UNIVERSITY OF MAURITIUS

INNOVATION WEEK 2020

GOVERNMENT-ACADEMIA-INDUSTRY PARTNERSHIP: A KEY DRIVER OF INNOVATION

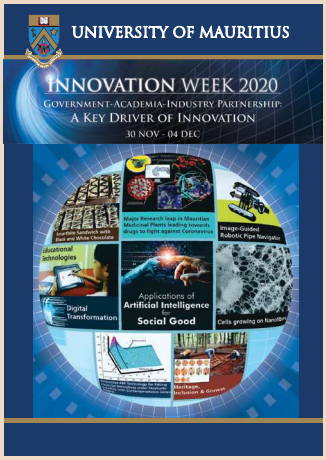
30 NOV - 04 DEC

Report

Preface

The organisation of the Innovation Week, a first of its kind at the UoM and at national level, held on 30 November to 4 December 2020 is the culmination of all our efforts to boost Innovation.

This first edition featured the tripartite relationship between the University, the public sector and the private sector and the ecosystem required for innovation to thrive. Students, Staff, Private Sector Firms and Ministries have all been actively involved, putting minds together to grow innovation in our country.



At the University of Mauritius, innovation was put right at the heart of our vision for a modern University back in March 2017. It was a way to contribute more effectively and in a more impactful manner to the country's development. We worked on several fronts to build the ecosystem to transform that vision into concrete actions. In 2019, we reengineered our Teaching & Learning by introducing the LCCS and intensified industry programmes. The number of PG programmes on offer has also increased.

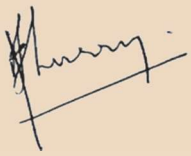
Research is key to Innovation. It was important to change gear and boost research output. We invested a lot into funding research through a bottom-up as well as a top-down approach; we created Poles of Research Excellence and Poles of Innovation which gave an incredible encouragement to academic staff; we re-organised the Doctoral School. The outputs are tangible: significant increase in the number of research publications, overall funding for research increased 6-7 fold, new MPhil/PhD registration on the rise.

Developing the concept of an entrepreneurial university also forms an integral part of that modernisation strategy. The UoM Agri-Tech Park, which is a platform to develop modern agriculture in collaboration with the public and private sectors, is now a reality. The setting-up of the e-Library is another major achievement in the digital transformation of the UoM. Access to information and knowledge being crucial for innovation, the e-Library has been a major tool for our students and staff during the confinement. UoM also extended access to the Mauritian public free of charge during the sanitary curfew.

Innovation cannot be developed in a nutshell. We have to work closely with the public and private stakeholders. We have set up with the Traffic Management and Road Safety Unit of the Ministry of Land Transport and Light Rail a Road Safety Observatory. We are also currently working closely with the Ministry of Environment on the setting up of an Observatoire de l'Environnement, which will include a Research Environment Observatory to be located at the UoM.

Recently, we had discussions with the Mauritius Chamber of Commerce and Industry, Business Mauritius and Mauritian Manufacturers Association to intensify our partnerships.

We have the pleasure to present the Innovation Week 2020 report which summarises the main points on each day's agenda and importantly outlines a set of recommendations to further foster innovation in our country. The setting up of a National Innovation System is one of those key recommendations which should help organise and boost innovation.



Prof Dhanjay Jhurry, *CSK, GOSK, FAAS*
Vice-Chancellor

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Day 1- Monday 30 November 2020

Objective

The University of Mauritius organised and hosted the UoM Innovation Week 2020 from 30 November to 04 December 2020. This was a first of its kind event, aimed at enhancing academia, public sector and private sector linkages to foster Innovation in Mauritius.

Each day of the Innovation Week was designed to target a specific objective and a specific audience. On Day 1, a Hackathon was launched which mobilized students and staff during 3 days. Day 2 was meant to promote innovation and entrepreneurial mindset amongst staff. Day 3 and Day 4 were devoted to discussions with the private and public sectors respectively geared towards their needs and expectations from UoM and ways and means UoM can respond to their demand. Day 5 was led by the University-Industry Consultative Committee which took stock of the activities of each day and brainstormed with staff on a set of recommendations to foster innovation.

Opening Ceremony

In his welcome address, the Chancellor, Dr J C Autrey reminded the audience that Mauritius is no stranger to innovation, pointing to the imprint at world level left by the Mauritian sugar industry in the last century. According to him, one of the reasons for the low level of innovation in Mauritius is that despite the economic progress since independence the main sectors have not embraced the value of R&D.

