FINANCIAL SECTOR WORKSHOP REPORT

Amy Musgrave | Johannesburg | 2 April 2019

4IRSA is a partnership between the University of the Witwatersrand, University of Johannesburg, University of Fort Hare and Telkom SA SOC Ltd.

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Introduction

The future is here. The technological and digital revolution of economies – particularly the world of work - has been a reality since the dawn of the 21st century. But the pace of change accelerates with every passing year. This development has been dubbed the Fourth Industrial Revolution (4IR), and its impacts are deep, wide-ranging and often unknown.

While there are a handful of countries leading the changes taking place because of 4IR, developing economies, such as South Africa, can still find a niche by investing in the technologies and new skills that are essential for this new world. A national 4IR readiness plan is a necessary starting point.

This is where the Fourth Industrial Revolution Partnership for SA (4IRSA) comes in. 4IRSA is an initiative driven by some of South Africa's leading academic and research institutions, with the aim to produce a coherent and comprehensive national 4IR plan for the country. 4IRSA was founded by the Universities of Witwatersrand (Wits), Johannesburg (UJ), and Fort Hare (UFH), with support from Telkom SA SOC Ltd.

The partnership draws on the best South African traditions of dialogue, collaboration and negotiation to find lasting solutions. Though it is still at its infancy, the partnership will open its doors to all South African universities and research institutions, business, labour, government departments and civil society. 4IRSA is essentially the Codesa of the 21st century.

4IRSA will host two summits where all the above stakeholders will have a chance to participate in producing a national plan for the digital economy of the future and its impact on society. The first of these, the Digital Economy Summit, is set to take place in June 2019. It will define the foundational rules and principles that should underpin a national response plan. The second gathering, the Summit of Declarations, will produce an implementable national action plan.

A series of sectoral workshops have been held with some of the identified stakeholders to prepare the way towards the summits. They include financial services, mining and manufacturing, information and communication technology (ICT), agriculture, agro-processing and the retail value chain, and government, research bodies and the World Economic Forum (WEF) sectors.

The initiative has been endorsed by President Cryril Ramaphosa and the Cabinet.

Executive Summary

Financial technology, or fintech as it is commonly known, is rapidly making more headlines as financial institutions start embracing 4IR. Finance leaders say it is the first time we are starting to see innovation moving so quickly in this space since the global recession between 2007 and 2008.

While many are concerned about risks related to job losses, cybersecurity, money laundering and the disruption of established technology and markets across the globe, in South Africa so far, we have taken a more cautionary approach, and innovation has been slow. Not only are we lagging behind global players, we are also not on the same level as some countries on the continent such as Rwanda and Kenya. It is also difficult for the government and companies to punt modernisation, when just recently two banks announced mass retrenchments to streamline their services.

But as analysts and the WEF have reiterated, South African companies and its citizens need to come to grips with 4IR and use technological innovations, including fintech, to benefit all in the country, while ensuring it does not impact negatively on profit margins.

According to SA Reserve Bank Governor Lesetja Kganyago the attraction of fintech lies in its potential to challenge how and by whom financial services are delivered, resulting in the reimagining of financial services and the questioning of the status quo. He says the mantra of fintech is “cheaper, faster, better, simpler, easier-to-access, and on-demand services delivered through a combination of mobile and online platforms”.

The modernisation of fintech will impact on all South Africans eventually, whether it is on the way we bank, pay insurance, choose medical aids, get access to credit and what currencies we use to buy products. In South Africa though, we are very far from tapping into the township and informal economy, which leaves millions of people behind and they do not benefit from the technological revolution in the finance sector.

The Reserve Bank established a fintech programme last year to assess the emergence of technological innovations in the sector and consider their regulatory implications.

According to the Centre of Excellence in Finance Services report titled: The impact of the 4th industrial revolution on the South African financial services market, the country's financial sector consistently ranks amongst the most robust and sophisticated in the world.

"With a high proportion of the adult population formally banked and rising adoption of smartphones across the market, the potential for digital disruption is significant. Encouraging digital innovation through fintech is important because of the significant benefits it can bring. Fintech has the potential to increase access to financial services through digital channels and the use of alternative scoring models," the report reads.

"The use of digital infrastructure lowers barriers to entry and can introduce competition to the market, reducing the cost of financial services. Technology has the capacity to improve the customer experience by offering continuous and convenient services with fast execution and highly personalised service offerings."

Ultimately these benefits lead to broader social objectives as a wider selection of financial products and services cater to broader segments of the market, including people on lower-income brackets, and SMEs as their access to finance improves.

