISO 31000 2009 and allowing for both the negative and positive aspects of risk, one of the challenges around this specific risk is the age population demographics in South Africa and being able to address our national challenges while still understanding and learning from the considerable focus on ageing in a number of other countries.

The sheer volume of information available around the topic of longevity world-wide is considerable - we hope this paper will give you some areas to consider for your personal future and it may also provide some understanding of the business and government challenges going forward for SA.

Disclaimer

While IRMSA, FutureRisk and Kay Darbourn ("the parties") have endeavoured to ensure that the information and statistical data contained in this report are accurate and relevant, the parties do not represent that such information or statistical data is accurate, complete or current. All estimates, opinions and recommendations expressed in the report were made as of the date of this report and are subject to change as circumstances within South Africa and the world change. No warranties of any kind, whether express or implied, including but not limited to the warranties of non-infringement of third party rights, title, merchantability, fitness for a particular purpose are given and the parties expressly disclaim any liability for any errors and omissions.

References, links and documents used for this paper

Books and Periodicals

- The 100 Year Life - Lynda Gratton and Andrew Scott - Living and working in an Age of Longevity
- Second Act Careers - Nancy Collamer
- Retire right - Bruce Cameron
- National Geographic Magazine

Reports

- IRMSA Risk Report - 2018
- IRMSA Guideline to Risk Management -2014
- World Health Organisation - Report on Ageing and Health 2015, Report Human Sciences Research Council 2012
- UNCTAD report - Technology and Innovation - 2018
- STATS SA 2018 Demographic report
- Alexander Forbes Barometer - www.alexanderforbes.co.za/research/benefits-barometer/benefits-barometer-2017
- <https://www.alexanderforbes.co.za/download/afo/benefitsbarometer/The%20Books/Benefits%20Barometer%202018.pdf>
- The Demographics of Ageing in South Africa - Alexander Forbes
- Longevity Industry Landscape Review 2017 - Longevity.International
- World Economic Forum - Africa Growing Population 2018
- World Economic Forum - Global Risk Report 2018
- World Bank Systematic Country Diagnostic - 2018

Web sites and links

Facebook is a great way of finding relevant pages to follow, use the search function and look for a topic, entity or hashtag. FutureRisk's business page is an example: <https://www.facebook.com/LongevityRisk/>

- www.youve-earned-it.co.za - Discount site for members
- <https://alzheimers.org.za/prevalence-of-dementia/> - Link on dementia
- <http://www.thesmallsbusinesssite.co.za/2018/05/07/unhealthy-mismatch-employers-health-wishes-realities-emea/>
- www.strategicrisk.com
- www.aig.com
- www.agewoutborders.com - Age without borders
- www.Neo.Life - newsletters
- www.nextavenue.org

- www.geronpta.org.za - SA Gerontological Association
- www.bg-rf.org.uk - Biogerontology Research Foundation - UK
- www.ilcsa.uct.ac.za - International Longevity Centre SA
- www.sifar.org.za - The Samson Institute for Ageing Research
- www.independent.co.uk
- www.engineeringnews.co.za
- www.livingto100.com - Life expectancy calculator
- www.marketwatch.com
- www.sanea.org.za - SA National Energy Association
- <https://saarp.net/> - South Africa Association of Retired Persons
- www.unretirementproject.com
- www.retirementproject.org
- www.longevitylive.com
- www.indexmundi.com
- www.50plus-skills.co.za
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- www.businessinsider.com
- <http://www.sharecafe.com.au>
- www.aarp.org - USA Association of Retired Persons
- <https://www.eurekaalert.org> - EurekaAlert! Science News
- <https://hbr.org/> - Harvard Business Review
- www.thecentarian.co.uk
- www.worldpopulationreview.com
- www.c40.org - Kevin Austin - The Future We Don't Want
- Milken Institute Centre for the Future of Ageing - Bioresilience
- www.tomorrowtodayglobal.com
- <https://www.aarp.org> - AARP
- www.refirementnetwork.com
- www.nextavenue.org
- www.sixtyandme.com
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- www.moneymarketing.co.za
- www.theconversation.com
- www.entrepreneur.com
- www.futurerisk.co.za
- www.fiftyplusharties.co.za
- www.news24.com

Acronyms and abbreviations

AARP	American Association of Retired Persons
IRMSA	Institute of Risk Management South Africa
SA	South Africa
USA	United States of America
UK	United Kingdom
UNCTAD	United Nations Conference on Trade and Development
WEF	World Economic Forum
WHO	World Health Organisation

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- Carla de Klerk - Pixology



More about the creative collaboration with Pixology:

Pixology is a creative agency with over 15 years' experience in Graphic Design & Brand Management. When we say creative, we mean it. No tired, recycled ideas here. Your brand is unique and deserves to be showcased in way that is true to your one-of-a-kind identity.

We pride ourselves in creative, innovative, design & marketing solutions that are delivered on time -and within Budget. Our clients are our priority so we will go above and beyond to keep them smiling.

From small start-ups to large corporates, no task is too big or small. We have a solution to suit your taste, your objectives, and keep your budget in tip-top shape!

info@pixology.co.za | 083 582 4393





” More information for
our Big Thinkers ”

Annexure 1 - Articles, Comments and Survey Feedback - Risks and Opportunities

This section includes articles and comments relevant to items on our FutureRisk checklists, detailed under the eight aspects, to give you a flavour of the issues you might consider as you compile your list of risks and opportunities.

With thanks to IRMSA for managing the survey process from FutureRisk's question set, we appreciate those who responded to our longevity questionnaire during August and September this year.

Of the 195 respondents, 95% are aged between 26 and 65 and the majority live in Gauteng. A good percentage of the respondents have either a short or longer term future plan but the most interesting comment was around whether the respondents had sufficient information to determine how long they would live - 73% said they did not.

Strategy & Stakeholders

Retirement - Wikipedia is the withdrawal from one's position or occupation or from one's active working life.[1] A person may also semi-retire by reducing work hours.

