RESEARCH REPORT 2018
DREAM
Influence the co-creation of sustainable societies

PURPOSE
Growing agile, aligned and engaged leaders

PROMISE
Co-creating realities

STRATEGIC INTENT
To strengthen the growth of agile, aligned and engaged leaders, who co-create innovative ecosystems and sustainable transformational societies

CORE PRINCIPLES
• Being curious
• Seeking truth
• Leveraging interconnectedness
• Awakening the senses
• Taking responsibility for crafting just and dynamic societies
• Embracing holism and living harmoniously
• Appreciating the shadow
• Mastering balance with integrity
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FOREWORD: EXECUTIVE DEAN AND DEAN OF RESEARCH
While the national and international call is for Higher Education Institutions (HEIs) to re-imagine their roles and strive to ensure that sustainability permeates every aspect of their academic endeavour, the Da Vinci Institute has embraced this role and responsibility many years ago. This is embedded not only in our undergraduate and postgraduate curriculum, but mostly articulated through the research outputs of Masters and Doctoral students. The Da Vinci Institute fully subscribes to the view that research should respond to major social, economic and environmental challenges and have benefits for society, thereby influencing and impacting on the positive transformation of societies.

Much of the Da Vinci Institute's research is based on postgraduate outputs in the form of dissertations and theses. The Institute's research strategy and education is informed by addressing the complex challenges of real world problems, embedding transdisciplinarity, ensuring social accountability is always considered and promoting and managing quality in innovative and meaningful ways.

This 2018 research report provides evidence of the contribution that the Da Vinci Institute's research is making to our individual and collective futures, and of the multiple ways in which our students are succeeding in addressing the dual objectives of academic excellence and societal relevance.

In this report, we celebrate with students’ who persevered through their research journey at the Da Vinci Institute and briefly outline the contributions of the 15 Doctorates completed during 2018. These students expressed their freedom to enquire, challenge the status quo and reimagine real world challenges to arrive at professional solutions. In a nutshell, these 15 theses focused broadly on the following themes:

- **Economics and Development**
  Student researchers addressed the economic challenges of rural communities to consider the extent to which entrepreneurship and innovation could be applied as tools for economic growth and sustainable development. Researchers used the findings to develop an evidence-informed social sustainability strategy that private sector corporate management could adopt to support the implementation of the SDG 8.

- **Leadership**
  Students investigated the challenges facing organisations that are sceptical about investing in the development of their human capital and highlighted the role of sustainable personal leadership development.

- **Management of Innovation, People and Technology**
  Some studies aimed to identify key governance and management factors of the National System of Innovation that could enhance South Africa’s transition to a knowledge-based economy.

  Other studies included challenges around project management. Due to projects failing despite professional associations having upgraded project management standards, a study was conducted to develop methodologies and tools which may contribute to a general increase in project management success.

The way forward
We recognise the need to develop research teams and themes in order to ensure wider research reach and impact. One such theme we would like to explore and in alignment with the TIPS™ Managerial Leadership Framework and the 4th Industrial Revolution, is digital disruption, which is also a current trending topic that has little extant research conducted on it.

A primary focus entering into 2019 will be expanding the research output (conference papers and publications in magazines and journals) from staff and students. Furthermore, a Publications Policy will be developed and implemented to not only incentivize staff, but also guide the process of recognising staff who excel by way of research and publications.

The institute will endeavour to extract more papers from the dissertations and theses of our students and translate these into publishable papers. In this regard, Da Vinci will be involved in a research conference in 2019 with a focus on research output related to Da Vinci's TIPS™ Managerial Leadership Framework. The Institute will further launch a publication.

Professor Krishna Govender
Executive Dean
2  MESSAGE ON
BEHALF OF ACADEMIC
SUPERVISORS:
DR RICA VILJOEN
– Speech delivered at the President’s Dinner
2 | MESSAGE ON BEHALF OF ACADEMIC SUPERVISORS: DR RICA VILJOEN

Being here means that you, as new PhDs, have successfully defended the longest argument of your entire life. That is indeed something to celebrate.

Being here with your families demonstrates the lovely tapestry that you wrap closely around when things are difficult in your life. On nights like tonight, when all goes well in your life, this tapestry is widely spread and visible for all to see, colourful and warm in its treads of support, respect and understanding. A doctoral journey does not only impact the PhD-candidate but, friends and family as well. We celebrate you all here tonight.

A Doctorate of Philosophy or a PhD comes from the Latin words ‘to teach’ and the Greek words for the ‘love of wisdom’. Students have a different view though. For them a PhD means:

- Patiently hoping for a Degree
- Paid half what I Deserve
- Professorship? ha a Dream
- Please hire Desperate
- Probably heavily in Debt
- Parents have Doubts
- Pound head on Desk
- Potentially heavy Drinker or
- Permanent head Damage

Internationally three out of ten PhD students will not finish their Doctorates in a seven year period. Mouton says that the average student rewrites every piece of a PhD 28 times. Doing a PhD is not for sissies. A lady once saw Picasso doing a sketch on a napkin in a restaurant while he was eating. She approached him to ask if she could have it. He told her that it costs 3000 Euros. She laughed and asked how he could charge so much for something that literally took a few minutes. He responded by saying it took 30 years to do that piece of art. The same principle applies to doing a PhD. Tonight is the outcome of a long and meaningful journey.

There are 2.5 million results on ‘Doctor Google’ on how to complete a PhD study. The things that nobody talks about whilst doing a PhD includes; a sense of feeling stuck (this often happens during PhD studies). Not knowing where to find literature, how to apply a certain methodology, how to analyse data, how to make sense of the feedback from your supervisor, how to synthesise or feeling like you do not know anything. All PhD students get stuck often!

There is more - there is always more to read, more to learn, more questions to address, more comments from your supervisor, more editing, more feedback from reviewers. When you think you cannot do anything more, guess what - THERE IS MORE!

LEAVING THINGS OUT IS PROGRESS. Sometimes you need to read a lot to know what is not important. To overcome this feeling of not completing anything, the sense that something is finished is important - bake a cake, lose some weight, finish something else in another part of your life to get this sense.

Have you ever felt like you forgot what you did? Ever revisit your work after you wrote it only to think - “WOW did I write that?” It takes eight hours to get into a study again if you stop writing.

In the worlds of a wise mentor “You need a chair and glue to finish a PhD study.”

Some ideas from Gibral that can be applied to supervision:

- No man can reveal to you but that which already lies half asleep in the dawning of your knowledge
- The teacher who walks in the shadow of the temple, among his followers, gives not of his wisdom, but rather of his faith and his lovingness
- If he is indeed wise he does not let you enter the house of his wisdom, but rather leads you to the threshold of your own mind
- The astronomer may speak to you of his understanding of space, but he cannot give you his understanding
- The musician may sing to you of the rhythm which is in all space, but he cannot give you the ear which arrests the rhythm, nor the voice that echoes it
He who is versed in the science of numbers can tell of the regions of weight and measure, but he cannot attract you thither.

For the vision of one man lends not its wings to another man.

Even as each one of you stands alone in God's knowledge, so must each one of you be alone in his knowledge of God and in his understanding of the earth.

On a lighter note, as a supervisor, one quickly learns about the predisposition of a PhD candidate:

An optimist says: I will be writing
A pessimist says: I should be writing
A realist says: I have yet to ascertain whether my lack of writing motivation represents socialised academic guilt corrupting all good things, or subversive resistance to a publishing industry that functions on exploitation and profit.

Some Lessons learned during the supervision of more than 90 post-graduate studies so far:

Be thankful for a good thesis. They have shown you how strong you can be

There’s no such thing as ‘absolute truth’

You might forget those who made you laugh, but you will never forget those who were by your side in your darkest hours

It’s the simple things in life that are the most extraordinary

Put love in your work - Work is love made visible

To understand the heart and mind of a person, look not at what he has already achieved, but at what he aspires to. “Trust in dreams, for in them is the hidden gate to eternity”

When you give of yourself, that’s when you truly give

Be thankful for both the good and the bad in your life. It’s all meant to teach you something

Your attitude towards life will determine life’s attitude towards you

A good thesis is a finished thesis.

As an author who sometimes waits days to open feedback from my publishers or peer reviewers the following reminds me of my own humanness and vulnerability:

When you are free from self-doubt, you fail better, because you don’t have your defences up; you can accept the criticism.
You don’t become so preoccupied with that failure that you forget how to learn from it, that you forget how to grow.

When you believe in yourself, you succeed better from it and you forget hours spent questioning, doubting, fearing. Transcend into working, exploring and living.

I am ending off with a warning from Osho that we must continue to learn - even after we have completed a PhD.

Be like a child. Always remain learning, never become knowledgeable. Learning is different from knowledge; knowledge is a dead phenomenon, learning is an alive process. The learner has to remember that s/he cannot function from a standpoint of knowledge.

This is the invitation to publish.

We meet new academics here tonight.

Congratulations on your well-deserved success and best wishes for your next adventure!

Dr Rica Viljoen
Academic Supervisor
GRADUATION MESSAGE: VUSI SINDANE
Speech started with the following YouTube clip

https://www.youtube.com/watch?v=DJW9VQwynDO
(The Four Secret Roads of Marco Polo - Yuan Li, Tan Dun and Lang Lang)

I thought I should open with that weird and unusual piece of music for two reasons: first of all, let’s face it... it’s weird and unusual that I’m standing here as a non-graduate addressing graduates... and secondly, there is a parallel that I would like to draw between that music and what I think of education - which is what I want to talk about today.

It strikes me that a lot of the music we hear today is meant to entertain and make us feel good - musicians these days obsess over developing a catchy melody or a phrase that will appeal to everyone and getting us bobbing around, rather than expressing a message that would help us take a step forward as people.

In the same way, most of us go to school in order to become economically valuable, rather than to discover the magic of how things work - and hopefully share that magic with other people.

Let me tell you what I mean by sharing the story of Charles Goodyear.

GOODYEAR STORY
Charles Goodyear is known for inventing the process of making rubber (that milky stuff that comes from trees) into the durable material that we know today.

A long time ago, some of the ancient tribes poured the rubber into containers to make them water resistant... and there were other applications...

The magic started when Charles travelled to New York sometime in the 1830's and saw the poor quality of life buoys (life preservers), and connected the dots - he thought he could use rubber to make them more water-resistant.

So, he made some samples and pitched to the Roxbury rubber company. They cut a deal. Part of the deal was that products would be tested for a year, but that would require a lot of stock from him.

Ecstatic, he went back home and borrowed money from investors to produce more stock.

Some months later all his products were returned because they were rotting and decomposing.

After a while, the guys who loaned him money got him arrested because he couldn’t pay them back.

Suffice to say, while he was in jail he experimented with more rubber (no idea where he got it) ... but he added funny things like turpentine and magnesia and it removed the stickiness in the rubber and made it last longer.

Bingo! When he got out of jail he asked his wife and kids to manufacture water resistant shoes.

Thereafter, he went and found more investors and clients - they were impressed - and they gave him money to manufacture more products.

Again, after some months the boots became sticky again and decomposed. And again, his investors sent him to jail because he couldn’t pay back the money.

He went to jail six times because of debts.

Eventually (some 10 years later) he hit a major breakthrough. He added Sulphur and Nitric Acid and all sorts of stuff that almost killed him.

You know where he got the money to buy these chemicals? He sold his children’s school books and furniture at home...
However, the real breakthrough came one winter’s day when he was working next to a stove. He accidentally spilled his precious concoction into the fire and feverishly tried to get it out. When it cooled down a bit he discovered that it had cured and took on the texture he had been looking for for years.