The centre says South Africa's fintech industry is small but growing. Local start-ups dominate the African Fintech Top 100 Awards and a handful have been recognised internationally.

But this growth is being hampered by many of factors. South Africa's funding does not favour high-risk start-ups and there is a general shortage of entrepreneurial skills. The necessary skills for the development of sophisticated financial technologies are also in short supply.

South African fintechs are competing in a highly banked market with sophisticated banking infrastructure. But the population scores poorly on financial literacy rates and income inequality. This means that most lack the resources to take advantage of more complex financial services products or solutions that are available using smartphones and more advanced digital devices that require more data to run.

For this reason, the sector has not been as disruptive to the structure of the financial market as we have seen in other countries. The bulk of innovation has been concentrated in the payments space.

As the country heads towards its first Digital Economy Summit, participants at the Financial Sector Workshop started thrashing out what we need to do to catch up with other countries and even leapfrog where possible.

List of Attendees

COMPANY	ORGANISATION	POSITION
Koketso Tlhabanelo	A.T. Kearney	Senior Manager
Calvin Ncube	Africa Business News	Business Development Manager
Anne Cabot Alletzhauser	Alexander Forbes	Head of the Alexander Forbes Research Institute
Parusha Gajathar	Bankservafrica	
Pierre Tredoux	Barnstone	Partner
Tobie van Zyl	Bettr Finance	CEO & Founder
Howard Blake	Blake Digital Capital	
David Clark	Chalcid	Director
Gemma Dawson	Chalcid & ORSSA	Analytics Developer
Martin C. Sanne	CSIR	Excecutive Director
Riaan Coetzee	CSIR	Research Manager
Sandile Nene	Department of Communications	Head of Media Policy
Kholeka Tsotsotso	Development Bank of Southern Africa (DBSA)	Chief Information Officer
Anton Fatti	Discovery	Group Chief Digital Officer
Siphamandla P. Masuku	Discovery	Head of Digital R&D
Reinhild Niebuhr	EcoLine Enterprises (Pty) Ltd	Founder
Shreelin Naicker	Financial Services Conduct Authority	
Aunyana Moloisane	FutureLearn Group	
Astrid Ludin	Institute for Credit Market Research & Development	Director
Mbulelo Mpofana	InvestSure	Co-Founder
Ignatious Nkwinika	InvestSure	Co-Founder
Shane Curran	InvestSure Technologies	Co-Founder
John Graham Maxwell	Liberty Group	Managing Executive: Emerging Consumer Markets & Direct Financial Services

COMPANY	ORGANISATION	POSITION
Dave Ntsangani	MAN Automotive (SA) (Pty) Ltd.	
Dino Lazaridis	National Treasury	
Molise Moloi	Nedbank	Divisional Head: Marketing
Mark Govender	Nedbank	
Aatish Ramkaran	Nedbank	Digital Fast Lane
Moegamad Razien Dangor	Nedbank	Strategy Specialist Group Technology
Janade Du Plessis	Nedbank	Head of Venture Capital & Alternative Investments
Zanele Mahlangu	Nedbank Insurance	Head: Alternative Distribution Channel
Sihle Zungu	Nedbank Wealth	Head of Digital
Asanda Ntile	Old Mutual Corporate	Strategy Support Manager
Mosa Mphore	Open-Eye Foundation	Director
Mmatsatsi Phadime	Private	Student
Dhanyal Davidson	PROSPA	CEO
Gerhard van Deventer	Reserve Bank	
Corene O Donovan	Reserve Bank	
Shaun Rodger le Ray	Route404 Digital Konsultants	Director of Operations
Peter Castleden	Sanlam (Indiefin)	CEO
Langa Madonko	SAVCA	Board Director & Board Member
Samantha Pokroy	SAVCA	Board member & Director
Tanya Knowles	South African Financial Blockchain Consortium	Chairperson
Luke Kitunka	Southblock	Developer
Ian Putter	Standard Bank	Blockchain, Innovation, Training & Development

COMPANY	ORGANISATION	POSITION
Justin Thomas	Standard Bank	Head VAF: Strategic Alliances & Business Innovation
Philip Kiracofe	Startupbootcamp AfriTech	CEO & Founder
Mark Brits	The Banking Association South Africa	
Moipone Phajane	Thoroughled Consulting	Chief Solutionist
Thembinkosi Zunge	TOKS LOG (PTY) LTD	Business Development & Projects Manager
Lebogang Seale	University of Johannesburg	
Malebo Sephodi	University of Cape Town	PhD Student & Lecturer
Dr. Nolitha Vukuza	University of Johannesburg	
Charlene George	Verve Digital	Managing Director
Ross McEwan	WALA	CTO
Faith Khanyile	WDB Investment Holdings	CEO
Shirona Patel	WITS University	Head of Communications
Rudi Visser	BNP Paribas Personal Finance South Africa/RCS Group	Head of Innovation Acceleration