An increasing number of individuals are choosing to put off this point of total retirement, by selecting to exist in the emerging state of Pre-tirement.[2]

Many people choose to retire when they are eligible for private or public pension benefits, although some are forced to retire when bodily conditions no longer allow the person to work any longer (by illness or accident) or as a result of legislation concerning their position.[3] In most countries, the idea of retirement is of recent origin, being introduced during the late 19th and early 20th centuries. Previously, low life expectancy and the absence of pension arrangements meant that most workers continued to work until death. Germany was the first country to introduce retirement benefits in 1889.[4]

IRMSA survey - the majority of respondents indicate they will retire between 56 and 65 and 86% think they will still work when they have officially retired.

With increasing life expectancy and insufficient funding for future longevity, many people are retiring later in life and may start another career after their retirement. Some of the main paths that retirees might follow:

Continuers modify their activities while continuing along a similar path. Continuers maintain their former identity but in a modified way and may stay connected to their former work and their former identities while developing on new fronts.

Adventurers see retirement as an opportunity to pursue an unrealized dream or try something new.

Easy gliders have worked all their lives and decided that retirement is the time to relax. They take each day as it comes. For some, the joy of having no agenda and no pressure makes for a relaxed and rewarding life.

Involved spectators still care deeply about their previous work. They are no longer players, but they receive satisfaction from staying involved.

Searchers are retirees who are looking for their niche. At some point, any one of us may be a searcher. We might retire, then adventure into a new path, and then when that has played out, we might search again.

Retreaters come in two versions. Some step back and disengage from their previous routine, using a moratorium to figure out what is next. Others get depressed and become couch potatoes.

Consider which path you might like to follow once you have determined when you want to change your lifestyle or retire, but don't become too prescriptive and understand that you may re-think your way forward as your future life unfolds. It is key that you understand your options in terms of any retirement funding you may have, when do you need to officially retire from your job, can you take "early retirement" and what are the advantages or disadvantages?

A Labour Court judgement delivered in June 2018, which dealt with the question of whether an employer can unilaterally change your retirement age is of interest. Some countries in Europe are increasing their retirement ages from 65 but the case below involved a reduction in the retirement age.

"In Daniel Cornelis Theunissen v Legal Aid South Africa, Theunissen was employed by Legal Aid South Africa since 1 May 2008," explained Helena Roodt, an attorney at SchoemanLaw." His retirement date was changed from 65 to 60 and it seems that it was not discussed or communicated well. The employee was reinstated - the finding means that employers should not unilaterally change the terms and conditions of employment of their employees, and that the retirement age should be clearly stated in employment contracts and human resources policies.

How does your company recognise longevity of a specific employee in the work-place and when? Is a "gold watch" still the trend on reaching a certain number of years?

National Development Plan (NDP) - The NDP aims to achieve the following objectives by 2030:

- Uniting South Africans of all races and classes around a common programme to eliminate poverty and reduce inequality.⁶

- Encourage citizens to be active in their own development, in strengthening democracy and in holding their government accountable.
- Raising economic growth, promoting exports and making the economy more labour absorbing.
- Focusing on key capabilities of both people and the country.
- Capabilities include skills, infrastructure, social security, strong institutions and partnerships both within the country and with key international partners.
- Building a capable and developmental state.
- Strong leadership throughout society that work together to solve our problems.

Refer to the IRMSA Risk Report 2018 for more input on the risks and opportunities around the NDP and consider where your future plans might be impacted. Appreciate that national plans change over time and identify where those changes impact on your own future plans.



Future scenarios for South Africa - these continue to be posed by a number of people and entities - with thanks to Clem Sunter and his recent column for News24, see the following:

"Experience is something you get the moment after you need it. This witty comment came from the guy sipping his coffee at the table next to me in a café last week. However, in reviewing South Africa's future, the wisdom in the comment can be turned on its head as we have had so much experience of both the highs and lows in our recent past. Surely we can learn from that.

So, let's go through the six principal flags identified by various august institutions as the ones most likely to influence our future:

Corruption: Venezuela is the latest victim of this flag with food and medical supplies running out, and life being absolute hell for its ordinary citizens. By contrast, here in South Africa, we are seeing attempts to turn the situation around with the commission on state capture now in action and the president voicing his determination to root out corrupt practices. This is a good sign, but for the flag to turn really green the perpetrators must see their day in court and, if found guilty, must suffer the consequences.

Quality of Infrastructure: We have not had another round of major load-shedding by Eskom this winter season and serious attempts are being made to improve management of state-owned enterprises. However it is worrying to see so many construction companies with their backs against the wall. This implies that the multi-billion rand government programme to improve infrastructure is not yet seriously underway. The manner in which National Health Insurance in South Africa is implemented will provide considerable guidance on the prospects of this flag turning green.

Style of leadership: South Africa works very well when it has a leader or purpose uniting it. Witness the years of economic growth under Mandela and the outstanding reception given to soccer players and foreign fans during the 2010 World Cup. Our current president is definitely a person who can exercise the right kind of

inclusive leadership to put us on our feet again, but he will have to handle the final flag of land reform very carefully in order to avoid a mutiny on deck.

Pockets of Excellence: We have so many pockets of excellence in South Africa in both the public and private sector, but the last ten years have taken their toll and many people who would have formed the next generation of excellence have sadly left the country. The most important area in which to watch this flag is education because only high quality education is capable of reducing social inequality in the long run. We have some of the best schools and university faculties in the world. If we can learn from them in order to uplift the rest, we will be on our way to becoming a winning nation.

Entrepreneurial spark: By common consent, this flag is the one that can change the country's economic destiny the most and create a genuine state of economic freedom. We need an enterprise summit rather than a jobs summit to tackle the exclusiveness that still persists in our daily lives; to integrate the township economies into the mainstream economy; and to come up with innovative solutions to convert rural communities into thriving networks of local activity. At the heart of all this will lie the goal of multiplying the number of youthful entrepreneurs in our country.

Land reform: The latest tweet by Donald Trump is not helpful on this issue, but it goes to show that only the kind of team approach that caused the political miracle of the early 1990s can turn this flag green. The positive meeting of agricultural players last week in Bela-Bela should be seen as a forerunner to a full-scale Agridesa that can take place once the government has completed its consultations with the public. Any move to impose a top-down remedy on land redistribution which sparks widespread resistance among existing land owners is bound to have immense downside on both the local and international fronts. The injustices of the past must be corrected, but in a way that involves consensus from all sides on the best way forward. Otherwise this will be the most disruptive flag of all.