Then what did he do? He produced. He asked his wife and kids to produce rubber products and sent samples to investors and clients. By then he had developed the reputation of not servicing his debts so no one wanted to fund him.

Being the man that he was, he sent samples to the UK, and went on a roadshow to France. Some of his samples got into the hands of Thomas Hancock who reverse-engineered the rubber and registered a patent eight weeks before Goodyear could.

He was devastated - his life’s work was stolen from him. On the 1st July 1860 he travelled to New York to see his dying daughter in hospital. When he arrived, they told him she had just died. Upon hearing that devastating news he also collapsed and died at the age of 59.

**THEME 1: What is the difference between School vs Education vs Learning?**

This is a question I grappled with when we introduced home-schooling back in 2015.

In the first year I administered schooling myself, but the first month or so was frustrating. The kids refused to listen, I didn’t know whether I was coming or going... we had to deal with material... you name it.

I then reached out to a friend in the US - her name is Annie Syed. She was born in Pakistan. For political reasons they went into exile in the UK and eventually ended up in the US. In the interim, her father had to develop a home-schooling programme for her and her siblings.

After they settled down in the US, and they were re-introduced into a normal school, they were found to be a cut above the rest, so they continued with their own weird way of schooling.

Today she is a teacher with an excellent track-record for improving the performance of her learners.

I asked her to help because home-schooling was simply not working. Then she shared a quote by William Butler Yeats - he said: “*Education is not the filling of a pale - it is the lighting of a fire.*”

Initially I had no idea what she meant, but eventually the penny dropped.

I realised then that my job was not to pour knowledge into my kids’ heads. Rather, I was supposed to change my paradigm and imagine us as being in a dark room that’s full of treasures.

In this new paradigm, my responsibility was to light a candle and give it to them to explore the room and make their own discoveries.

This resulted in developing a model for our little homeschool, which I would like to share with you.

Firstly, I had to decouple the idea of school vs education vs learning. We tend to use school and learning and education interchangeably but I found this to be problematic.

Therefore, in trying to untangle these ideas I was confronted with a few basic, but important questions - one which I would like to pose to you:

**How do you know that you’ve learned something?**

The conventional means of ‘knowing’ is measured by the extent to which we pass our assignments and exams. This method wasn’t going to work for us because instead of using exams and assignments, we wanted the whole world to be our exam room.
It then dawned on me that you have learned something when you have found your own truth about how it works. This lead to developing a learning system, which we applied every single day, in everything we did.

In summarising our theme let’s look at the life of Goodyear to test whether his learning system applies to the model we created, and ask if he did the following:

- Acquired new information about rubber? Yes
- Applied the knowledge learned? Yes
- Analysed feedback and results? Yes
- Internalised and developed his own hypothesis? Yes
- Developed his own truth about rubber? Yes

Nevertheless, the secret is that he went through the learning process again and again. More often than not, his truth was wrong and he had to go back and go through the learning process again in order to arrive at another truth.

I would like to challenge the linear notion of education - the idea that you start here and end there. Rather, let me propose that learning is an iterative process. You develop your own truth through an iterative process as you try something (or go through this process) again and again and again.

In closing this theme - if learning is like walking with a candle in a very dark room, let today signify the day in which Da Vinci handed you a candle - and let the world and even the universe if you so dare, be a dark place, which you will explore and learn from for the rest of your life.

There is a danger in carrying oneself with the attitude of ‘knowing.’ The day you say ‘you know’ is the day you extinguish that proverbial candle we were talking about just now.

So as graduates - and drawing from the life of Goodyear, I want to propose that you take on the attitude of not knowing, the attitude of a student of life itself.

**THEME 2: What was Goodyear’s process of learning and discovery? Experimentation, trying, researching…**

Let’s go back to our home-schooling days. My daughter was five when we started and we introduced subjects such as history, anatomy and biology (over and above the normal English and Mathematics).

I know this sounds scary, but the content was relevant to what they wanted to know. We studied the history of cartoons; with anatomy we got a big sheet of paper, they lay down and traced each other out. Then every time they learned about a body part they would draw it on the paper.

We also built a bug-hotel. They had to choose a bug and build an environment that they thought the bug would love to stay in, and then put the bug in there, and see how long it lived. That way they discovered what spiders liked, what worms liked, what they ate, etc.

We learned about plants by planting them in different conditions so they could see for themselves what water does to a plant; what the sun does… etc. The whole world was our classroom.

<table>
<thead>
<tr>
<th>SCHOOL</th>
<th>EDUCATION</th>
<th>LEARNING</th>
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| An Institution that develops systems for helping you learn | System of helping you learn i.e. helping you go through the 5 steps | 1. Acquire new information  
2. Internalise and develop a hypothesis  
3. Test the new knowledge  
4. Analyse feedback/results  
5. Develop own truth |
The point I want to make is that we were making it up as we were going along. We were trying things out just like Goodyear did and when they didn’t work we tried something else. We were developing our own learning process, and it was closely linked to the problems we were trying to solve.

Perhaps it is worth sharing the story of how my daughter learned how to read. She just couldn’t string together multiple alphabets to make up a word - but she knew the letters individually.

Her brother, who was eight years old then came up with an idea. He said “Aziza imagine this letter is playing at home alone. How would it sing?” Then she would sing “MMMmmmm” for the letter M and “OOOOooooo” for O and another “MMMmmm” etc… Then he said, “Now they are bored because you can’t sing alone at home the whole day right? So they went to the park to sing together. They made up a song where they sing one after another… How would they sound?” That’s basically how she learned to string words together like MOM

I’m not saying all this to blow my own horn and tell you how wonderful my kids are. The truth is that all of us are brilliant in our own ways but in order to embrace our brilliance, we have to embrace being weird and unusual first.

What I’m saying is that you can also invent your own system of learning, and in fact Da Vinci’s existence hinges on this principle. This is what the Mode 2 approach is all about - a more practical way of learning to solve practical problems.

So let me close this theme by sharing some research published in the Association for Psychological Science journal, by Adolph et. al (2012). They were fascinated about how we learn how to walk and they found that, and I quote: “twelve - 19-month olds average 2,368 steps and 17 falls per hour”it gets better… here’s another quote. “novice walkers traveled farther and faster than expert walkers” So in the spirit of Goodyear, you were born with the ability to learn by falling 17 times an hour. Most importantly, you were born with the ability to try even harder at the beginning - when you are a novice.

Going forward, look at life as one big ‘learning how to walk’ experiment, and embrace falling as many times as possible.

Unfortunately, growing up we are punished when we do something wrong, and we are rewarded when we do it right; so we are taught to avoid failure and embrace success without necessarily going through the process - I think this is the wrong way around.

Embrace failure - in fact fail even more now that you are beginning your career (just like you did as a baby), then you can later discover your own truth about things, even if it means walking funny.

**THEME 3: What must you learn? Valuable knowledge vs fluff.**

Enough about home-schooling. Let’s take this one to the jungle. I was watching a leopard the other day on the National Geographic channel and it was raising its cubs.

Leopards are loners, therefore, at some point the leopard would abandon its cubs, and by then they had better know how to hunt for themselves, otherwise they would starve.

I watched as the leopard did the normal thing of stalking the prey… and the cubs, intrigued, would copy what mommy was doing. Then she would suddenly pounce on the poor animal and sink her jaws in its neck to suffocate it.

After eating, the cubs would play with each other… and stalk and pounce playfully - mimicking what mommy was doing.

As they got older, the mom pounced on another animal but half-killed it, expecting the cubs to finish off the job. However, guess what they did - they scratched around at the legs and did all sorts of funny things except clamping down on the throat. After a while, the prey got up and ran away. Safe to say they didn’t eat that night ! Very important to note: they didn’t eat that night.
It is very important for us in pursuing our passions and goals, to acquire knowledge that also creates economic value.

It may come across as though I am contradicting myself but hear me out…

It is equally important that you learn valuable skills - and these may not necessarily be technical skills - but you need the skills that will allow you to create economic value for others because that’s what will give you the sustenance and the presence of mind to be able to work on your big idea.

In the way that we should learn from what Goodyear did, we should also learn from what he did not do.

When it comes to what we should be learning, I think Paul Harris (the former CEO of First Rand) put it best when he said:

“Every young person must know something about everything and everything about something.”

IN CLOSING

It is worth mentioning that although Goodyear never tasted the fruits of his labour - in 1976 he became one of six people in the U.S to be inducted into the National Inventors Hall of fame.

In one of his writings he said:

“The advantages of a career in life should not be estimated exclusively by the standard of dollars and cents, as is too often done. Man has just cause for regret when he sows and no one reaps.”

Most importantly, the lesson that Goodyear teaches us is quite simple; do the weird things and find courage to continue being unusual.

Also remember the words of Tim Ferris that “... there are no statues erected for critics.”

Today they may call you stubborn but later on, when they finally see what you’ve been trying to do, they will say you were persistent.

I would also like to appeal to everyone here that is comfortable with being different, to continue having the courage to be different. Now more than ever, the world needs the square pegs to show the round holes that there are different shapes out there.

Here’s to the crazy ones.

Thank you.

Vusi Sindane
6 | RESEARCH AND POSTGRADUATE OFFICE
Ms Itumeleng Mokoaleli
Programme Convener

Mr Tumi Pitsie
Research Support

Mrs Rinaka Moodliar
Programme Convener

Prof Krishna Govender
Dean: Research
Period: November 2018 - Current

Dr Ronel Blom
Dean: Research and Design
Period: January 2018 – October 2018
7 | INSTITUTIONAL RESEARCH OUTPUT:

NQF LEVEL 10
ABOU EL EISCH-BOES, Philipp Maximilian

*Integral human, organization and community development at SEKEM in Egypt*

SEKEM, an initiative for sustainable development in Egypt, integrating elements from cultural, societal, economic and ecological life, represents an internationally recognised role model for sustainable development. In 2010, the researcher joined SEKEM and became part of the core community. With this study, the researcher seeks to contribute to the renewal of SEKEM's holistic approach to development.

The theme of this research-to-innovation is integral human, organisational and community development at SEKEM in Egypt. The central question is how a social innovation like SEKEM can be functionally and structurally understood, designed and institutionalised in order to move towards the integral phase of the organisation as a living organism. This transition requires that every part contributes intelligently to the overall organisation, serving the purpose of sustainable development in its four independent yet interrelated dimensions of societal, cultural, economic and ecological life. In the course of this research-to-innovation, existing implicit knowledge from community members and employees has been made explicit and available in order to become less dependent on centralised leadership structures. The latter are the norm in the prevailing patriarchal cultural context of Egypt and the region.

This study used the Eastern path of renewal of the integral research approach of Lessem and Schieffer, which is altogether based on their integral worlds model, and combined with other integral theories. The context of the research-to-innovation at SEKEM is described as a place, where different groups of people with different consciousness levels work and live together, resulting in challenges and opportunities for development. Integral worlds, through the Eastern path of renewal, emphasises the need for recognising individual, organisational and societal development patterns; addressing common shadows and blind spots of each consciousness level while building on its respective strengths. The social context of SEKEM and Egypt is explored through transdisciplinary, transcultural, transpersonal, and transformative analysis on an individual and collective level while highlighting the rich cultural roots - from Islam to anthroposophy, from ancient Egyptian wisdom sources such as Hermetics to Greek influences - that provide answers for the burning issues of today’s modern world.
Building on the intensive activation of the SEKEM community, an innovation ecosystem was formed from a wide range of people embodying different functional roles: stewards, catalysts, researchers and facilitators, altogether being orchestrated by an integrator. By following the emancipatory methodology of critical theory, new, emancipatory knowledge has been created. This leads towards an integral human and organisational development approach to release individual and collective GENE-ius. Accordingly, SEKEM’s renewed approach to integral human development now incorporates individual storytelling (grounding), consciousness level and complexity handling capacity evaluation (emerging), competence level mapping (navigating) and self-management (effecting). The corresponding rhythm of SEKEM’s integral organisational development includes the dimensions of collective storytelling (grounding), arts and rituals (Cultura Activa) for stimulating consciousness development (emerging), knowledge creation via the integral project management framework (navigating), and the application of lolacracy as a complete system for self-organisation (effecting). All elements on different levels build on and mutually reinforce each other and help SEKEM to actualise its potential to become a fully functional integral enterprise.