Dr J C Autrey, Chancellor, UoM making his Welcome Address at the Opening Ceremony

The Vice-Chancellor, Prof D Jhurry, on his part, stated that Innovation is at the heart of the new UoM Vision adopted in 2017 and enumerated the various initiatives taken by the University to build the ecosystem to transform that vision into concrete actions. He stressed on the need for academia, the public and the private sectors to work closely together to boost innovation, hence the organisation of this first edition of the UoM Innovation Week. The Vice-Chancellor also put forth two interesting proposals – the creation of an Innovation Platform that could link new ideas and opportunities of researchers to entrepreneurs and funds to help promote sustainable innovation and the concept of Corporate Sustainability Responsibility – a means for firms to re-invest in sustainable innovation.

Prof D Jhurry, Vice-Chancellor, delivering his Address

Day 1- Monday 30 November

The Chief Guest, the Vice-Prime Minister and Minister of Education, Tertiary Education, Science and Technology, who was detained due to an unforeseen commitment, delegated the Senior Chief Executive (SCE) of the Ministry, Mr R. Meettook, to deliver her address. The Ministry commended the UoM for taking the lead in organising the Innovation Week – innovation being of vital importance in the current context. The Ministry also pointed to the crucial role that universities have to play in the advancement of science, technology and innovation.

Opening of the UoM Innovation Week 2020 by Mr R Meettook,
Senior Chief Executive, Ministry of Education, Tertiary Education, Science and Technology

The SCE declared the Innovation Week open. He also launched the 4th (Special) Edition of the UoM SDGs eNewsletter, dedicated specifically to the Innovation Week.

Launching of the 4th (Special) Edition of the
UoM SDGs eNewsletter

UoM Hackathon 2020: Building Innovative Solutions for Healthcare and Agriculture

This competition was organised to enable UoM Students unleash their creative potential and solve real problems faced by industry in the healthcare or agricultural sector and provide solutions to these problems through the use of digital technologies. Out of the 240 students who responded to the call for participation, 105 were retained, grouped into 21 teams of 5 students. Mentors from UoM, Industry and the NPCC assisted the participating students through training and feedback.

Launching of hackathon

From the conceptualisation of ideas to the development of prototypes and the final pitching, the participants worked intensively over 3 days (18 hours) which ended on Wednesday 02 December in the afternoon with the assessment by a jury panel, consisting of 9 assessors from both the Industry and the UoM. The winner of the UoM Hackathon 2020 is the "Infinity" Team, which proposed an IoT-based solution to mitigate farmers' intervention during the cultivation process. Their IoT solution is a rover equipped with a robotic arm capable of undertaking basic tasks such as seeding, plant monitoring and irrigation. The first runner-up team proposed a hybrid solution for medical appointments and a smart patient tracking system. The second runner-up team prototyped an automation system for greenhouses.

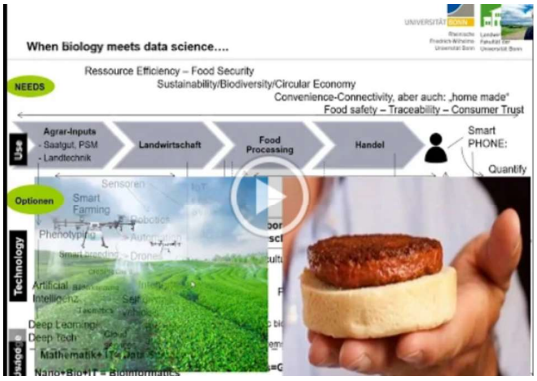
The solution uses IoT technologies and AI to monitor and regulate optimum atmospheric conditions for a more fruitful harvest. In addition to the above-mentioned prototypes, compelling solutions were developed by participants such as: (1) the prototyping of a proactive social distancing system using AI, and (2) a plant disease identification system using AI to prevent the widespread of plant diseases. The winning teams were awarded cash prizes of Rs50,000, Rs30,000 and Rs20,000 offered by IT companies.

The UoM Hackathon 2020 has been an excellent platform to showcase potential innovative technologies that can transform farming, food production and healthcare both locally and internationally.