The six flags lead to three possible scenarios for South Africa's future:

Premier League: This is the scenario where we reverse the negative economic trends of recent times by turning all six flags green. We start regularly hitting an economic growth rate between 3 and 5% per annum while at the same time moving away from being one of the most unequal societies on Earth. Critically, we serve as an inspiring example to other nations of how racial divisions can be healed by implementing a vision based on ethics and common sense.

Second Division: In this scenario we relinquish our position as the number one economy in Africa that we have held for 150 years and become just another third world destination. The decline is peaceful although all the flags stay reddish in colour. The problems prove too hard for even the most talented leadership to resolve and we remain a racially divided country from which the best talent emigrates in the hope of a more peaceful and better life elsewhere.

Failed State: This is the scenario where the wheels come off completely in the near future mainly as a result of the last flag turning really nasty and violence rearing its ugly head on a wide scale. Nobody overseas even thinks of investing here as we descend into that group of nations which for one reason or another is regarded as a wasteland with no hope of redemption.

At the moment, the probabilities I attach to these three scenarios are 60% for the first one, 30% for the second and 10% for the third. Nevertheless, I respect the fact that each reader may have a completely different spectrum of probabilities given that this country is at a tipping point.

Whichever way the future breaks, be sure to anticipate it by watching the flags! Better still, roll up your sleeves to help turn the flags green and raise the probability of staying in the Premier League."

SA - key challenges - Trevor 'Nightingale' Manuel and his colourful coterie of battle-hardened soldiers recently emerged from their year-long bosberaad at the National Planning Commission (NPC) with insights into the key challenges facing South Africa. 9 major problems facing South Africa - and how to fix them...

"It doesn't take Einsteinian wisdom to realise that the Rainbow picture would be lacking in rosiness, but a chunk of change was spent on getting to the bottom of our country's ills, and a frank assessment is what we got:

1. Too few South Africans in work.
2. The quality of school education for most black people is sub standard.
3. Poorly located and inadequate infrastructure limits social inclusion and faster economic growth.
4. Spatial challenges continue to marginalise the poor.
5. South Africa's growth path is highly resource intensive and hence unsustainable.
6. The ailing public health system confronts a massive disease burden.
7. The performance of the public service is uneven.
8. Corruption undermines state legitimacy and service delivery.
9. South Africa remains a divided society.

Being the, ahem, think tank that we are, Leader.co.za decided to assemble our own posse of respected intellectuals to thrash out the issues at hand. But this time round, we went in search of solutions." <http://www.leader.co.za/article.aspx?s=1&f=1&a=2893>

Considering your role in business, how might you be able to support what is best for SA going forward?

Science & Technology

4th industrial revolution With thanks to Dr Kingsley Makhubela - the chief executive of Brand South Africa:

"Despite global economic uncertainty, the appeal of Africa's sizeable and growing consumer class has continued to drive foreign direct investment (FDI) projects, particularly in telecommunications, financial services and retail.

With digital transformation gaining momentum, telecommunications remained the leading sector by investment in Africa, attracting almost one-fifth of FDI projects on the continent, according to Ernst & Young's 2017 Attractiveness Programme Africa.

Most of the activity was centred in South Africa, where FDI projects more than doubled to 41 in 2016 from 19 in the previous year, notably in the consumer and retail sectors.

With its sophisticated financial system, solid infrastructure and supportive policies for encouraging investment in a range of industries, South Africa attracts the lion's share of foreign direct investment into telecommunications on the continent.

There is in both government and business a realisation that the country needs to embrace the opportunities presented by the Fourth Industrial Revolution so as to capture its benefits to drive more inclusive economic growth.

A failure to do so will not only leave South Africa as a follower in the technological revolution but will mean its people will find themselves increasingly marginalised from the global economy and unable to compete in a world of automation and AI.

That is why both the public and private sector in South Africa are investing in the development of skills and human resources to harness these opportunities. It is only in this way that the true potential of integrating technologies into development policies - especially in health, education, agriculture and other important measures of economic progress - will be fully realised."

Understanding the Fourth industrial revolution

- view this short WEF video

<https://youtu.be/SCGV1tNBoeU>

Artificial Intelligence - meet Sophia, the first Robot to be granted citizenship of Saudi Arabia - this is well worth a view and listening to the responses, you might consider that the programming of Sophia, prior to the event, was exceptionally well crafted to the conference topic and further you might need to learn a new skill - how to interview a robot!

<https://youtu.be/dMrX08PxUNY>

Seed-depositing drones - National Geographic notes that Engineers at UK based BioCarbon engineering have developed seed-depositing drones designed to plant a billion trees a year. The drones can reach places humans can't. What technological innovations can we expect in the next ten to twenty years and what impact might this have on our earning capacity?

Autonomous vehicles - with thanks to Strategic Risk Europe and AIG. "Autonomous technology is transforming many industries. Transportation and logistics already pose complex risks for risk managers and insurance buyers. For autonomous vehicles the logistics sector will be in the vanguard of change.

More than a century of motoring has passed since the first pedestrian car accident fatality in the UK which took place 122 years ago on 17 August 1896 when Bridget Driscoll, a housewife travelling to a folk-dancing display at Crystal Palace, was struck down by a motorist travelling at a mere 4mph. The coroner for the case said he hoped that "such a thing would never happen again."

Human error has cost millions of lives in accidents on roads since then. Vehicles, and the rules for driving, grew rapidly, but human fallibility has remained consistent. Now, more than a century later, another revolution looms, with the potential to remove driver error from the equation. An exciting future - with traffic made up of driverless cars, vans, buses and trucks - is on the horizon.

How will technological changes impact you and your family, what new skills might you need to learn?

Accelerating advances in automation, machine learning and robotics mean that autonomous vehicles (AVs) are already in the testing phase of taking to the roads in several countries. Logistics firms should take heed, as trucks are likely to be among the first AVs, particularly as they drive mostly on major roads and for commercial reasons."

"The UK government is paying attention, with an Automated and Electric Vehicles Bill in parliament, expected to be enacted next year. The legislation, confirmed along with innovation funding in November's budget speech, aims to get driverless cars insured and on the road by 2021. The government believes a coming revolution towards AV technology will be worth £28bn to the country's economy by 2040."

NCTAD report - Technology and Innovation - 2018 - The concern around the increasing use of technology and loss of jobs is discussed in this report together with emerging approaches and opportunities in chapter 1V - a worthwhile read.