In the contribution part of this research, all of the above-mentioned elements have been tested in practice following the co-operative inquiry action research methodology. In particular, the researcher focused on different forms of knowledge that can be created and are necessary to drive SEKEM’s forthcoming development stages. The research outcome is neither intended to be final nor complete but rather has created and opened a new field of interrelated human and organisational development that needs further research and practice building on a stronger integration of SEKEM’s inter-institutional ecology. This institutionalisation of social research and innovation, as well as continuous integration efforts, needs to be driven by a social innovation laboratory that is represented by the SEKEM Future Council.

Ultimately, this can lead towards societal renewal based on the concept of economics of love, which SEKEM stands for and is based on its fourfold commonwealth structure. To fuel this development a SEKEM Transformation Agency and Research (STAR) programme has been conceptualised as an outcome of this work, based on already existing experience with “Trans4m Junior Fellows” and a collaboration with the Young Initiative Program (YIP). With this STAR at the development horizon, SEKEM can engage the next generation’s leaders and expose them to an integral journey (experiencing and co-evolving SEKEM’s renewed approach to integral human and organisational development) in theory and in practice. In this way, the intention is to secure the future of SEKEM and to contribute to the sustainable development of Egypt and the World.

Academic Supervisor: Professor A Schieffer
Field Supervisor: Professor R Lessem
Integral enterprise: Revitalizing the moral core towards a caring corporate culture

The lifecycle of every organisation goes through phases of development based on its founder’s vision and the dynamic needs of the internal and external communities it relates to. Each of the stages of development builds on knowledge acquired, enriching the organisation; yet, each phase creates its momentum and comes with its own needs for change and further development. This is the theme of MedLabs and the researcher’s journey during the last 25 years and beyond.

The successes of the MedLabs Group Practice exceeded the expectations of the founders. During the pioneering phase, the tremendous rate of growth of the organisation necessitated that it embark on the journey towards the systemisation and differentiation phase, thereby transforming MedLabs into a self-organising enterprise. This in turn highlighted the need to become an integral enterprise, in Lessem and Schieffer’s terms, and also a CARE-ing organisation. In addition to Group Practice, MedLabs has successfully grounded its development on the concepts of customer is king, quality and the pursuit of sustainability.

A fundamental prerequisite for a successful journey towards integration is encompassing and involving the total staff. To do so, MedLabs needed to revitalise its employees’ Spirit and Morale, which were weakened during its growth period and especially during the differentiation phase. To achieve that and to journey towards the integral enterprise, the following changes were required:

- Transform the Marketing and Communications department to Community Building;
- Shape the Human Resources and Organisational Development department into Conscious Evolution;
- Co-evolve the current departments of Science, IT, Quality and Material Management to Knowledge Creation;
- Turn the Finance department into Sustainable Development.

The thesis combines three interconnected integral concepts enabling MedLabs to CARE for society fully. The first step is the awakening of MedLabs’ spirit through reconnecting the organisation with its source (the evolution of consciousness) in search of what is critical to an integral enterprise. Through integration, it will be possible to emphasise the self, the organisation, the society and the whole.

Co-operative Inquiry (CI) has proved to be a very effective research tool, emphasising the participation of all those who contribute to the decision making to become actively and constructively involved in the inquiry methods used. The interpretation of what has been revealed is then acted upon towards integration. In the words of Heron and Reason, this thesis is about research with people, not on or about people.

The integral journey has reached a stage where the effect of renewal and co-operative contribution builds on transformative education and action research. This is as a result of aligning all MedLabs employees’ core vision, implementing CARE circles, sharing the PULSE journey, giving the employees a voice and awakening their consciousness. Furthermore, the transformational GENE spiral is embedded in MedLabs integration journey by:

- Grounding/community building through care circles
- Emerging/conscious evolution through the PULSE journey
- Navigating/knowledge creation through the intended creation of the Research Academy (MedLabs Learning and Innovation Academy, MLIA)
- Effecting/sustainable development by applying orientation/reorientation programmes

Finally, MLIA as a transformative educational enterprise is a model and process that emphasise continuous learning and research at the individual and institutional levels, with a focus on integration and renewal of the practices, systems and structures. This will be MedLabs’ contribution towards an integral caring society promoting sustainability through conscious evolution, knowledge creation, empathy and care for humanity and the environment.

**Academic Supervisor: Professor A Schieffer**  
**Field Supervisor: Professor R Lessem**
Botwood, Susanna Elizabeth

Industry performance and digital disruption: Unleashing possibilities for the African farmer

The study investigated and sought to answer digital disruption maturity questions most organisations, micro, small, medium or large, face in the developing world to stay competitive and to perform towards a sustainable and growing objective. The agricultural industry in Africa is mostly organised into micro (subsistence) farmers, with mega and niche farming appearing to be growing at a substantial rate. The questions that need answering are mostly about the organisation’s digital strategy, the alignment with digital and the scale of digital initiatives the organisation is capable of utilising to improve its performance in the industry. Africa is the poorest continent when compared to the rest of the world. It has been in this state for millenia and seems to be maintaining such a stigma, even in the digital era. Food supply and the demand for agricultural produce is becoming more and more dire given that the population of Africa is set to grow from 1.8 billion in 2015 to an estimated 2.4 billion in 2050 and 4.8 billion by the turn of the century (UN projections, African Business Magazine, no 433, August / September 2016).

The agricultural industry is the most impacted industry on the continent, affected by poverty, climate change, disease and a lack of capital funding. This may also be the industry that is most ready for digitisation and digital disruption technologies, according to African Business writers, September, 2016. Factors such as the changes in climate, civil war, rural development, subsistence farming and developing organisations in developing countries impact the African agriculture industry. The need for digitisation and digital disruption to bring dramatic change in the industry and to uplift very rural small business owners is becoming the most prevalent and discussed factor for growth in African agriculture (H.E Olusegan Obasanjo, 2016).

This study sought to investigate digital maturity elements and possible disruptive technology platforms. The aim was to test whether these elements contain a “secret recipe” for African farmers to gain access to markets and unleash performance possibilities to alleviate poverty or to increase African farmers’ income. These elements and platforms may positively impact or disrupt the agricultural industry in Africa. The contributory objective of the study is to leave the reader with a framework to analyse elements that assist in strategic decisions towards disrupting and growing the food basket of Africa.

The main focus of the study was on seven constructs: culture, strategy, capabilities, organisation and performance, correlation with first-order dynamic capabilities of the organisation, linkages to digital platform capabilities, and digital organisational performance measures. These constructs may affect the maturity of the agricultural industry in the context of digital disruption towards the unleashing of possibilities for the African farmer.

The literature review was based on African farmers and agri-businesses in South Africa and elsewhere in Africa and other developing countries and comparisons with other industries. The sample was drawn from South African and African companies and farmers in the agricultural and other industries. The results are generalised across African developing countries, with a focus on agriculture and extended to other industries for the purpose of comparing digital maturity.

Smart PLS 3 were used as the software programs, with structural equation modelling as the data analysis method.

In this study it was revealed that the constructs are all antecedents of the maturity of digital disruption and maturity of organisations in the industry. The most important antecedents of digital maturity in the industry are the cultural aspects and technology capabilities. The analysis revealed that digital platform capabilities positively influenced the digital organisational performance outcome of the conceptual model.

Academic Supervisor: Professor R Chinomona
GEORGE, Dennis Henry  
*Achieving a New Social Accord in South Africa: A Co-operative Implementation Framework*

The National Economic Development and Labour Council (NEDLAC) was established as a social dialogue institution through the NEDLAC Act No. 35 of 1994 to implement the mandate of advancing sustainable economic growth, achieving greater social equity and increasing participation at company, sector and national levels.

Over the years, it became apparent that the use of social dialogue as the key mechanism to fulfil the NEDLAC mandate was not working as initially envisaged. The researcher, who is a member of the NEDLAC, wanted to understand why social dialogue and industrial democracy alone were insufficient. The researcher had proposed an original consultative framework in previous research, when completing his Master’s degree in 2014, but this framework appeared to lack certain elements that would make it truly effective.

The aim of this study was to establish a new conceptual framework to underpin a new social accord. Through the research, it emerged that a Co-operation Implementation Framework (CIF) as a conceptual framework to implement the NEDLAC mandate could greatly enhance implementation, as it went beyond social dialogue and industrial democracy. It presented elements such as trust and, importantly, a shift from the emphasis on consultation towards co-operation among the social partner leaders of the NEDLAC.

The objectives of the study included uncovering the dynamics and gaining an in-depth understanding of the factors that negatively influenced social dialogue and industrial democracy, and those factors that might inhibit the social partner leaders from collaborating and co-operating. The objectives also involved the determination of the collaborative measures undertaken by the social partner leaders and the evaluation of the relevance and appropriateness of a new social accord.

An interpretivist paradigm was used to understand, clarify and decipher the social reality through the eyes of the different research participants, namely social partner leaders representing business, government and labour. The research design was a qualitative approach, which aligned well with the ontological and epistemological perspectives of the researcher. Ontology is the philosophical study of the nature of being, becoming, existence or reality. Epistemology is the study of the philosophy concerning the nature and origin of knowledge, for example, how we know what we do know.

The major result of this study is an adjusted and improved Implementation Framework, renamed a Co-operation Implementation Framework to reflect the shifts in emphasis based on the findings. It was found that the implementation of the Co-operation Framework could enhance, strengthen and improve social dialogue and industrial democracy by encouraging trust, co-operation and collaboration among the social partner leaders. In turn, this could lead to the introduction of multiple solutions through a new social accord that will support the achievement of higher and inclusive economic growth and employment growth. The other findings that emerged included improving fiscal, monetary and industrial policies and adding the growth determinants, as well as implementing the critical recommendations of the National Development Plan (NDP), while improving employment incentives measures.

*Academic Supervisor: Dr R Blom*
This study investigated the challenge facing organisations that are sceptical about investing in the development of their human capital when they are not sure whether sustainable personal leadership development can actually be achieved. Moreover, if it can be achieved, they question what the principles of a successful intervention are, and what return on investment the individual and organisation receive. Very few South African studies have tackled this problem, and the research on holistic and sustainable personal leadership development has not been formalised. Therefore, the aim of the study was to conceptualise and create such a framework, showing the underpinning principles and describing the impact of personal leadership development on the individual and the organisation.

The qualitative inductive approach to the research was based on the phenomenological, constructivist, interpretive research philosophy. A hybrid research methodology using grounded theory and hermeneutic phenomenology was designed and used to distil the essence of the phenomenon, tell the story of the lived experience of the research participants and build the theory of holistic and sustainable personal leadership development. The study adopted a multi-step design that collected multiple forms of research data from 29 participants employed at two organisations in Gauteng, including solicited data (EQ-i2.0 and BeQ™), in-depth interviews, personal reflections, focus groups, questionnaires, field notes and literature. Data was also collected (through in-depth interviews) from six organisational and leadership development experts.