Keynote Address by Professor Stefanie Bröring

– University of Bonn, Germany

"When Biology Meets Data Science: Interdisciplinarity as a Key Driver for Innovation in the Bio-economy"



As the title suggests, the key element of this keynote was based on the argument for interdisciplinary research for cleaner technologies having potential for fostering sustainable transitions, making the case for a bio-economy. Bio-economy centers on plant biomass whereby the aim is to replace or complement fossil-based resources by plant-derived resources. Research conducted by the Speaker's research team has identified 4 different innovation types necessary for the emergence of a bio-economy namely (1) resource/commodity substitution; (2) new bio-based processes and value chains; (3) new products; and (4) new behavior. New areas of science and technology, such as big data, AI, robotics, etc., are being pulled together to accelerate the emergence of the bio-economy. The role of Universities for interdisciplinary research and innovation is key for the transition towards a bio-based sustainable economy.

Round Table: Making Critical Thinking Critical Through Innovative Pedagogies

The Roundtable gathered about 75 participants, mainly from staff of secondary schools and tertiary education institutions. The presentations of the speakers from the Mauritius Institute of Education(Prof Y Ramma), the University of Mauritius (Dr H Li Kam Wah & Dr S Jawaheer) and Brunel University (Prof M Watts via video conferencing) were focused on (i) the decline of quality of A-level results in biology, chemistry and physics for 2015-2019; (ii) a model for assessing critical thinking of students, based on thinking, reflecting and action; (iii) the preliminary findings of the analysis of the concept of upthrust and ecology among university students, A-level of students and secondary school educators which showed a lack of criticality in reasoning from both students and educators, and (iv) innovative pedagogies to promote critical thinking in the teaching and learning of science. In the ensuing Q&A session, the following were highlighted, namely (i) there must be a change of mindset of teachers if critical thinking is to be promoted; (ii) critical thinking models must be adapted to meet the needs of the learners, and (iii) the tertiary education institutions should work together to produce critical thinkers.

Recommended Actionable Solutions

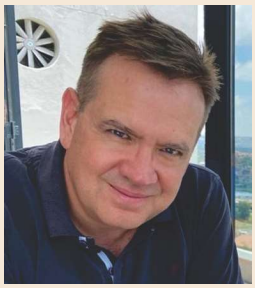
- Establish the Hackathon as a regular event at the UoM.
- Solicit private sector to fund winners of the Hackathon to implement their solutions to problems.
- Constitute a team at UoM to reflect on opportunities of the bio-economy in the Mauritian context.

Day 2-Tuesday 01 December 2020

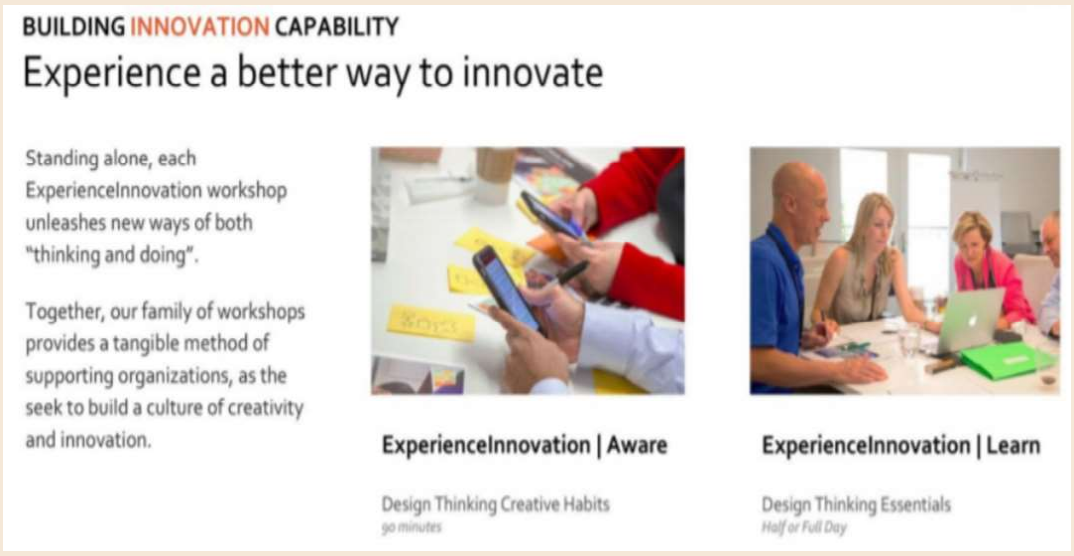
Capacity Building & Training of UoM Staff and Students

Day 2 of the Innovation Week was devoted to capacity building and training of UoM Staff and Students in design thinking and developing an entrepreneurial mindset.