"The relationship between technology and employment has long been controversial. Like earlier technological advances, frontier technologies can be expected to eliminate some jobs, while creating others. While the net effect on employment remains ambiguous, there are already signs of a polarization of employment between low- and high-skilled non-routine jobs, as jobs at medium skill levels have declined. There are also signs that the net impacts may be most unfavourable for women."

The World Wide Web opened to the public on 6 August 1991, 27 years ago - can you imagine life before the internet and Google?

With new innovations in the science and technology arena, risks around confidentiality and information sharing may become a challenge - for example the direct-to-consumer DNA testing kits like those offered by Google-backed 23andMe can lead to a host of unintended consequences. Criminal investigations have been re-opened as DNA testing becomes more common but information privacy remains an issue - if you have a test done and the results were unfavourable would you tell your existing or prospective insurer?

Information

Accuracy of information and giving the full picture is a nightmare for individuals who may not have the resources or ability to verify data or facts provided. From biased advertising to alleged "expert views" to fake news and emotional pleas on social media, it can be a challenge to decide what products and services to buy and what charitable initiatives to support or "get rich quick" schemes to invest in.

At what age will you pass away - potentially one of the key factors to determine for your future plans is how long you and those you are responsible for, are expected to live. A couple of on-line tests were reviewed for this paper however the results seemed to be rather generic or too biased to one aspect and therefore are not recommended. Here is an opportunity perhaps for our Financial Services entities in SA to assist with a model specific to our needs?

SA legislation to consider - here is the link to the SA Older Persons Act - as a female aged 60 and a male aged 65, you are an "older person" and are entitled to a government pension http://www.justice.gov.za/legislation/acts/2006-013_olderpersons.pdf there have been a number of comments about this Act and the need for it to be reviewed, appreciating the overall intent of the legislation.

State Pension in SA - How much do you get from an "older person's pension" and what are the rules? Follow the link ... <https://www.gov.za/services/social-benefits-retirement-and-old-age/old-age-pension>

Retirement Benefits Counselling - June 2018 - "The recent amendments to the Pensions Fund Act have brought the importance of retirement benefits counselling to the fore and Jaco Pretorius, CEO of Ensimini Financial Services, says this is a step in the right direction. "For some time now we have been advocating that more needs to be done to improve access to information and financial services and to enhance the level of transparency in the retirement savings industry. While it has been easy for the retirement savings industry to blame consumer apathy for poor consumer decisions, it is often more likely the result of lack of access to relevant and unbiased information," he says.

The amendments stipulate that funds are required to ensure that members have access to retirement benefits counselling before they make any decisions. No money can be transferred or withdrawn unless this has been done. "The reality is that far too many members of

retirement funds do not fully understand the long-term implications of the options available to them when they exit a retirement fund," says Pretorius."

IRMSA survey - 54% of respondents indicated that their employer did not provide pre-retirement education but 77% do provide a retirement funding facility.

The pace of change - Most businesses and business environments have experienced repeated radical change for at least the last two decades. Individuals have adjusted to many technological changes in their own lives and can look forward to many more over the next few years.

In the face of accelerated disruptive change of the sort we experience today, many businesses have little time to adjust to one change process before another adjustment is upon them. Many factors need to be part of the decision about the pace of change in any organization whether it is internally or externally precipitated - is your business agile and able to address the need to change quickly, do you have innovative teams who can consider the type and pace of change for a specific issue?

A number of questions are critical in determining the pace of any significant change in an organization. Failure to account for all of these factors could result in a mismatch between process and pace. If the change leader does not establish and control the pace of change in your organization it can spiral out of control, resulting in greater disruption and damage. Change management techniques together with risk management principles can be applied to internal and external change.

From an individual perspective, differing societal, generational and educational needs should be considered before implementing change, specifically where new technological elements are introduced. Affordability of the technology required to manage a new process and the training requirements to facilitate usage are key considerations.

Personal Health

World Health Organisation - unlocking good health
 The code to unlocking good health lies in a person's geographic location, level of education, income, ethnicity, job, and social connections within their community. These are collectively known as social determinants of health (SDoH), a relatively new term in healthcare which describes "the conditions in which people are born, grow, live, work and age," as defined by the WHO.

For a greater insight on ageing and health related aspects, a review of the WHO 2015 report on Ageing and Health might be useful. It discusses the challenges around policy development, healthy ageing, health in older age, health systems, long-term care and an age friendly world. Although mostly focused on first world countries the issues discussed may be of value for South Africa's future decisions around these topics.

www.alzheimers.org.za - as of 2013, there were an estimated 44.4 million people with dementia worldwide. This number will increase to an estimated 75.6 million in 2030, and 135.5 million in 2050. Already 62% of people with dementia live in developing countries, but by 2050 this will rise to 71%.

According to South Africa's 2011 census, there are approximately 2.2 million people of all ages in South Africa with some form of dementia.

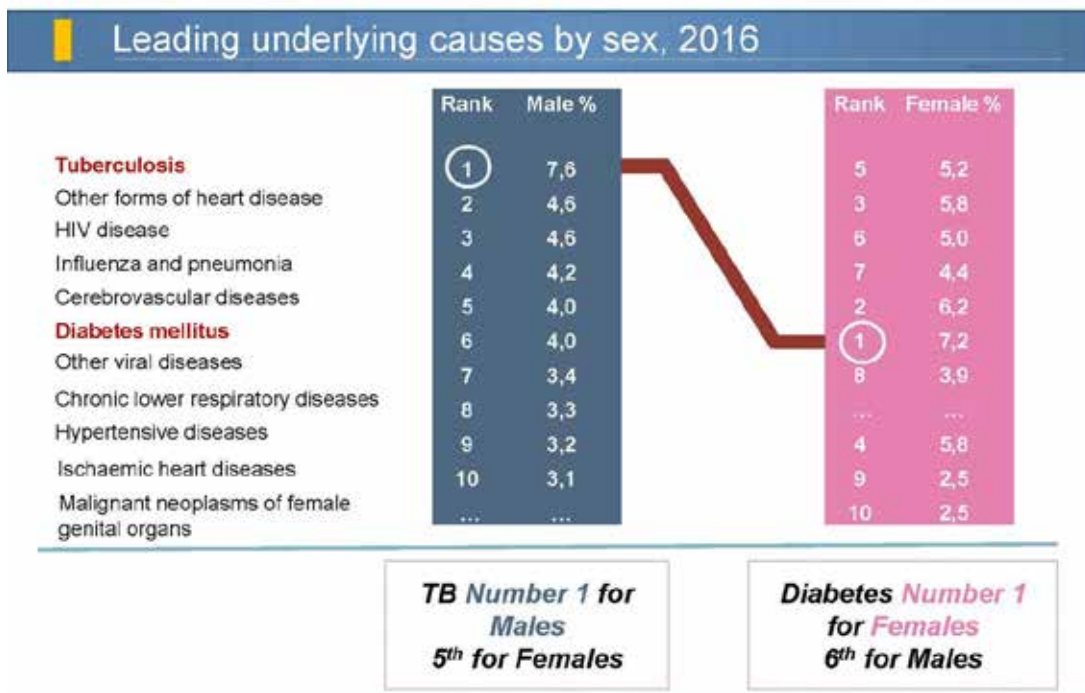
Stress and Mental Health - have a look at the Aon 2018 EMEA Health Survey - According to Gavin Griffin of Aon