The findings revealed five meta-insights into the process of holistic and sustainable leadership development. The first was that the facilitator was at the heart of the development process, interwoven through each theme and key aspect contributing to holistic and sustainable personal leadership development. The second insight was the importance of cohort learning; the safe, supportive, sacred environment created by the group was paramount in facilitating the individual’s and group’s development. Thirdly, learners becoming vulnerable to challenge and shifting their limiting paradigms was a key part of the programme’s success and its sustainable results. Additionally, the vulnerability of the facilitator was a catalyst to the learners opening up and becoming vulnerable. The fourth meta-insight was that for development to be sustainable, the learning must be experiential, personally meaningful and transferred and integrated to the learner’s context and reality. Lastly, overwhelming evidence points to the fact that learning is a journey that takes time if it is to be holistic and sustainable, and therefore quick fix programmes will not yield the desired results. As a result of the meta-insights, a framework for holistic and sustainable leadership development was constructed.

In practice, the findings provide insights, models and practical tools for organisational development (OD) practitioners, facilitators, coaches, managers and organisations responsible for developing leaders to ensure that the development is holistic and the results are sustainable. The study also offers the principles of a successful intervention and illustrates the return on investment individuals and organisations are likely to receive from interventions designed according to these principles. This insight and understanding can contribute to increased success in the field of OD, leadership development and management.

**Academic Supervisor:** Dr R Viljoen  
**Field Supervisor:** Professor S Letsoalo
MAHLINZA, Thulani Hopewell

The design, implementation and evaluation of a leadership development framework for Denel SOC Limited

The study emanated from the concern in the human resources fraternity in Denel SOC, regarding the state of leadership and leadership development in the company. The concern was that leadership styles in Denel SOC in general were the typical and traditional styles of ‘command and control’. They were regarded as autocratic, bureaucratic and lacking the necessary commercial mindset and emotional intelligence to deal with employees from a motivational and employee-engagement perspective.

The researcher in this study, as one of the human resources practitioners in the company, volunteered to do a detailed study and analysis. Permission was obtained from the Denel SOC stakeholders to conduct internal research within the organisation, focusing on the state of leadership and leadership development. The purpose and objectives of the research were to conduct an in-depth investigation within the leadership groups at Denel SOC, and to analyse and understand the perceptions, opinions, concerns, attitudes and aspirations of all stakeholders in the company regarding the leadership styles and philosophies, as well as current approaches applied in the development of leaders. This would be followed by a recommendation about a suitable leadership approach for the defence industry in general.

The study took the form of a case study, and a qualitative research methodology was chosen. Further, the research was action research in that it was designed to lead to change, and the research output had to come out of the involvement of the members of the organization. The findings confirmed that leadership styles in Denel SOC were traditional command and control, autocratic, lacking commercial mindset and emotional intelligence. The existing repertoire of leadership development programmes lacked work-based application (not relating to business). The leadership development approaches were haphazard, with no proper focus and direction. There was no measurement of the impact of the leadership development interventions in the company to gauge return on investment.

The managerial implication of the study is that managers/leaders in Denel should be equipped to develop the leadership competencies required to create a culture of talent optimisation through the way they support and serve employees. Leaders will undergo a fundamental shift in thinking to move away from the command and control mentality. Denel managers and leaders will be transformed into business leaders who have a different approach to the business, especially towards improving their abilities in managing commercially and ensuring employee motivation and engagement levels are enhanced within the company. The study also contributes to the body of knowledge in leadership by introducing Head, Heart and Guts leadership competencies that can be used to develop leaders at all levels, from junior managers to company executives.

The leadership development framework embodied in the study forms an enriching add-on and contributes to the tried and tested leadership development frameworks in organisational development environments.

Academic Supervisor: Dr D Magadlela
The manufacturing sector plays a critical role in the economic growth of a country. How to manage and maintain manufacturing firms’ performance during harsh economic conditions is a significant challenge which requires an understanding of the drivers of organisational performance. The global manufacturing scene has experienced rapid change over the past one to two decades. This sector is a key to the growth of the Zimbabwean economy.

The purpose of this study was to investigate the antecedents influencing the business performance of agro-processing manufacturing firms in Zimbabwe. The objectives of the study were to examine the relationship between business performance and the hypothesised constructs, namely technological capability, organisational innovation, human capital and knowledge management systems. Building from the perspective of management and employees, the resource based view, system theory, Michael Porter’s five forces model and the balanced scorecard, a conceptual model was developed and the hypotheses were drawn to show the relationship between these constructs. The study adopted a causal research exploration design, which is a quantitative approach, to determine the relationship between the determinant variables and the performance of the manufacturing firm. The unit of analysis was the firm and so primary data was collected using the structured questionnaire, which was administered to the stratified selected respondents. The questionnaire covered all the objectives of the study, for a sample of 250, including both management staff and employees of the firm.

A series scale check analysis was made to test the reliability and validity of measures using Statistical Package for the Social Sciences (SPSS) version 24. Also, structural equation modelling (SEM) and regression analysis were used to analyse the hypothesised relationships using Smart PLS software. The main findings of the study are that organisational innovation and human capital were positive and significantly influence the business performance of the firm. However, technological capability and knowledge management systems were found to be positive but insignificant on the business performance of the firm. Furthermore, using regression analysis, the results indicate that three variables, namely technological capability, organisational innovation and human capital, were found to have a positive relationship with the business performance of the company. It is worth noting that regression analysis revealed that the knowledge management system negatively influences business performance.

Based on the findings and conclusion of the study, it is suggested that the management of the manufacturing firm should give attention to discovering what is going on with technological capability and the knowledge management system. Accordingly, they should then align their priorities and invest resources to enhance the plant’s performance. Thus, the managers of the firm need to be proactive in dealing with pace and trend invention and advancement in technology to sustain a high level of business performance. Finally, this research is useful to the business community in the manufacturing sector in that it highlights the advantages of possessing technological capability which can inform future decisions about technology-related expansion.

Academic Supervisor: Dr N Chiliya
The researcher grew up in the dry Mberengwa district of Zimbabwe, where it was a constant struggle to grow enough food for the family. Embarking on his transformative journey, the researcher discovered that his calling was one of Father Provider, which links to the outer challenge of poverty alleviation. The research was carried out at Rusimbiro Farm in Beatrice where villagers were resettled at the height of the fast-tracked land reform programme.

The main research objective was to craft recommendations which would enable the communities in the resettled farms to progress from land redistribution to high production output and poverty alleviation. To conduct this inquiry, the researcher adopted the integral four worlds approach, which is part of action research (participatory paradigm). Integral research utilises the 4Cs rhythm designed by Lessem and Schieffer to enable the research to progress from theory to action.

The 4Cs approach begins with the ontology from which the researcher uncovers his burning desire and links it with the societal outer challenge which, in this study, is poverty in resettled farms. This is the call. The second C is context. The context of the study was examined using the transcultural, transformational, transdisciplinary and transpersonal perspectives with a view to uncovering the imbalances therein and how they could be resolved. Following this contextual analysis, the research moved to the third C, co-creation, which is divided into four sections of the Southern path, with descriptive methods as the method, phenomenology as the methodology, feminism as the emancipatory critique and participative action research as the action.

The fourth C is contribution. This is the researcher’s contribution to knowledge from the research outcomes. To analyse this section, the researcher used the CARE-ing model whose goal is to ensure institutionalisation and universalisation of the research outcomes. These two processes ensure the new knowledge created by the research does not die with the conclusion of the research but continues in the manner of a self-propelling wheel.

The journey ended with the creation of a model and recommendations. The model, based on the characteristics of the Serengeti wildebeest, is called The Wisdom of the Ngongoni, based on the principle that if one desires to be a prosperous farmer, Hurudza ya Nhasi. This means one must acquire the Wisdom of the Ngongoni whose key attributes are, all year-round operation, borderless thinking, profitable partnerships, caring for the environment, rooted in the community and collective investment. Based on this model and the attributes of the Ngongoni, the researcher crafted recommendations that, if followed, will lead to increases in the production output and alleviation of poverty not only in Rusimbiro but in all resettled areas of Zimbabwe and beyond.

At the outset, the community were informed that as part of the research, it would be necessary to state their names in the body of the researcher’s dissertation to add authenticity to the research. The community members agreed that their names could be used wherever necessary in the thesis.

Academic Supervisor: Dr JP Muchineripi
Field Supervisor: Dr SM Kada
MKHIZE, Babongile Ntombenhle Joyce
A model for harmonising National Policy to capitalise on South Africa’s scientific, technological and innovation prowess: Lessons learnt

The science, technology and innovation prowess of a country can be determined by how well its National System of Innovation (NSI) is managed and governed. However, NSIs, like any other system, are complex to manage as they involve interactions and linkages among various players within the overall innovation system. An understanding of the NSIs can help policymakers develop approaches for enhancing innovative performance in knowledge-based economies. The Department of Science and Technology, as the national government department responsible for science, technology and innovation (STI) policy in South Africa, is charged with leading the transition of the country from a resource-based to knowledge-based economy. The DST’s mission is therefore to develop, coordinate and manage an NSI that will bring about maximum human capital development, sustainable economic growth and improved quality of life in the country.

The purpose of this study was to identify key governance and management factors of the NSI that can enhance South Africa’s transition to a knowledge-based economy. This study adopted the design thinking approach as the research design, and mixed methods research methodology (combining both qualitative and quantitative techniques). The study largely used secondary data, obtained from various reports, national strategies and policies. However, in some instances, the researcher had an opportunity to visit selected countries to observe how their NSIs were managed or governed and information obtained from these international visits could be regarded as primary data. The objectives of the study were to: (i) evaluate the South African NSI in terms of function and structure; (ii) identify key success factors for good governance and management of the National System of Innovation; (iii) make recommendations for better governance and management of the NSI; and (iv) develop a model that will harmonise South Africa’s STI policy.

Overall, the research findings indicated that variables such as the structure and function of NSI play a fundamental role in its effectiveness in building a knowledge-based economy. It was established that the key features of an effective NSI are economic growth driven by technological innovation and interactions/networking among institutions in both the public and private sectors. However, these features are dependent on how the structure and functions of the system are organised to support knowledge flow, networking and interconnectedness among the role players. It was further established that innovation performance and good governance are prerequisites for an effective NSI.

The researcher found that the current structure of the South African NSI impedes the transformation to a knowledge-based economy, especially when it comes to innovative performance and wealth creation. At the same time, the function of the South African NSI impedes knowledge creation, flow and networks. Further, even though South Africa has progressed reasonably well in building its NSI, there are behavioural patterns that block the transformation to a knowledge-based economy. In this regard, the system has more conflicting behaviours (60%) and competing behaviours (30%) than collaborating behaviours.

In addition, the researcher established a set of Key Success Factors (KSFs) for effective NSIs in knowledge-based economies. When matched against these KSFs, it was found that South Africa has mastered only 8% and partially achieved 42%, while 50% of the KSFs has not been addressed.

The conclusion was that South Africa lacks an effective and efficient framework to harmonise its STI policy. In response the researcher developed a simplified model, the Hot Air Balloon knowledge-based economy (KBE) Model and a framework to harmonise national STI policy. It was further recommended that a new set of indicators be introduced, focused on measuring the NSI’s effectiveness and South Africa’s progress in its transition to knowledge-based.

Academic Supervisor: Professor R Marcus
Private sector corporates in Zimbabwe seem to have limited commitment towards the implementation of the global development agenda, as expressed by the 17 United Nations Sustainable Development Goals (SDGs) that succeeded the Millennium Development Goals (MDGs) in 2015. The SDGs are made up of 169 targets, but there are limited strategies for the countries concerned to support implementation towards achieving those targets. This study was undertaken to seek an explanation for limited corporate social sustainability strategy implementation that is aligned to SDG 8 which is, ‘To promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all.’