The 4IRSA Partnership and its Purpose

Dr Brian Armstrong, the head of the Secretariat for the Partnership, introduced 4IRSA to the industry participants:

Our departure point:

- This is a critical conversation for the country
- Several unconnected and divergent conversations
- Need a common discourse to develop a coherent set of responses
- Many discussions not fact-based and rational
- Often zoom in too much on the tech

Critical Constituencies:

The 4IR will impact every part of the economy and the society, hence all constituencies need to be a part of the dialogue and of formulating South Africa's response.

- Government (a broad cross section of departments and institutions)
- Industry (key players and representative associations and professional bodies)
- Small business and entrepreneurs
- Labour
- Academia
- Civil Society, representative organisation and NGOs
- International organisations like the WEF, ILO, etc
- The Media

Our Framework: Five Themes

Competitiveness, Concentration & Inequality

- What do we need to do to be globally competitive
- The link between digitalisation, concentration and inequality
- Control and regulation of critical assets & Infrastructures for the 4IR, and the democratisation thereof
- The effectiveness and adequacy of competition law for a digital age
- New challenges in (re-)distribution in the global digital economy, and conceptual alternatives

Employment & Jobs

- The impact of AI, robotics and other emerging technologies on work and jobs
- Changing models for work and work structure
- Fair remuneration in a digital economy – platform value sharing and the gig economy
- High demand future skills
- Retention and mobility of high demand skills

Society, State & Citizen

- Reshaping the way society, state and citizen interact
- Digital literacy, adoption and empowerment
- Fostering trust
- Towards the deployment and adoption of Government e-Services
- Personal Identity in a digital and cyber-physical World
- New challenges and opportunities for democracy
- Social order and disorder in a cyber-physical world
- New frontiers in safety, security and crime (and the balancing act with privacy and personal liberties)

Opportunities

- Export growth opportunities
- Competitiveness & productivity enhancement
- Critical Infrastructures
- Global growth segments in which to play
- Platforms to include SMEs in national and global value chains
- Digital republic or digital colony
- Transforming healthcare

Critical Success Factors

- Getting the basics right
- Policy & regulatory frameworks
- Great macros
- Policy execution
- Sector productivity growth
- Competitive intensity
- SMB participation share
- Skills, education and training
- The 4IR ecosystem
- Technology fabric
- Physical fabric
- Financial fabric
- Innovation fabric
- Lessons from emerging economies and peers

Our Process

Get Started

- Form the partnership
- Establish secretariat
- Formulate framework
- Start research agenda
- Government involvement

Broaden Participation

- Sector workshops:
  - Government
  - ICT
  - Financial & business services ecosystem
  - Commodities and heavy infrastructure ecosystem
  - Food, agri and related ecosystem
  - Manufacturing
- Industry key players and associations, labour, academia, civil society, global organisations
- Workshops and individual engagement
- Research and position papers
- Establish discussion platform

Digital Economy Summit

- Share sector workshop outputs
- Build alignment
- Elevate profile
- Agree critical focus and further discussion areas
- Agree framework for further work and roadmap to SoP

Elaboration
- Develop strategy and policy responses
- Enhance research base
- Continue to broaden inputs
- Start converging positions
- Formulate draft declarations

Summit of Declarations
- Consolidate workstreams into a coherent national response
- Commit to declarations
- Agree monitoring and evaluation mechanisms
- Agree future pathways

Towards Execution
- Execution
  - Facilitation
  - Measurement
- Monitoring and evaluation
- Ongoing research
- Ongoing dialogues

Following Armstrong's presentation, Startupbootcamp AfriTech CEO Philip Kiracofe gave input on the state of tech and its future across the globe and on the continent.

It is a network of industry-focused start-up accelerators that provide investment and mentorship services.

He told attendees that artificial intelligence (AI) will eventually become the new electricity, and that by 2025, machines will do 71% of the tasks that humans currently do. Already humans and AI are working side by side in more than 1,500 companies and managers who do not utilise AI will be replaced by those who do.

Kiracofe said that science fiction has arrived and the 21st century is possibly the beginning of the space race. On the ground though, he warned that if we do not recognise the damages of climate change, costs would continue to mount. However, a shift to a sustainable and renewable economy presented a $28-trillion opportunity.