Employee Benefits in South Africa, stress and mental health issues remain a top concern for South African employers, with financial health a close second. "In spite of these obvious concerns, South African firms appear less proactive in offering almost all types of health initiatives. Programmes addressing stress and mental health in particular are the least likely to be provided. Putting in place more structured programmes to address this would seem a good investment."

"Although South African respondents are more confident in their health and benefits communications than many others in the survey, low utilisation by employees has jumped into second place when they are asked to rate the obstacles to health initiative success. This is often a symptom of poor or ineffective communications and a review of current communications programmes would be a worthwhile exercise," suggests Gavin.

www.longevitylive.com - We are not too far away from a day where all our food journeys are completely technologised. Technology has become the latest tool for squeezing out a competitive advantage, even in the most overcrowded spaces. Looking at the online food delivery market alone some analysts predict we will see growth from \$35 billion globally today to \$365 billion by 2030. Across the board, the most popular food delivery apps enjoy explosive growth. What the digital world says is hot, affects where we eat and what we order."

Leading causes of death in SA - Stats SA gives us some valuable insight to the causes of death in our country - prevention and early diagnosis is the key specifically around lifestyle diseases.



Where do we go for medical and health support - see below for the percentage distribution of the type of healthcare facility consulted first by the households when members fall ill or get injured from 2004–2017



Medical aid coverage 2002-2017

Indicator (Numbers in thousands)	Year											
	2002	2004	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Number covered by a medical aid scheme	7 284	7 268	8 057	8 502	8 967	8 312	9 157	9 608	9 470	9 307	9 447	9 475
Number not covered by a medical aid scheme	38 445	39 666	41 266	41 284	41 606	43 013	42 819	43 300	43 946	45 065	45 646	46 654
Subtotal	45 728	46 934	49 322	49 786	50 573	51 325	51 976	52 908	53 416	54 372	55 093	56 129
Percentage covered by a medical aid scheme	15,9	15,5	16,3	17,1	17,7	16,2	17,6	18,2	17,7	17,1	17,1	16,9
Do not know	140	58	101	19	23	0	58	36	46	71	53	24
Unspecified	53	57	56	347	254	249	291	161	451	308	474	369
Total population	45 921	47 049	49 479	50 152	50 850	51 574	52 325	53 104	53 912	54 750	55 620	56 522

National Health Insurance (NHI) - Written by Laetitia Rispel, Professor of Public Health and DST/NRF Research Chair., University of the Witwatersrand a recent article in polity.org.za notes that although the NHI bill has been gazetted for South Africa there are a number of

unanswered questions around governance, funding, service provision, resourcing of health professionals and integration with the current private healthcare system. This process is certainly an emerging risk for both individual and business longevity planning.

IRMSA survey - 93% of our respondents felt they were either healthy or very healthy, 82% felt that their diet or eating plan was healthy or very healthy. 73% noted that the biggest expense in their latter years was likely to be medical costs.



Social & Recreation

Social Media - See www.ifacts.co.za - "Current figures indicate that over 6000 tweets are made per second globally, and 5 new Facebook profiles are opened every 10 seconds. On social media we all unwittingly tend to expose more than we would do in an interview. This gives a glimpse into the person that will enter your workplace and gives a good indication of whether they will fit the corporate culture of your organisation and if they could pose a possible risk to your organisation. All it takes is one person to gain media exposure and traction, costing an organisation millions in losses. Social media scandals cost South African businesses in excess of R500 million during 2016 alone. It is for this reason that Social Media Screening as a background-screening tool has grown extensively across the world." - talk to the Ifacts team if you need their services!

We have many examples in our country of damaged reputations following comments on Social Media - one of our recent IRMSA Risk Chat articles focused on this risk. The IRMSA survey feedback indicates that the majority of respondents use Facebook and LinkedIn.

IRMSA survey - our respondents love participating in sports and socialising, 88% have hobbies outside of their work and 69% receive between 1 and 3 social invites a month that are not work related.

Volunteering - one of the recognised entities to consider if you have some time for voluntary work is www.forgood.co.za

but don't forget your family or local communities including your work colleagues when considering "giving back". Volunteering overseas is a great way to travel and experience other cultures - be careful and check the areas and entities you will be working with as there have been a number of concerns reported, specifically in Asia.

Networking, both professional and personal, has become much more emphasized over the years. It's not just about collecting contacts, it's about developing mutually beneficial relationships. Networking can be utilized to answer questions, help you develop new ideas, find inspiration, assist in a job search, and to answer questions, among other things.

But good networking takes time, effort, and practice. Even if you've been networking for many years, it's never too late to examine and refine your networking skills. Is your overall strategy as effective as it could be? Are you doing everything possible to improve your chances of making quality connections? Are you falling victim to some common mistakes? While there may not be just one perfect way to network, there certainly are some things you can avoid doing to help your goal of building good relationships. For further details go to www.inc.com

Your networks also have longevity! Make sure you do not restrict your networks to the same age or industry grouping you fall into and interact with a variety of different people and ages - your future career or small business may benefit from a variety of contacts.