The study was conducted within a group of companies belonging to the Rift Valley Corporation (RVC) in Zimbabwe, development organisation representatives and community members within the business footprint. A qualitative design was adopted in the study and the researcher used the interpretivist paradigm to understand reality. Key informant interviews were used to collect data, guided by interview schedule guides which targeted 11 RVC employees, from the leadership to the shop floor level; interviews were also conducted with five development organisation representatives from the United Nations World Health Organisation, the World Bank, the International Centre for Evaluation and Development and, the Management Training Bureau under the Ministry of Higher Education and Southern Africa AIDS Dissemination Service. Finally, the researcher interviewed four community members from a finance and investment multinational organisation, the microfinance institution, Tourism Authority and the print media. Collected data was analysed using coding and the identification of patterns.

Some of the company business units have a social sustainability strategy due to compliance obligations that have little environmental contextualisation. Other business units have an embedded company strategy which is neither costed nor evidence-informed. Moreover, the programme is not needs-driven and has limited partnerships and technology integration. An additional factor is that some business units lack a social sustainability strategy but are implementing unplanned, inequitable initiatives between the community and their employees, skewed in favour of the community. Over and above that, some business units are implementing unplanned initiatives that amount to charity rather than impact investment integration for measurable return on investment.

Most importantly, it was discovered that there is no programme monitoring and evaluation system in place to measure progress and assess relevance, efficiency, effectiveness, impact and sustainability. Research activities are limited, as is the use of the bottom-up leadership approach in programming. These limitations do not promote the use of evaluative evidence for decision making.

The researcher used the findings to develop an evidence-informed social sustainability strategy proposal that private sector corporate managements could adopt to support the implementation of the SDG 8. The strategy encompasses the adoption of the transformational leadership style from strategy visioning and execution through to the integration of systems thinking and incorporation of a Corporate Social Impact Investment (CSII) Model that the researcher developed. Additionally, a robust functional programme that has a good monitoring and evaluation system must be supported by partnership engagement, governance, social equity, social cohesion as and psychological needs fulfilment initiatives customised to fit the needs on the ground.

**Academic Supervisor: Dr R Blom**
The observed phenomenon is that projects in general are failing, and though professional associations have been upgrading project management standards, methodologies and tools, these efforts have not contributed to a general increase in project management success. Projects, systems, products and services are becoming more complex, which inevitably leads to competency and maturity issues. Constant project failures raise questions about the current project risk management concepts, practices, people, behaviour, contextual, and technology issues required to achieve consistency and the successful delivery of projects.

An inquiry into Eskom, South Africa’s dominant electricity generator and supplier, found that the conventional project management processes aggravate the risk of management incompetence when dealing with complex projects where uncertainty and risk are perceived to be higher. When training project risk management practitioners, Eskom does not apply a holistic approach that considers the impact of complexity, maturity and competency on projects and their performance. The skills and competency requirements are not stipulated when the risk advisor moves to a more senior advisory role in low-complexity projects, and from there into high-complexity projects. Eskom’s ‘one-size-fits-all’ approach to competency development does not consider the fact that projects have different complexities.

The researcher sought to ascertain whether there is a relationship between complexity, maturity and competency in project risk management and if so, to determine whether such a relationship affects the performance of projects.

An interpretive and subjective research philosophy was adopted, using inductive reasoning and a qualitative research approach to probe the literature. The researcher applied field research with participative action research for the interviews and a qualitative survey to collect data and verify the findings of the literature review. A semi-structured questionnaire was used for in-depth interviews with six Eskom senior managers. Stratified sampling was used for the collection of data from 207 Eskom project risk management practitioners. They were invited to respond to the web-based survey comprising a questionnaire with multiple-choice questions on project and project risk management. Eighty project risk management practitioners responded to the survey. Further, a checklist of possible project risk management competencies was emailed to project management experts in Eskom and national and international project management associations for their input.

Thematic analysis and content analysis were applied as the qualitative method of analysis. The interviews were recorded, transcribed and coded, and the web-based survey responses were categorised, analysed and interpreted to create an analytical narrative about the present project and project risk management situation in Eskom. The themes or commonalities discovered in the literature and field research, as well as the competency unit criteria from the updated checklist, were used to populate three matrices (technical, contextual and behavioural) for comparison purposes.

The research findings indicated that project complexity is driven by the interaction of management, systems and the product delivered. All projects have some level of complexity and Eskom should acknowledge differing complexities. Competency development includes the development of technical, contextual and behavioural competencies. Most importantly, there is a notable relationship between complexity, maturity and competency in the project environment. These findings led to the creation of a sense-making framework in which the relationships between the research elements, their sub-elements and project risk management were combined to indicate how such a relationship could lead to the successful execution of projects.

Recommendations from the research findings are that project performance can be improved by constantly enhancing the competencies of project risk practitioners and by introducing a defined career path in which the different types of projects are considered. Eskom should instil a project risk management culture to ensure maturity of the organisation and sensitivity to the varying levels of complexity in projects.

**Academic Supervisor: Dr D Kruger**

**Field Supervisor: Mr K Gray**
SEDUMEDI, Boitshoko Kaelo
Shareholder focus and new product development in the South African mining and metallurgical sector

The study attempts to identify core operational, organisational and business areas that a consultancy or portfolio management entity would require in developing a conceptual framework of new products developed (NPD) within South African mining and metallurgical organisations. Reliance was placed on qualitative analysis, using the grounded theory from first principles and also observing reference cases and doing ethnography analysis. In support of this, the following theoretical approaches were drawn on: management of technology (MOT), development theory, management and leadership theory, and the efficient market hypothesis or behavioural finance theory/studies. Further inferences were made considering various new products that have been introduced into the South African market, particularly those that are perceptively not well received. A functioning mining and metallurgical organisation was regarded as a unit of analysis, with focus on shareholders’ interests and representatives on boards of directors. Literature categorised the NPD as involving the following stages: fuzzy front-end or product conceptualisation, product development and product commercialisation. It was difficult to identify coherent sets of organisational practices that demonstrated best practices in the execution of NPD within the sector in the South African context. The proposed model that was developed will have an impact on the operational execution and management oversight at the levels of shareholders, as well as boards of directors representing shareholders. It will also imply a better focus on stakeholders’ exposure to the organisations, with the emphasis on understanding the management and the nature of the finite mineral resources, comprehending the challenges within the mining value chain, appreciating the volatility of mineral commodities and share prices, appreciating the nature of mining and metallurgy as capital-intensive, considering the impact of operations on the environment and understanding the approach to community concerns and the challenges on land rights and/or surface ownership.

The study identified critical dimensions that are unique to organisational environments, i.e. contextual, operating and transactional environments. From this, five key organisational functional areas or categories were derived, namely, system, strategy, people, business and markets – leading to the SSPBM representation. More dimensions were identified as being more amenable to the contextual environment, as confirmed by the responses from case studies. Moreover, the study confirmed the value gap and/or gross neglect at the front-end of the mining and metallurgical product development. It was apparent that much influence was on technology push methods, i.e. operations and transactions, and on minerals’ commodification being agreeable to a mining historicity real factor. To overcome this neglect, competency and demonstrability of business processes and leadership are critical to execute a successful NPD framework within the organisations. The contextual, operating and transactional environments found their expression within the observed and known generic NPD processes or phases, and the recorded NPD mine development stages. The resultant interfaces yielded a future value proposition that identified two important aspects for any South African NPD practitioner: (1) the sector advancement of demonstrable leadership through NPD projects’ success and market penetration, and (2) the urgent need for prioritisation mechanisms to develop competency-based leadership through mining and metallurgical NPD.

Academic Supervisor: Professor R Marcus
SEKGAPHANE, Ntombana Del
Towards rebirth in organisational change and development: A Southern voice

In divergent ecosystems around the world, there is a desire for visible, integral ecological transformation. A lack of ecological transformation is found within various domains beginning with the self, team, organisation and society, and is partly influenced by the loss of identity both within and without the larger ecology. Notably, the issue of identity and transformation remains a burning platform within the African context, for which the researcher proposes a solution grounded in the Southern relational path of community and reason (Lessem & Schieffer, 2009). In the context of this study, the researcher was invited to lead and transform a wealth banking business unit that had become a liability to the greater FNB brand, reflecting the lowest engagement scores at the time.

The research methodology was built on the foundation of the 4C Integral Research Approach (Call, Context, Co-creation and Contribution). Each one of the four research paths is integral, as each includes local Origination, local-global Foundation, all-round Emancipation and Transformation towards a consistent path to social innovation. Focusing on FNB Private Wealth Client Servicing as the research community, the researcher set up various communities of practice (CoPs). The applicable ontology was phenomenology, adopting Southern, communal frames from which to drive inclusive transformation, and the epistemology was feminism, encompassing integral research and participatory action research (PAR) as part of the Southern path.

The research design followed an integral design on the Four Worlds of South, East, North and West, contextualised using the 4C rhythm and the grounding, emerging, navigation and effecting (GENE) integral paths of renewal towards social innovation.

Data was gathered by qualitative means such as participative observations, community engagements, discussions and interviews. The researcher analysed the gathered data by measuring its quality in terms of valuable and truthful results of REBIRTH data analysis. REBIRTH is an innovative organisational change and development process located in the South, and has potential to be adapted and applied within FNB as the rebirth of the transformation journey.

REBIRTH, engaged holistically, is designed to cause inclusive transformation though enabling an organisation to re-engage the issue of identity as catalyst for inclusivity. It is a creative experience which starts in the Southern relational path, and unfolds into the four voices of global exploration, towards inclusive transformation and authentic identity. REBIRTH reconnects self, other, community and organisation to identity in Botho-Ubuntu, captured in the FNB case study vision as: “I Care (Heart), I Can (Head), I Commit. Botho-Ubuntu is an African philosophy which draws us back to the value of our humanness and offers an authentic lens through which to view transformational practice.

The REBIRTH transformation journey was successfully tested within FNB Private Wealth Client Servicing and FNB Wealth Inland. Grounded in traditional and indigenous knowledge, it offers a new lens for leadership towards inclusive transformation, founded in Southern values and norms and grounded in the essence and philosophy of Botho-Ubuntu as an authentic Southern frame to reconstruct the complexity of today’s everchanging world.

Academic Supervisor: Dr R Viljoen
The development of a framework for postgraduate studies in Communication Design

The aim of this study is the construction of a framework for the development of postgraduate communication design education in South Africa and, as a workplace challenge, to develop and improve course contents and delivery for postgraduate studies. Design is part of a widening domain and fast-changing environment that challenges all levels of design education and presents opportunities. The problem is framed by the general lack of postgraduate capacity in communication design in South Africa, a shortage of lecturers with a one-up qualification and limited local research capacity. On the other hand, there is substantial potential to innovatively create opportunities.

The study qualitatively explored the local communication design education landscape and identified the structures, nature, challenges and role players. This exploration included a closer look at the three leading higher education institutes in the South African postgraduate design space.

Theoretical models with the potential to guide the development of postgraduate design education were analysed. These are the Mode 1, 2 and 3 models, Innovation Triple, Quadruple and Quintuple Helix models, as well as research approaches that have the potential to better align academia with industry, such as practice-based and practice-led research, recognition of prior learning and work integrated learning.

One of the possibilities for increasing capacity at postgraduate levels is to work more closely with the design industry. The study therefore gauged the perceptions, attitudes and needs of designers about postgraduate education. The findings confirmed a gap between industry and academia, with industry seeing the main role of academia as the provider of entry-level designers. No alignment between postgraduate degrees and designers’ career paths exists and academic research is not seen as a valid or accessible source of knowledge.