The world is already seeing the first hydrogen trains and the sales of electric vehicles (EVs) have increased by more than 58% since 2016. Electric mobility will expand to buses, trucks, planes and even ships. China already has 400,000 electric buses, which is 20% of its national bus supply. Also, prototype cargo drones can already carry up to 220kg.

He said one of the results of 4IR, was that people were now demanding transparency about the products they buy and use. This demand is largely being led by millennials who are more sustainability-minded, such as using hair shampoos that can be rinsed off easily using less water.

What does this mean for business?

Startupbootcamp believes that we are now in the golden age for economics, thanks to data from a wide range of devices such as satellites, smart cities and smartphones. Valuable raw data steams are waiting to be processed. This will affect energy, mobility, utilities, infrastructure, public services and healthcare.

While the benefits of AI on development if implemented fairly are massive, companies need to up their game on cybersecurity. It is estimated that in 2016, $600bn was lost due cyber crime and this number is expected to increase to $6-trillion by 2021.

“We no longer are worrying about hackers... cyber mercenaries and data mafias are what we are dealing with. Some of them hibernate for months before pulling off the attack,” Kiracofe warned.

“Collected data of millions of people is more valuable than you think.”

Also, algorithms can learn from past attacks, but they cannot anticipate new attack methods that are constantly being tweaked.

A result of AI is the introduction of automation in most sectors. The 2019 industrial robotics market is valued at $135bn. Future robots will take on the human shape and be able to do manual labour. In China, which is currently the AI superpower, there are already robot waiters.

Countries developing AI will benefit much more than those consuming it. In 2017 the global average of robots was 74 units per 10,000 workers. But in South Korea, it is already 631 units per 10,000 workers. Also, buildings are now being designed around robots and not the other way round.

AI is expected to hit critical mass by 2021, with the virtual assistance market estimated to be valued at $16bn. This means corporates will be spending heavily on research and development to keep up.

The future of work

It is believed that by 2021, Amazon will have opened 3,000 stores without cashiers and KLM's Facebook Messenger chatbot already has 16,000 customer interactions weekly. The service industry will see extreme changes as a result.

Kiracofe said Facebook was already impacting fintech, as it had set up banking services and donation applications. On the insurance side, companies are refusing to issue new policies unless your fitness and health have been analysed.

Nearly all Fortune 500 companies use automation to hire new people. But the downside is that algorithms may miss out on promising candidates due to biases. Therefore, humans will be needed to monitor them.

He warned that as more machines displaced workers, governments, business and labour would have to work together to find solutions to ensure there was not an extreme dip in employment. Fifteen countries are currently experimenting with a basic income grant to buffer the impact of AI.

The future of AI

Startupbootcamp believes that robots will eventually have legal rights. And will a self-driven car be expected to protect the driver or a pedestrian?

On a much scarier note, the network believes that in 12-15 months, the world will experience a cyberattack similar to 9/11, which will fundamentally lead to a global shift in how we manage AI.

What does AI mean for Africa?

By the end of the century, one-third of the world's population will live in Africa.

"Currently only three of the biggest cities are in Africa. But the challenge is that (by the end of the century), 12 of the 20 largest cities will be in Africa," he said.

"To get today from where we are to there, is no linear path. This is actually a textbook definition of disruption. So, on the tech side, things like water, food and clothing will be fundamentally disrupted. When we look at 4IR, Africa is ground zero."

Breakaway Group Discussions

Similar to other workshops, there were three breakaway sessions at the Financial Services Workshop. They were divided into seven desired outputs:

Output 1: Assessing current competitiveness
Output 2: Creating opportunities through disruption
Output 3: Levers to drive competitiveness
Output 4: Embracing shared goals
Output 5: Scenarios to inform R&D agenda
Output 6: Structures in the ecosystem involved
Output 7: Roles to be impacted by labour shifts (emerging and declining)

The employment breakaway group agreed that the financial services sector had done very little to tap into the township economy, and as a result, entrepreneurs in these areas were getting little assistance to help grow their start-ups. There is no feasible data on what the value is of South Africa's township and informal economies, but delegates agreed that creating structures in these economies could aid leapfrogging.

They also agreed that while there were concerns around 4IR leading to unemployment, job opportunities were countless if new entrepreneurs and SMEs were supported and they in turn would create jobs. "We need access to new markets. But for that to happen your customers want full disclosure and must be able to trust your systems. Trust will only increase if there is transparency," said one participant.

The group told the workshop in the report-back session, that a national strategy was needed on how entrepreneurs and SMEs could be better assisted, including developing policy and regulation that supported an enabling environment.