Physical Location

Inter-generational living, Ageing in Place, Independent Senior Living - Whatever terminology you wish to use, it is a big decision to decide where you want to be in your final season of life or indeed where you want your dependents to live. The retirement estate or home with or without frail care is an option but many are now looking to stay in their homes and perhaps living with family. As science and technology improve and are applied to helping those who wish to remain in their homes you might consider these aspects as you plan for the future:

1. Home delivery – food, medication and other essentials.
2. Home safety and convenience – home alterations, panic buttons, de-cluttering.
3. Healthcare – care support either part or full time at home.
4. Community – access to volunteers and support groups.
5. Emotional – social interaction, technology, ongoing learning.
6. Physical health – walking, group exercise, balance exercises.

Environmental - we can consider both natural disasters, such as earthquakes and geomagnetic storms, and man-made risks such as collapsing ecosystems, freshwater shortages, nuclear accidents, forest or bush fires and failure to mitigate or adapt to climate change. Where you decide to go on holiday may need to be considered in terms of extreme weather and localised challenges such as diseases.

Location, Location, Location - many of you will be familiar with TV programmes where individuals re-locate for work or look at purchasing homes in a new area or country for retirement or a change in lifestyle. Unless you have unlimited funds, you may need to compromise but remember insurers will not always be there to protect you from some natural catastrophes.

Energy risks have recently been reviewed by the South African National Energy Association (SANEA) in conjunction with IRMSA. This was focused at a country and industry level but from the perspective of individuals the increasing cost of electricity specifically and the uncertainty of supply, together with climate change, water shortages and environmental exposures may need more focus when considering your residential environment.

Blue Zones - for those of you who think that Blue Zones (demographic regions of the world where people commonly live active lives past the age of 100 years) just have better genes, consider that only about 25 percent of genes determine longevity. And while some of us do possess longevity genes, the remaining 80 percent is determined by epigenetics, i.e. environmental factors, the foods we eat or don't eat for and our thoughts.

Indeed, according to an article in Scientific American, a person's lifespan is thought to be largely determined by the combined effects of genetics and environmental factors.

"The evidence is overwhelming that genes are a vulnerability factor rather than the cause of disease," says Dr. Jennie Ann Freiman, a New York obstetrician-gynecologist. Risk can be modified depending on choices we make.

Cities making the "high quality of life" list - Vienna, Austria is the city with the best quality of life on the planet, according to a new ranking by Mercer, a human resources consulting firm. Each year, it publishes its Quality of Living report to help companies determine compensation for employees sent to work abroad.

The cities are rated based on 39 factors, grouped into the following 10 categories:

- Social environment including politics and crime.
- Economic environment.
- Limitations on personal freedoms.
- Medical and health considerations.
- Schools and education.
- Public services and transportation.
- Recreation and entertainment
- Consumer goods.
- Housing.
- Natural environment and climate.

IRMSA survey - the majority of respondents wish to remain in South Africa when they retire although a good percentage will move away from Gauteng.

Continuous Learning

Making decisions - Are you a lazy decision maker? With thanks to Theo Tsoulos, writing for Entrepreneur, "The number of decisions we make and the complexity of the problems we solve sometimes exceeds the brain's capacity. To respond faster and more efficiently to the multiple demands of daily life without having to reinvent the wheel, our brains streamline the decision-making process. How? By creating shortcuts. Called heuristics, these shortcuts actually are overlearned ways of choosing and using information. Heuristics help you make snap judgments. But what you save in time, you lose in accuracy. If your heuristics are flawed, your snap judgments will be, too."

Boeing employee education investment - June 2018
"Boeing launched new workforce development programs today, the latest step in fulfilling its 2017 pledge to invest \$300 million in employees, infrastructure and local communities as a result of U.S. tax reform."

"The workforce development programs will launch an online network of resources designed to make learning more accessible to employees at all levels of the company. A new partnership with Degreed.com will provide employees with access to online lessons, certification courses and degree programs."

The investment will also fund several programs to help employees enhance technical skills and understand industry trends, tools and technologies. The first program will focus on digital literacy, a key enabler of Boeing's growth strategies."

Emotional intelligence (EQ) will, by 2020, be among the most sought-after attributes/skills required of jobseekers, according to the World Economic Forum.

"Five years from now, over one-third of skills (35%) that are considered important in today's workforce will have changed."

By 2020, the Fourth Industrial Revolution will have brought us advanced robotics and autonomous transport, artificial intelligence and machine learning, advanced materials, biotechnology and genomics.

These developments will transform the way we live, and the way we work. Some jobs will disappear, others will grow and jobs that don't even exist today will become commonplace. What is certain is that the future workforce will need to align its skill set to keep pace.

A new Forum report, The Future of Jobs, looks at the employment, skills and workforce strategy for the future."



Top 10 skills

in 2020

1. Complex Problem Solving
2. Critical Thinking
3. Creativity
4. People Management
5. Coordinating with Others
6. Emotional Intelligence
7. Judgment and Decision Making
8. Service Orientation
9. Negotiation
10. Cognitive Flexibility



Source: Future of Jobs Report, World Economic Forum

in 2015

1. Complex Problem Solving
2. Coordinating with Others
3. People Management
4. Critical Thinking
5. Negotiation
6. Quality Control
7. Service Orientation
8. Judgment and Decision Making
9. Active Listening
10. Creativity



What are you doing to ensure you keep your own skills updated? What expectations do you have from your employer for skills development? How will your skills need to change for your encore career?

IRMSA survey - 74% of employers support respondents with training for their development. Respondents advise that looking forward to 2028, they will most likely use on-line paid courses, on-line free courses, podcasts and webinars and other new technology based training options rather than attending formal events such as conferences for training.

Have a look at www.50plus-skills.co.za - a recently launched innovative concept to support South Africans who wish to continue to work as they age. This online skills community is a place for individuals to walk alongside a trained team of coaches to transform their lives into their next season and to connect with and provide their skills, time and services to business, civil society, academic institutions, NPOs and government.

7 Skills That Aren't About to Be Automated - Harvard Business Review

"As executives who have spent our lives assessing and implementing digital technology in every type of organization, we often get asked by them: "What should I learn today so that I'll have a job in the future?" In the article they share seven skills that can not only make you unable to be automated, but will make you employable no matter what the future holds." Consider - Communication, Content, Context, Emotional competence, Teaching, Connections and An ethical compass.