Key findings and insights about the educational landscape, the theoretical models and the perceptions and needs of designers in industry formed the foundation for the development of a conceptual framework. The Frame Innovation approach, a problem-solving method based on the processes used by expert designers, was used to direct the development of a framework that offers various possibilities. These possibilities take the widening domain of design into consideration through the conceptualisation of an open, collaborative space that would allow for the different interests of academia, industry, society and ecology and flexible research approaches.

The original contribution of the study is, therefore, the creation of an evidence-based consolidated framework that is systemic and has practical value for future development and implementation, and that may increase capacity and align industry and academia beyond entry-level supply.

Academic Supervisor: Dr L Naude
8 | INSTITUTIONAL RESEARCH OUTPUT:

NQF LEVEL 9
GEORGIU, Pothitos Spyridon
Transaction account opening for South African private bank clients opening an offshore bank account and the implications on client experience.
Academic Supervisor: Dr S Shipham
Field Supervisor: Mr P Haupt

GRAINGER, Murray Alan
Innovation: A key to business success at Investec Private Bank
Academic Supervisor: Dr S Shipham
Field Supervisor: Ms H Rosenblatt

HOLLIS, Liesel Noleen
Retiree succession planning in addressing transformation: A South African financial services case study
Academic Supervisor: Dr L Chipunza

JOHWA, Nesbert
Border facilitation service through Social and Technological Innovation: The case of the Beitbridge Border Post
Academic Supervisor: Dr JP Muchineripi
Field Supervisor: Dr SM Kada

KALIAN, Kamal Dhiroo
The adoption of self-service terminals in rural areas: A First National Bank study
Academic Supervisor: Professor M Tshehla

KEBENI, Khayalethu Robert
Impact of scope change on engineering projects: An Eskom study
Academic Supervisor: Dr A Maneschijn

BEEBE, Akiva
Anti-fragile organisations and complexity leadership: The new market norm
Academic Supervisor: Dr AJ Brough

BEUKES, Roux Canzius
Payment Services Directive 11: The effect on the strategy and operational model at Investec Bank
Academic Supervisor: Dr S Shipham
Field Supervisor: Mr W Summers

BOTHA, Eugene
Culture as a catalyst for the recovery of a declining division within Investec Private Bank
Academic Supervisor: Mr A Vermaak
Field Supervisor: Mr H Tradonsky

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Retrenchment and staff morale: Considerations for change management
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Skills development within State Owned Enterprises: An implementation framework
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EDKINS, Jenna Carey
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Academic Supervisor: Mr A Vermaak
Field Supervisor: Mr N Peprah
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**Academic Supervisor:**

- Mr A Vermaak
- Dr R Viljoen
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- Dr J J Mgwenya
- Mr G Tosen
- Dr A Mushunje
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MESSAGE FROM A BCOM STUDENT: LIZA RAUTENBACH-WILSON
– Speech delivered at Graduation
When I was asked to be the student speaker for our 2018 Graduation, I was excited and nervous at the same time, I knew I had to come and tell our story. So, to start our story I need to quote Frank A. Clark, the former American Politician who once said “If you can find a path with no obstacles, it probably doesn’t lead anywhere” and everyone sitting here today would have experienced this as being very true, to be here, where we are, we had to overcome obstacles.

Personal obstacles, that you can say with pride you have overcome.

Shared obstacles, we’ve shared along the way. Everyone here would have shared the sacrifice, sacrificing time, family, loved ones. We’ve all missed out on something, be it a wedding, birthday, family event.

We all know it was a path littered with empty bio plus sachets, energy drinks, smashed alarm clocks, scattering of divorce paper threats and 03:00 am panic attacks.

We have shared the looming deadlines, tripling of our caffeine intake, manic midnight spelling and grammar checks, nostalgic memories of sleep and that 11:59pm Moodle stare down with the hope it is on time.

Yes, this course started with a classroom full of bright, beautiful and impassioned young minds eager to achieve, and ended looking like a scene from the walking dead. However, what we received on this path is a gift far greater than any other, far greater than money, status or any material objects, anyone could have offered us, what we have received is a gift no one will ever be able to take away from us … the gift of knowledge.

Albert Einstein wrote, “Education is not the learning of facts, but the training of the mind to think … Education is what remains after one has forgotten what they learned in school”. The gift of knowledge is not one that tells you what to think, but one that opens your mind to think for itself. It arms you with the tools not only to perfect old paths but forge new ones.

David F. Wallace told a story at his commencement speech at Kenyon College 2005. It went something like this:

“There were these two young fish swimming along and they happen to meet an older fish swimming the other way, who nods at them and says “Morning, boys. How’s the water?” As the two-young fish swim on, then one eventually looked over at the other and goes “What the hell is water?” Wallace reminds us that we often forget, or take for granted, the most obvious things around us.

He acknowledges that it’s difficult to stay aware of what’s happening in the world, especially when you’re too busy dealing with the monologue inside your head.

That’s what an education is all about. It’s learning how to think, exercising some degree of control over your thoughts, so you can choose what to pay attention to and what not. Knowledge allows you choice. Instead of blindly following along a path others have influenced you down, knowledge allows you to decide, what are you willing to spend your moral capital, intellectual capital, as well as money in pursuing outside of the walls of the University?

You don’t overcome the obstacles along this path without help, so I would like to take the time to thank the lectures for stretching our minds, giving us the tools to develop our new skills and building confidence to present, as I am doing today.

To our Da Vinci Key account managers, who kept us from drowning under deadlines and made sure we had support whenever we asked. Our families sitting here today, thank you for supporting us and sharing in our achievement.

I’d like to leave you with a quote from Sydney J Harris, former American Journalist “Most people are mirrors, reflecting the moods and emotions of the times, few are windows, bringing light to bear on the dark corners where troubles fester. The whole purpose of education is to turn mirrors into windows.”

So, leave here today with your gift and share the light with everyone to see their way through all the paths, we all must walk down, creating a better tomorrow for us all.

Thank you for your time, I wish you a well-deserved congratulations day.

Liza Rautenbach-Wilson
BCom (Business Management)
10 | INSTITUTIONAL RESEARCH OUTPUT: NQF LEVEL 7
INSTITUTIONAL RESEARCH OUTPUT: NQF LEVEL 7 | 10

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<td>Operating systems, Short Message System (SMS) communication and customer retention: A First National Bank (credit card collections) investigation</td>
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Understanding the relationship between arrears Home Loan accounts and team productivity of staff: A First National Bank perspective
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The role of Human Resource Management practices and policies on employee performance at First National Bank Home Loans
11 | THE 2018 ANNUAL DA VINCI COUNCIL AWARDS
These awards are conferred on graduates who, over and above their scholarly contributions, have displayed exceptional managerial leadership characteristics. These awards are awarded annually.

**THE BENJAMIN ANDERSON AWARD FOR WORK BASED LEARNING**
In view of the fact that the first cohort of BCom students graduated during 2015, a new academic award for academic excellence was instituted, aimed at recognising outstanding performance in respect of the BCom (Business Management) qualification. A central feature of the BCom (Business Management) qualification is the Work Based Challenge (WBC) - an approach unique to The Da Vinci Institute. The award will be presented to a student who has passed the programme cum laude and who has achieved a minimum of 75% in his/her Work Based Challenge.

Recipient: Mr John Darren Cronjé

**THE DA VINCI PRESIDENT AWARD**
The Da Vinci President’s Award recognises students who, through excellence in applied research, contribute to an alternative understanding of what constitutes the Da Vinci Institute’s offerings related to Managerial Leadership in Technology, Innovation, People and Systemic Thinking. The student(s) should, through research activities, demonstrate an unquestionable contribution(s) towards the creation of new knowledge and application as related to the Management of Technology, the Management of Innovation, the Management of People and the Management of Systems within a specific organisational context.

Recipient: Mr Ross Gary Saunders

**THE NATALIE DU TOIT AWARD**
This award recognises individuals who display persistence, cheerfulness, a sense of adventure, tenacity, courage and helpfulness to others and who have either ably balanced their academic studies with extramural activities, or have balanced their achievements with real life challenges and opportunities in such a way as to benefit society at large.

Recipient: Mr Zain Reddiar

**THE DA VINCI COMMUNITY SERVICES AWARD**
The Da Vinci Institute has incorporated Community Services as a key component in all offerings to clients. This award recognises students who demonstrate a commitment towards community involvement and who have included community activities into their learning and research.

Recipient: Dr Gonaloshnee Naidoo
Recipient: Dr Jubril Adefoyin Adeojo

**THE DA VINCI MANDALA RESEARCH AWARD**
The Mandala is a symbol of integrating different parts into a synthesized archetype of subjective truth. The more we become integrated, or the more a piece of work is integrated, the more authentic it becomes in striving towards wholeness.

Recipient: Ms Elmarie Cronje

**THE DA VINCI PhD EXCELLENCE AWARD**
The aim of the Da Vinci PhD Excellence Award is firstly, to acknowledge academic excellence demonstrated by a Da Vinci PhD graduate; secondly, to serve as an example of excellence for other Da Vinci students; and thirdly, to promote The Da Vinci Institute through the quality of his/her research.

Recipient: Dr Giovanni Vincenzo Mariano

**THE DA VINCI LAUREATE AWARD: SOCIAL ARCHITECTURE**
A Da Vinci Laureate is expected to provide insights into complex systems and to make contributions to society at large. They are also recognised for honourable service to their country through applied engagements. Laureates distinguish themselves by engaging in specific domains within society and thereby contribute to the re-configuration of the social system at large.

Recipient: Mr Jack van der Merwe
12 | PUBLICATIONS AND CONFERENCES
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Conferences and Colloquiums:


10. Landman, M. 2018. Information Technology Colloquium - An opportunity to explore tomorrow’s trends! The Da Vinci Institute. 5 Dec 2018

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<td>07 June Theoretical and Conceptual Frameworks Dr Ronel Blom</td>
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<tr>
<td>12 June Bulletproof the Research Design and Methods! Dr Ronel Blom</td>
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<td>14 August Finally! Making Sense of Data Collection and Analysis Dr Ronel Blom</td>
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<td>09 October Philosophical Underpinnings of Research Studies! Dr Ronel Blom</td>
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<th>INAGURAL LECTURES - 2018</th>
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<td>17 August &quot;Rethinking and Revolutionising Postgraduate Supervision: Supervision Vs Share vision at Institutions of Higher Education&quot; Prof Richard Chinomona</td>
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<td>16 March &quot;Wellness - Narrative for Total Health Care&quot; Prof Maraiaus Herholdt</td>
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<td>13 November Academic Writing! Mary-Anne Porter</td>
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<th>PUBLIC LECTURES - 2018</th>
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<td>10 October The theory that underpinned this public lecture dealt with the complex problem of how individuals, groups, organisations, and societies handle changing life conditions. Thinking systems in people, organisations, and society help us to understand the adaptive capability of changing environmental conditions. Dr Rica Viljoen</td>
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<th>SUPERVISOR WORKSHOPS - 2018</th>
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<td>Continuous Professional Development Workshop</td>
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<td>(Dr Mario Landman)</td>
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### CURIOSITA SESSIONS - 2018

#### Student Presenters:

**February**  
“Chief Executive Officer (CEO) Competency Dynamics in State Owned Enterprises (SOEs) in South Africa.”  
Mr Sifiso Falala, Chief Executive Officer and Founder at Plus 94 Research

**March**  
“Impact of Organisational Culture on Employee Creativity and Organisational Innovation in Zesa Enterprises (PVT) Ltd Manufacturing Company and Astra Paints, a Paint Manufacturing Company.”  
Mr Patience Nyawo, Human Resource Manager at Zesa Enterprises.