It discussed how companies operating in South Africa were not required by regulation and legislation to support social investments in their workers and communities. One way to do this would be for them to start incubation hubs. In the last couple of years Europe has become the global capital for startups for multiple reasons. They include the European Union implementing a wide range of programmes and subsidies to facilitate investment in start-ups. The European Commission has even created an online one-stop shop that aims to easily connect entrepreneurs with resources available to them.

The group also accepted that South Africa's youth bulge had to be considered when developing new technologies. "A lot of institutions' systems are as old as they have been around. Demographics are changing and the old white man is no longer the client," said another participant.

They said that government, labour and business needed a "redesign" in how they interacted with each other because of the changing nature of work. Much of the world is seeing the adoption of a gig economy where the labour market is characterised by freelance, flexible, on-demand work instead of your usual nine-to-five day. While this type of working is still on a small scale in South Africa, the market will change like the rest of the world.

The group said jobs most likely to be negatively impacted in fintech were administrators, bank office employees and security guards. On the upside because disruption was driven by customers and not tech, new skills would be needed to understand the changing market.

Employees would have to have better judgement skills, be more creative and empathetic. More people would be employed to protect data and "ethic officers" would have to be hired to ensure that data did not have any biases such as towards gender or race.

The schooling system would have to change in accordance with future jobs, including how pupils and students were taught. Teaching "discretionary abilities" would be key, and there needed to be more focus on capabilities and application, instead of content. Creativity and analytical skills were needed for 4IR instead of the current drive in South Africa to only focus on maths and science. Also learning would have to be continuous, including on the job. Some companies in South Africa are already implementing this.

Delegates said it was time that the private sector stopped with its "finger pointing game". "We need more engaging platforms where business comes with robust ideas so that we can change the regulatory framework", and a "culture of capital needs to change so that we start investing in the economy" said two of the participants.

They concluded that South Africa needed to become a "mindful society" and the media was key in being the aggregator of information.

The other two groups also gave report backs at the workshop. Delegates in the competition and disruption breakaway said that the country's financial services sector was not competitive, especially because of its legacy issues. An environment needed to be created where start-ups and innovation were encouraged, but this would only be fully utilised if the sector helped with development.

They also discussed creating tax incentive schemes to encourage businesses and people to adopt 4IR, and how connectivity, data and infrastructure were currently impeding technical growth. They said any changes to regulation should be a collaboration between business and the government.

The group focusing on the impact of 4IR on society advised that it was essential that access to financial education was improved.

They said that the adoption of any new rules had to ensure that the inequality gap was not widened, but rather closed, and that 4IR was about creating a future that was better.

Also, individuals needed to be empowered through a “global identity” and having a single identification that could be used anywhere in the world would help achieve this. A single identification was also needed for accessing services, instead of the current cumbersome situation where you needed different documents depending on what services you needed.

Conclusion and Way Forward

The primary importance of the 4IRSA workshops is the role they play in stakeholder management. They also play a critical part in fostering the beginnings of collaboration in South African 4IR planning. Many of the attendees at the workshops have not previously been in the same room with each other, even though they work in related fields/industries as part of the same value chain or ecosystem. In the main, they tend to experience 4IR disruption separately.

The 4IRSA workshops for now are about getting South Africans to start talking about the tech revolution and understanding what lies in store for them in the future.

It is clear from this workshop that our fintech sector must adopt many changes if it is truly benefit from 4IR, and not lose employees and customers to those offering better services. We are now in the age where financial services are being provided by third parties and if there is little focus on development, a company's financial longevity will come under threat. Also, new revenue streams will have to be created.

The fast pace of technological transformation means that digital disruption will continue to evolve, and therefore, a shift towards collaboration between all stakeholders in this sector will be key to driving effective change.

As the Centre of Excellence in Finance Services has warned, if financial innovation is not supported, it would be a missed opportunity for South Africa. A thriving local fintech industry and innovative financial sector has the potential to contribute to employment and improve access to a sophisticated suite of financial services among a broader set of consumers.

The centre also says that financial regulators can only do so much to “future proof” the industry against 4IR changes. Much of how the transformation of production and consumption will play out rests on the state of the broader digital ecosystem. These include investments in broad digital infrastructure to ensure access to high speed internet and affordable mobile data, and access to affordable and reliable electricity.

Developing skills required by employees is key to South Africa keeping value-creation from technological innovation within the country.

Next on 4IRSA’s agenda is the Digital Economy Summit in June 2019, during which the insights gained from the workshop process will be used to tease out the principles and elements that should define a South African response to the challenge and opportunities of the 4IR.