What Is an Intangible Asset? Refer to a great book The 100-year Life by Gratton and Scott, one of the areas they discuss is your intangible assets. It is an asset that

you cannot hold, touch or feel and you cannot put a monetary value to it, meaning it cannot be traded. If you want quality of life as you age, you need to take care of your intangible assets and ensure they do not depreciate some of these might be:

- Skills and Knowledge.
- Health - Mental, Physical - including fitness and wellness and Spiritual health.
- Your Social Network.
- Self-Knowledge.
- Family Relationships.
- Relationship with Partner.

What are your strongest intangible assets? Which intangible assets do you need to grow or improve, manage better or maintain better in your life?

Ageism - we know about racism and sexism and the prejudices associated with them. But few seem to understand ageism and how it discriminates against older adults on the basis of age. Ageist attitudes perpetuate the idea that with age, we decrease in value or contribute less. It can lead to blaming older adults for some of society's problems.

While ageism may not be as noticeable as racism or sexism, other than to those affected by it, it can make older adults feel worthless. How the medical fraternity deals with older persons is one area where patients are made to feel "second class" and irrelevant.

Don't make assumptions about people based on their age - older people may just be what you need to support the next stage of your life. "Complimentary Mentoring" where both parties are able to learn from each other can be a truly rewarding experience.

What might improve your longevity - An Australian concept talks about SHAPE which is of value, but consider each of these concepts may change over the period of your longevity.

Surroundings - physical and social factors that can affect our wellbeing.

Health - the current physical condition of our body and how we manage it.

Attitude - how we see the future through important elements of our lives.

Parents - factors which guide us about our genetic makeup.

Eating - all the things we put into our bodies, not just food.

Behaviour - Paul van der Struys in one of BARNOWL's recent newsletters talks about Behavioural Risk Management - what type of an individual are you, how do you react and respond to new information?

"In his book "Behavioral Risk Management", which I'd highly recommend to anyone wanting to understand the psychological dimension of managing risk, Hersh

Shefrin contends that "every single risk management disaster in the last 15 years, including financial disasters, has had psychological issues at the root". And when one considers that disasters are frequently compounded by people's reaction to them, this contention makes sense. Assuming that everybody uses the same thought process when making decisions, even when faced with the same crisis or disaster, is naïve, at best, and at worst, simply dangerous. It is extremely important to understand what makes individuals tick. This might sound a little over the top, but you might even want to consider maintaining a "patient file" with psychological profiles of your key decision makers so as to better understand what drives their thinking in times of crisis, or moments of overwhelming opportunity. This might enable you to better predict what decisions will be made, but more importantly what type of information needs to be shared with that individual to provoke the desired response. With some people, providing them with reams of data, with multiple variables, and varied outcomes would prompt their inquisitive mind to research the information further, incorporating that information into their assessment process, basing their conclusions on solid intelligence and coming to a conclusion that virtually guarantees that the correct choice will be made. With others, something as simple as an exchange rate ticker on their computers is enough to encourage them to pursue the right option."



Finance

Financial Wellness - although based on feedback in the USA, more than half of workers worry about their financial future - from our IRMSA survey we can see that 58% of respondents were either confident or very confident that they would have enough money for their retirement - 42% were not at all confident but what about the rest of our SA workforce?

Many are overwhelmed by financial decisions and the first step to support employees might be to understand their financial anxiety. Is financial wellness something that you are concerned about in your company?

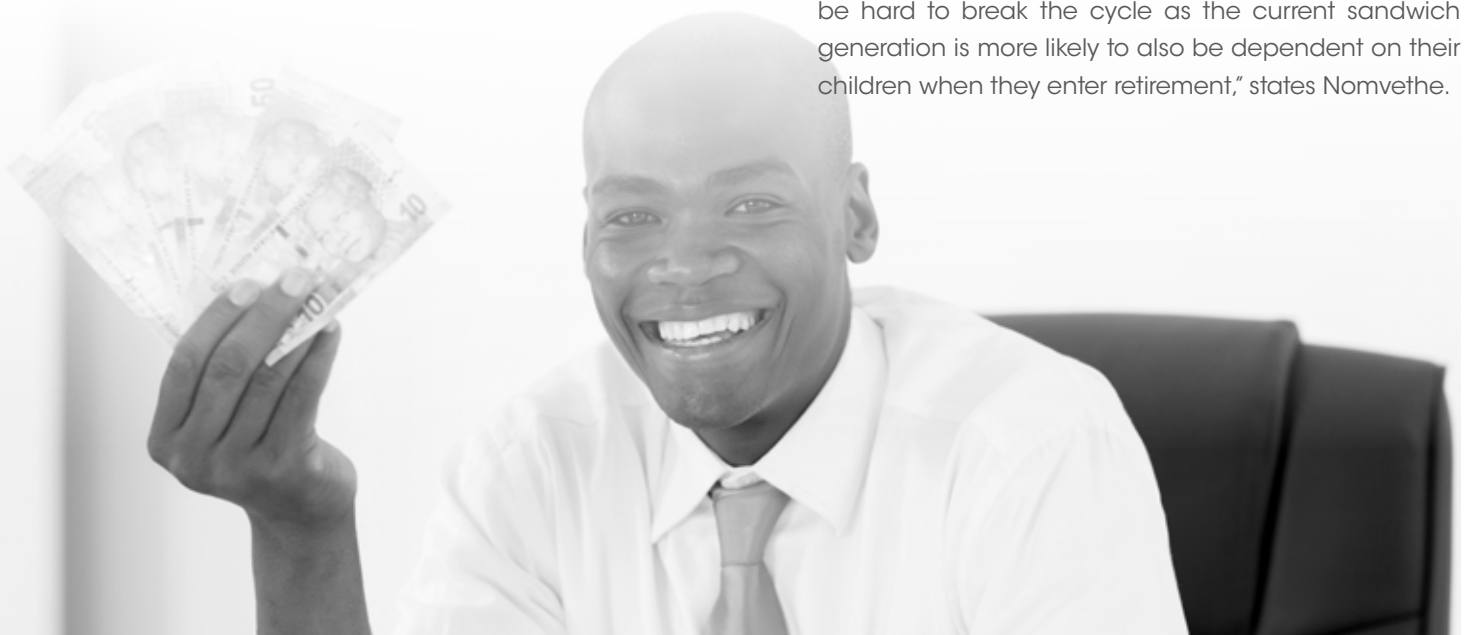
Financial products to support your future needs - There are many elements to consider as you decide how and where to invest your funds - a qualified Financial Adviser is recommended and if you have a future life plan to discuss with them it will greatly assist in arranging your future finances. Once you are fully or semi-retired it is still important to work with a budget and get the right advice to understand your sources of income, expenses and plans for the future. There are some financial products available in developed countries that do not seem to have reached us in SA such as longevity insurance and long-term care funding - hopefully this will change as providers understand the variety of our future needs in SA.