**April**  
“A Framework for Organisational Performance Measurement and Evaluation in the Public Sector.”  
Mr Oupa February Mopaki, Chief Executive Officer at Media, Information and Communication Technologies Sector Education and Training Authority (MICT SETA).

**May**  
“Enabling Sales through Applied Learning - A Case Study.”  
Indira Bhagaloo, Head: Retail and Relationship Banking Academy at Cornerstone Performance Solutions.

**June**  
“A Framework for the Use of Competencies as Part of Talent Management for Senior Managers in a South African Government Department.”  
Romeo Adams, Deputy Director-General at The Department of Justice and Constitutional Development.

**July**  
Cliff will discuss his research to date (an aphorism for an experience-age learning architecture) and engage with audience insights.  
Cliff Brunette, Learning Experience Specialist at Cornerstone Performance Solutions.

**August**  
“Investigating the Potential of an Integrative Wellbeing Framework for Human Actualisation.”  
Jane Mackenzie, Executive Director at Eco Bio Balance (Pty) Ltd.

**September**  
“Lean Thinking Driving Employee Self-empowerment, Engagement and Performance: A South African Perspective.”  
Rajas Pillay, Group HR Director at Interwaste (Pty) Ltd.

#### Guest Presenters:

**February**  
Mr Bruce Diale, Chief Executive Officer at Brucol Global Development

**March**  
“Management of Technology.”  
Mr Ross Saunders, Director: Global Technology Services at Cura Governance, Risk & Compliance Management Solutions

**April**  
“Management of People.”  
Mrs Teryl Schroenn, Chief Executive Officer at Accsys (Pty) Ltd.

**May**  
“The Role of Marketing in the Management of Innovation.”  
Tanya Boretti, Marketing Manager at hearX Group.

**June**  
“Management of Systems: A view from Space!”  
Duncan Claude Stanton, CEO at Space Advisory Company.

**July**  
“Technology Enabling Recognition of Prior Learning - Different ways we are Adding to the Learning Revolution.”  
Darryn Van Den Berg, Visionary MD at Passion4Performance Group.

**August**  
“Managing an Engineering / Development Department.”  
Danny De Gouveia, Development Manager at Netstar Altech.

**September**  
“The Implementation of Technology through Innovation within the Pharmaceutical Industry - Pharmacy Procurement.”  
Corné Korb, Acting Managing Director at X/procure Software.

**October**  
“The Relationship between Project Complexity, Risk Management Maturity and Competencies in Project Risk Management.”  
Dr Egan Naidoo, Chief Advisor (Acting) - Quantitative Risk Analysis at Eskom.

**November**  
“Relevance and Competitiveness.”  
Eileen Wilton, Chief Executive Officer at Crayon Digital.
15 THE TIPS™ MANAGERIAL LEADERSHIP FRAMEWORK
Figure 1: The TIPS™ Managerial Leadership Framework

The seven (7) layers of the TIPS™ Managerial Leadership Framework offers a multi-focal lens into emerging realities as illustrated by Figure 1 and explained in the preceding sections.
The intent of the The Da Vinci Institute’s TIPS™ Managerial Leadership Framework is to provide a systemic awareness of the multiple sub-systems at play within the workplace; evoking an awareness of existing mental models and the ability to re-think and dissect assumptions about work performance. In applying this complex systemic lens, individuals are afforded an opportunity to make sense (sense making) of their own reality in relation to the conceptual frame. In doing so, the emergence of additional and/or similar managerial leadership competencies and practices affords individuals the opportunity to co-create alternative interpretations, perspectives, and/or conceptual frameworks to cooperatively navigate change and add new knowledge to the domain.

The TIPS™ Managerial Leadership Framework aims to contribute towards the overarching field of Business Leadership. The framework was developed out of a longitudinal study conducted utilising self-administered questionnaires and semi-structured interviews. This involved a large number of organisations including emerging, small, medium and large enterprises over two Decades.

THE SEVEN LAYERED TIPS™ MANAGERIAL LEADERSHIP FRAMEWORK

1. Actualising a systemic perspective
   This is a process of divergence and convergence in an attempt to synthesise and integrate all seemingly related and unrelated activities to enhance performance in the workplace, and in doing so, probing problems with a view to create sustainable solutions. This includes internal synovation (includes integrating systemic and innovation constructs) and organisational ecology that allows the sum of the parts to become greater than the whole (systems thinking).

2. Honing an awareness of the Macro, Meso, Micro and Exo systems that impact reality
   Ecologically engaging (done through the macro, meso, micro and exo systems) with complex constructs, could facilitate the broadening of horizons by deepening insights regarding the interconnectedness of theory and practice and how such may impact society at multiple levels.

3. Recognising the need to interlink the management of innovation, technology and people
   The management of technology involves the ‘tools’ and metrics organisations use to gain competitive advantage. Simplistically it is ‘a way of doing things better’ and may involve the use of anything from computers and hi-tech, to simple hand-held tools. In this context, we refer to the small ‘t’ in technology where organisations manage their technology to best position their products or services to maximise their market share.

   The management of innovation is how an organisation stimulates and capitalises on the ideation process, to develop an innovative product or service which has either commercial or social value. It is about hard metrics such as income generated from new products, processes or services, as well as success rates in commercialising new offerings.

   The management of people involves the human interface. It embraces both the employee and the end user. It is about the processes that organisations deploy in engaging people, how people choose their levels of engagement, creating and sharing of knowledge by all involved, their participation in incentive practices and their contributions towards securing the longevity of the organisation.

4. The emergence of an engaged, aligned and agile workforce

   4.1. Engagement
   Occurs when there is a systemic (systems thinking) interlink between management of innovation and management of people practices in the workplace, then people as knowledge workers/artisans tend to become more engaged across the organisation and society at large. This process is often characterised by specific Managerial Leadership competencies (discussed as part of layer 5).

   4.2. Agility
   Occurs when there is a systemic (systems thinking) interlink between management of innovation and management of technology practices in the workplace, then people as knowledge workers/artisans tend to become more agile across the organisation and society at large. This process is often characterised by specific Managerial Leadership competencies (discussed as part of layer 5).

   4.3. Alignment
   Occurs when there is a systemic (systems thinking) interlink between management of technology and management of people practices in the workplace, then people as knowledge workers/artisans tend to become more aligned across the organisation and society at large.
large. This process is often characterised by specific Managerial Leadership competencies (discussed as part of layer 5).

5. The development of specific Managerial Leadership competencies

Business leadership competencies are specific skilled knowledge (skillset) required to effectively execute agreed accountabilities within the role as business leaders that build aligned, engaged and agile workforces.

5.1. Engagement

The following managerial leadership competencies tend to emerge once the engagement resulting from the process of managing innovation and people takes place:

5.1.1. Probing reflective engagements

The term ‘reflective practice’ derives from the work of Dewey (1910) and Schon (1983) and Kolb (1984). Dewey (1910) wrote that reflective practice refers to “… the active, persistent and careful consideration of any belief or supposed form of knowledge in the light of the grounds that support it.”

Dewey (1910) went on to say that being reflective “… enables us to direct our actions with foresight “… enables us to know what we are about when we act.”

The inference here is that knowledge workers/artisans could develop a questioning approach towards probing problems and reflect on why things are as they are, and how they could be.

5.1.2. Demonstrating social and emotional intelligence

The ability to connect to self and others in a deep and direct way, to sense and stimulate reactions and desired interactions.

Reflective practices address the importance to master social and emotional competencies needed to apply agile business leadership practices (discussed as part of layer 6).

5.1.3. Cross-Cultural Engagement

Cross-cultural engagement is related to the awareness of the self in context and parallel to that the awareness of others within their context and how those awareness’s will interface and infuse and embrace. This is reflected in the immersion of another’s culture in order to harness deeper insights and understanding of being a global citizen. It is also the ability to operate in different cultural settings and capitalise on knowing the potential this type of engagement has.

5.2. Agility

The following managerial leadership competencies tend to emerge once the agility resulting from the process of managing innovation and technology takes place:

5.2.1. Problem Probing

As informed by the need to rationalise and be practical, business leaders seem to have developed the need to create just in time (JIT) solutions for what is often complex challenges. In this regard, the notion of problem solving tends to become the dictum. In appreciating the richness of being agile, knowledge workers/artisans have the benefit of probing problems and in doing so appreciating the non-causal and complex problems at play. Through co-operative engagements, the knowledge worker/artisan develops the need to rather focus on the experience and the emergence of new insight rather than giving the right answer. Thus, knowledge workers/artisans do not have the need to say ‘I have the answer’, but rather, it is about what they are seeing and experiencing to create more awareness and insights.

5.2.2. Operationalised ideation - inclusive of novel and adaptive thinking

Utilising the Ideation Theory to ensure a more comprehensive understanding of the realities individuals are surrounded by, which impacts on all facets of an individual’s performance within the work context. Proficiency of thinking and differing with solutions and responses beyond that which is rote or rule-based can be facilitated by involving perspectives of individuals at multiple levels within an organisational context. Design thinking is another critical sense-making tool in explicating the operationalisation of ideation in the work context.

5.2.3. Embracing trans-disciplinary learning

Embracing trans-disciplinary learning and ability to understand concepts across and beyond multiple disciplines in juxtaposition to multi-disciplinary and inter-disciplinary perspectives. Jensenius (http://www.arj.no/2012/03/12/disciplinarities-2/) explains the various levels of disciplinarity in the following ways:
Intra-disciplinary - working with a single discipline
Cross-disciplinary - viewing one discipline from the perspective of another
Multi-disciplinary - people from varied disciplines working together each drawing on their disciplinary knowledge working with several disciplines
Inter-disciplinary - working between several disciplines using a synthesis of approaches
Trans-disciplinary - working across and beyond several disciplines.

5.3. Alignment
The following managerial leadership competencies tend to emerge once the alignment resulting from the process of managing technology and management of people takes place:

5.3.1. Becoming a Global and Digital Citizen
Global and digital citizens at work have the ability to become part of a global community of compassionate citizens who create and who care. In doing so, such individuals will, in the way they co-create meaning, for probing reflective engagements, cultivate digitally and globally minded citizens who are responsible and ethical, serving as remarkable resources to their networks.

5.3.2. Applying Computational Thinking
People functioning in the world of work who have the ability to translate vast amounts of data to construct concepts, and to understand data-based reasoning by applying a combination of algorithmic and androrythmic principles. In doing so, such individuals will develop sets of problem probing methodologies, which will involve expressing problems and the related solutions in ways a computer could execute these solutions.

5.3.3. Personal Knowledge Mastery (PKM)
Mastery of personal knowledge includes sense-making as the ability to determine the deeper meaning or significance of what is being expressed. This involves the need at an individual level to take control of the multitude of existing perspectives regarding reality and synthesise such, and articulate these perspectives - with the intent to ground the individual in relation to others. Often, individuals see grounding as a current point in time, which often becomes restrictive.

However, personal mastery is actualised when individuals are not only able to ground themselves in the present, but also envision a future self, thus, harnessing past and presence as an uninterrupted continuum.

6. The revealing Managerial Leadership practices
Managerial Leadership practices refer to specific actions taken by organisations and business leaders to establish and manage effective working relationships in order to co-create a results driven creative networked workplaces - this is termed a wirearchy. Hierarchies are built on trust, knowledge, personal integrity and a safe to fail learning culture where employees can feel free to express themselves in their work the best way they can, and in doing so, employees could reach their true potential.

6.1. Co-create meaning (value adding)
Ikigai is a Japanese concept that alludes to the purpose of why one is motivated to get up each day - in other words what makes life worthwhile. The reason for being answers the crucial question of existence (purpose) for both individuals and organisations. When synergy is found between the individual's ikigai and the organisation's ikigai they both find soul. When soul is found, energy is released back into the system, this energy could be referred to as engagement. Engagement is a crucial component of high performance organisational cultures.

Co-creating meaning refers to the practice in which people choose to approach interaction with others in order to create a working environment of choice. The fact that meaning is co-created affords an individual the opportunity to find ikigai (purpose), which generates and releases energy back into the system in the form of engagement.

6.2. Co-create direction
Individuals and teams work with greater commitment when they are guided by a vision and believe their efforts can make a difference. By sharing their vision and values, business leaders keep the mission out front, like a beacon, guiding people toward greater achievement.
6.3. Facilitate conversation
Conversation is a powerful learning tool. People want to participate in decisions that affect their daily work lives. The practice of facilitating conversations is about a conscious choice to involve the relevant stakeholders participating in the problem-probing process. Business leaders should leverage the interest and talent of those around them by including them appropriately in the decision-making process. In a systems-thinking environment, a business leader would have the ability to see the sum of the parts contributing to the holistic outcomes. By seeking the involvement of relevant stakeholders, various advantages could be leveraged, such as, but not limited to more effective communication, better informed and more quality-orientated decision-making, increased commitment to action and higher levels of trust.

6.4. Engage creative networks
Creating a results-driven creative networked workplace (Wirearchy) built on a culture of trust, knowledge, personal integrity and safe to fail learning culture as earlier described, is a key business leadership practice and accountability.

Engaging creative networks enables knowledge sharing, encourages diversity of thought, and promotes experimentation in a safe to fail working environment, which stimulates innovation (Jarche 2014). The key principles of creative networks as outlined by Jarche (2016) are a wierarchy, innovative and contextual methods, self-selection of tools, willing cooperation, duty of being transparent, sharing our knowledge, self-determination and distribution of power. The roles and functions of the business leader in a networked workplace are to improve insights, provide learning experiences, focus on the ‘why’ of work, and assist in making better networked decisions, be knowledge managers and be an example.

6.5. Promote experimentation
Experiential learning has largely been promoted by David Kolb (1984) in an attempt to sensitise society about the benefits of experimentation in learning and working could occur at both individual level and at an organisational level. Underpinned by the principles of divergent thinking, assimilated thinking, convergent thinking and accommodative thinking and substituted by Gelb (2006), with reference to Leonardo Da Vinci’s principles of Curiosita (seeking the truth), Dimostrazione (taking responsibility), Sensazione (sharpening awareness), Sfumato (engaging the shadow), Corporalita (nurturing integration), Connessione (embracing holism) and Scienza (cultivating balance), individuals could develop an awareness of the power of integrating different modes of thinking successfully co-creating lasting solutions.

The practice of promoting experimentation and taking risks in a safe-to-fail environment encourages self-reflection, stimulates novel and adaptive thinking and assists in overcoming habits that may restrict thinking. Applying effective communication strategies, consciously supports the expression of ideas and aspirations, which allows business leaders to find their voice. This practice optimises collaboration and facilitates and grows cooperative mindsets.

6.6. Celebrate synergised accomplishments
- Build vitality
Authentic acknowledgement of individuals and teams performance and contributions are invigorating and inspires them to do even better.

The practice to celebrate accomplishments also encourages individuals and teams to seek feedback and constructive criticism. Acknowledge current shortcomings and challenges all to improve performance. Taking time out to celebrate accomplishments could lead to an increased self-esteem and a sense of commitment to the group or organisation.

7. Resultant alternative (emerging) workplace realities
The TIPS™ Managerial Leadership Framework is an emerging development construct based on the belief that business leadership is ultimately about facilitating a creative networked learning environment. Critical characteristics include: being results driven, building on trust, knowledge, credibility and a safe-to-fail work culture, conducive to the co-creation of the following emerging workplace realities:

There are three overarching workplace realities that transpire and these are coordinated, collaborative and/ or cooperative organisational realities. These realities are underpinned by the exchange of and level of energy flow versus social interaction, and both energy flow and social interaction impact on these realities each one serves a purpose dependent on context.
In summation, the management of technology, innovation and people allows for the emergence of three processes (engagement, alignment and agility), as a consequence of these processes, nine Managerial Leadership competencies may emerge. A blend of these competencies are utilised to ensure engagement, alignment and agility are mobilised. Resulting from the mobilisation of the processes and related competencies, six practices should come to the fore, and as a result, there could be three overarching workplace realities that transpired, being either a coordinated, collaborative and/or cooperative workplace reality. These realities are underpinned by the exchange of energy flow and social interaction. These practices touch the workplace realities in a layered sense, where these practices ‘appear’ in either a coordinated, collaborative or cooperative way, or a combination of them.

For example, the practice of promoting experimentation could happen as part of a coordinated, collaborative and/or cooperative reality, depending on the levels of energy flow and social interaction that occur. However, if a practice is predominantly coordinating in structure, the reliance on the creator (whomever the leader is) is much more onerous from a sustainability point of view as opposed to that same role in a collaborative environment and vastly different in a cooperative environment where all the stakeholders are involved as networked knowledge workers/artisans.

The TIPS™ Managerial Leadership Framework is intended to facilitate and influence the crafting of agile, aligned and engaged leaders, passionate about co-creating innovative ecosystems, contributing towards socio-economic and transformational agendas. In view of the aforementioned framework, the institute developed an implementation framework to not only operationalise the business leadership framework, but also to ensure the linkages to real world situations. Refer to Figure 2 for the TIPS™ Managerial Leadership Implementation Framework.

### Table 1.1: Emerging workplace realities

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<tr>
<th>EMERGING WORKPLACE REALITY</th>
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<tr>
<td>1.1 Coordinated workplace</td>
<td>A coordinated workplace reality refers to a task and deadline driven work environment, and action is taken based on the specialist/expert knowledge as promoted by an individual in a position of power.</td>
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<tr>
<td>1.2 Collaborative workplace</td>
<td>A collaborative workplace reality refers to an engagement amongst members of a community of practice, where ideas as introduced by a central figure within the hierarchy of the workplace are explored and tested by participation. This is in an attempt to amend/alter proposed business solutions to complex business challenges.</td>
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<tr>
<td>1.3 Cooperative workplace</td>
<td>A cooperative workplace reality refers to a self-directed choice to engage, where knowledge workers/artisans choose to give of themselves, and collect from others that have also chosen to give of themselves. Cooperation works from the position that in such a reality there is abundance of knowledge, skills, potential and possibilities which allows cocreation to flourish in an attempt to establish not only what is perceived as a possible outcome, but rather to transcend the boundaries of what is thought to be possible.</td>
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The tt100 Awards Programme, with support from various partners (including The Department of Science and Technology, MTN and PwC) was launched in 1991 by the South African Engineering Association (SAVI). The programme has been focused on drawing attention to the importance of developing a local culture of technological innovation and excellence. tt100 has evolved into one of the foremost business awards programmes that lauds entities for their prowess in the Management of Technology, Innovation, People, Systems, Research and Sustainability, notwithstanding their industry. The programme is an effective vehicle for achieving growth and innovation advancement in our country and beyond, whilst raising awareness of the critical need for entities to embrace the Management of Technology, Innovation and People in a systemic and sustainable manner. Since 1994, tt100 has enjoyed strong endorsement by the Department of Science and Technology (DST) as the major government sponsor. Both public and private sector adjudicators have as part of the adjudication process provided expertise to those that participate in the programme. In 2018 tt100 had 192 companies who entered across eight categories. 64% of the semi-finalists were from emerging enterprises. 2018 provided excellence in the programme with 103 category finalists and 27 category winners across emerging, small, medium and large enterprises. The tt100 programme forms part of The Da Vinci Institute’s annual business operations.

The winners and finalists for the 2018 tt100 Business Innovation Awards Programme in each category are:

**THE WINNERS IN THE MANAGEMENT OF TECHNOLOGY:**

**Emerging enterprise**
*Winner:* FetchThem

**Finalists:**
- AvantCore (Pty) Ltd
- VNI Consultants
- SVA Innovate

**Small enterprise**
*Winner:* Air Blow Fans

**Finalists:**
- Cura Risk Management Software (Pty) Ltd
- X/procure Software SA (Pty) Ltd
- Knowledge Objects

**Medium enterprise**
*Winner:* Accsys (Pty) Ltd

**Finalists:**
- e4 Strategic
- Bumblebee Consulting (Pty) Ltd

**Large enterprise**
*Winner:* Netstar

**Finalists:**
- SVA Holdings
- De Beers Group Services
- PFK Electronics (Pty) Ltd
THE WINNERS IN THE MANAGEMENT OF INNOVATION:

Emerging enterprise
Winner: Roman Handt
Finalists:
• FetchThem
• AvantCore (Pty) Ltd
• SVA Innovate

Small enterprise
Winner: Cura Risk Management Software (Pty) Ltd
Finalists:
• Air Blow Fans
• X/procure Software SA (Pty) Ltd
• Knowledge Objects
• iPulse Systems (Pty) Ltd
• Octagon Business Solutions

Medium enterprise
Winner: Accsys (Pty) Ltd
Finalists:
• e4 Strategic
• Bumblebee Consulting (Pty) Ltd

Large enterprise
Winner: SVA Holdings
Finalists:
• Netstar
• De Beers Group Services
• PFK Electronics (Pty) Ltd

THE WINNERS FOR MANAGEMENT OF PEOPLE:

Emerging enterprise
Winner: Passion4Performance International (Pty) Ltd
Finalists:
• Roman Handt
• SVA Innovate
• VNI Consultants

Small enterprise
Winner: Air Blow Fans
Finalists:
• X/procure Software SA (Pty) Ltd
• Knowledge Objects
• Octagon Business Solutions

Medium enterprise
Winner: Accsys (Pty) Ltd
Finalists:
• Bumblebee Consulting (Pty) Ltd
• e4 Strategic

Large enterprise
Winner: Netstar
Finalists:
• De Beers Group Service
• SVA Holdings
• PFK Electronics
### THE WINNERS IN THE MANAGEMENT OF SYSTEMS:

<table>
<thead>
<tr>
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<tr>
<td>Emerging</td>
<td><strong>AvantCore (Pty) Ltd</strong></td>
<td>SVA Innovate, Roman Handt, VNI Consultants</td>
</tr>
<tr>
<td>Small</td>
<td><strong>Air Blow Fans</strong></td>
<td>X/procure Software SA (Pty) Ltd, Knowledge Objects, Cura Risk Management Software (Pty) Ltd, Octagon Business Solutions</td>
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<tr>
<td>Medium</td>
<td><strong>Accsys</strong></td>
<td>Bumblebee Consulting (Pty) Ltd, e4 Strategic</td>
</tr>
<tr>
<td>Large</td>
<td><strong>De Beers technologies</strong></td>
<td>Netstar, PFK Electronics, SVA Holdings</td>
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### THE WINNERS IN THE MANAGEMENT OF EXCELLENCE IN SUSTAINABILITY:

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<th>Winner</th>
<th>Finalists</th>
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<tr>
<td>Emerging</td>
<td><strong>SVA Innovate</strong></td>
<td>Passion4Performance International, VNI Consulting, Ebukhosini Properties 777 (Pty) Ltd</td>
</tr>
<tr>
<td>Small</td>
<td><strong>Air Blow Fans</strong></td>
<td>iPulse System (Pty) Ltd, X/procure Software SA (Pty) Ltd, Octagon Business Solutions</td>
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