The Sandwich Generation - Many South Africans are increasingly experiencing the effects of the sandwich generation where young working professionals, usually in their late twenties to early forties, have to financially support their own children and their parents with their monthly income.

While the desire to support one's loved ones is understandable and noble, it is imperative that the youth make sure that their own financial health and wellbeing is not being undermined and compromised by the sandwich generation effect.

This is according to **Motshabi Nomvethe, Technical Marketing Specialist at PPS**, who states that financial planning during all stages of one's life is critical in order to build a solid financial foundation, but even more so at a young age. "Being responsible for family members can cause a lot of financial stress for young people as their monthly budget often leaves little room, or none at all, for savings and investment opportunities. This group of people often neglect their own financial wellbeing and prioritise their family's needs."

In addition, with life expectancy increasing each year, it is likely that parents will live much longer than expected, which comes with additional expenses like medical care, nursing, retirement home services and other general living expenses. "This means that for those who are impacted by the sandwich generation effect, saving for their retirement, their children's education and other investments will be delayed even further. In turn, it will be hard to break the cycle as the current sandwich generation is more likely to also be dependent on their children when they enter retirement," states Nomvethe.



Annexure 2

- An Executive's Summary

"Family planning" has historically been about determining the number and spacing of one's children through effective methods of birth control and when we look at definitions of future planning for one's family the concentration seems to be around the financial aspects without really looking holistically at all of the potential challenges a family might need to consider. As the head of your family, consider the following questions from your rather inquisitive child who has just started studying at a local university...

- a) Do you have a future financial plan for our family?
- b) How far ahead do you consider when planning for our future?
- c) How long do you think you will stay in your current job?
- d) Is Gran going to move in with us or go to a retirement home?
- e) Where do you keep important documents like your will?
- f) If you had a choice, where would you prefer to work and live?
- g) How do you decide what information or products to trust or buy?
- h) Do we have to keep socialising with the whole family?
- i) Do you make use of all employee benefits and training opportunities at your company?
- j) Do you think I will get the job I want when I graduate?
- k) How long do you expect to live?

After listening carefully to these rather pointed questions you decide it is time to take your future longevity seriously and you resolve to read this Technical Report carefully. At a subsequent Board Strategic Planning session you

are able to listen to a presentation from a renowned Futurist and reflect on the input from your Risk Manager around the topic of longevity in South Africa. You summarise the challenges and actions for the board and management team as follows...

- a) Please schedule some time to address longevity as a specific topic within our scenarios and strategic planning – short and long term.
- b) Considering product longevity will be a real challenge as we embrace new technology and scientific progress, specifically around Artificial Intelligence and Robotics.
- c) Our investments in new businesses might need to include some competing products and services.
- d) Skills retention and career longevity will require that we re-think our employment practices and benefits.
- e) Our future skills needs require some research and should align with our future training programmes for re-skilling our current staff.
- f) We should expand our thoughts on diversity to include inter-generational and all age groupings for innovation, product development and marketing.
- g) We should re-assess our Corporate Social Responsibility value for all stakeholders.
- h) We must re-think how we consider and approve sponsorships, donations and subscriptions.
- i) Our proposed new office block might need some re-thinking with discussions around mega and smart cities and climate change.
- j) Our influence with regard to changes in legislation and policy needs to be enhanced as does our understanding of societal challenges.

You also suggest that board members and management consider the risks and opportunities reflected in the FutureRisk Technical paper and include relevant issues for discussion as the company takes this topic forward.

Just as you thought you had covered the topic of longevity, your partner suggests you attend a Small Business Chamber evening session where the discussion is around things that will change for us by 2030.

As part of your new "family future plan" is to set up a small business that might allow your whole family to become involved, you decided the session may be of value – you discuss the following concepts the next day with your rather inquisitive child...

- a) Your car may drive itself but it will still need to be parked somewhere while you attend to your business or other issues.
- b) Your health will be monitored 24/7 and data sent to your healthcare practitioners in real time – you wonder if your Insurers and Medical Aid providers will also get this information.
- c) Drones will deliver to your doorstep within 30 minutes for small, light items.
- d) Personalised medication – the cost of DNA sequencing is reducing and tests will only take a matter of hours providing personalized strategies for disease prevention, early detection and treatment. Prescription drugs and dosages will be exactly customized to a person's genome profile. In addition, organs grown in a petri dish will be a blessing to many people on transplant lists.
- e) The chequebook will cease to exist, cash will become extremely rare, the financial dealings you will make on mobile devices (smartphones, smart watches, etc.) and they will be secured by

advanced biometrics, such as voice, fingerprint and face recognition.

- f) Lightweight virtual reality glasses will be used by many – your gestures, voice and eye movements will direct the things that you see.
- g) Keys will be obsolete, you will use your mobile device.
- h) Smart homes – your wi-fi router will operate as a hub controlling most of the equipment in your home which will include built in chips and you will be able to control these items away from home too.
- i) Memory problems - your new digital device will remind you what was said previously and will record everything so you don't have to write it down, it will also remind you of things on your "to-do" list.
- j) Living spaces will downsize to suit the occupants and inner furnishings will be adaptable to suit changing circumstances.
- k) Short and Longer Term care, possibly in your home, will need planning and you need to include the cost and family implications.
- l) Green funerals will become the "in thing" as our eco-friendly consumers look for different options.

As an Executive, you might be asking "what can we learn from other countries who may be far ahead of us on scientific and technological advances, what can we adapt or use to benefit our country? How can we embrace our challenges and differences and address our future risks and opportunities?" A review of our Technical Paper is suggested.



Focusing on Longevity Risks and Opportunities

Individual Business Coaching & Mentoring
Individual pre-retirement Coaching
Individual post-retirement Coaching
Longevity Consulting
Small Business Development



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