It started with a very interesting and interactive session led by Mr James Van der Westhuizen, Founder and Managing Partner of KnowHouse, SA. The latter introduced UoM Staff and Students to the concept of Design Thinking which is a human-centered approach to solving problems – starting with understanding customer's or user's needs, rapid prototyping, testing and gathering feedback – and finding creative ideas, leading to innovative products or services or processes.



Day 2: Morning Session: Interactive Session on Design Thinking by Mr James Van der Westhuizen



The second half of Day 2 (afternoon session) was devoted to presentations by key officers from EDB, SME Mauritius Ltd and the Industrial Property Office and ended with a keynote address by Mr Marc Blumenthal, Executive Director of Social Ventures Foundation, USA.

Day 2 Afternoon Session: Promoting Entrepreneurship in Mauritius

Day 2-Tuesday 01 December 2020

Mr Dhristysingh Ramdenee, *Head of the Bio-economy Department at EDB*, gave an overview of the innovation status of Mauritius which ranks 52nd among 131 countries in the GII – and detailing Mauritius's strengths and weaknesses in the 7 GII pillars. Although relative to GDP, our country's performance matches expectations for its level of development, the innovation output is low compared to the level of innovation investment. Recommendations to boost innovation outputs include policies and incentives, new sector roadmaps, institutional support and funding, private sector engagements in innovation and innovative projects and universities' engagement in research and innovation. Specific university contribution to corporate innovation can include researcher mobility as pathway for knowledge spill-overs from universities to industry, university and student spin-offs among others. The importance of all stakeholders working in collaboration to promote corporate innovation through entrepreneurship was a main recommendation – one that came out in almost all the other interventions.

Mr Ravin Rampersad, *CEO of SME Mauritius Ltd* gave an overview of the SME sector in Mauritius and expounded on the many difficulties faced by entrepreneurs, describing the Mauritian realities that prevent SMEs to invest in innovation – Mauritius being a limited and highly competitive market, among others. He then explained that Mauritius offers as many opportunities as other countries with several services and tools provided by SME Mauritius, giving some examples of schemes set up and initiatives taken by SME Mauritius to assist SMEs.

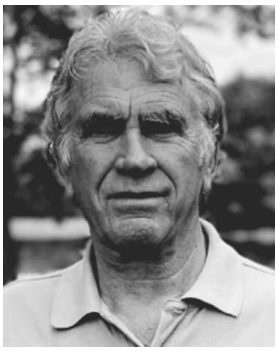
A new 'Innovation Grant Scheme' will be launched in March 2021 to support SMEs, with 2 extra modern studios: one specialised in the manufacturing of leather goods which is also a niche market, and the other specialised in the making of jewelry with 3D printers readily available to design, co-create, and take ideas to the prototyping stage.

According to the Speaker, for the SMEs to adopt the idea of innovation, the outcomes of investing in the latter have to significantly make a difference in their lives. It should give competitive advantages compared to other countries. One of his recommendations is that innovative adoption by SMEs should be through small incremental changes that are continuous. The Speaker insisted on the importance of efficiency and productivity gains for SMEs to be interested in innovation.

Mr Ranjive Beergaunot, *Ag Controller, Industrial Property Office, Ministry of Foreign Affairs*, gave a broad overview of Intellectual Property, Patents, Trademarks, Industrial Design, Utility model, Copyright and Geographic Indication, explaining the importance and the type of protection granted under as well as the benefits of each of the above. He also elaborated on some of the WIPO tools and services that encourage innovation and provide access to information.

Keynote Address by Mr Marc Blumenthal,

Executive Director and Founder, Social Ventures Foundation, USA



The importance of this keynote address was to draw attention to the fact that entrepreneurship and innovation should not only be seen from a business point of view but also and importantly from a social viewpoint – showcasing how social enterprises can create prosperous societies through social innovation.

Through his exposé, the Keynote Speaker, who is a social entrepreneur, explained how the Social Ventures Foundation (SVF) supports and guides social enterprises in the development of products and enterprises that help alleviate poverty. Through R&D, it identifies and promotes social ventures to create markets at the bottom of the pyramid, emphasising on social return over capital return to achieve sustainable solutions to challenges faced by underprivileged people. He showcased his successful social venture, V'ICE, a micro franchise successfully tested and implemented in Haiti.

V'Ice – An Innovative Social Enterprise implemented in Haiti by SVF

The Speaker also invited UoM to participate in next year's EPIC (End Poverty Innovation Challenge). EPIC is a virtual global competition for university students and recent graduates to participate in social entrepreneurship. Another of SVF's upcoming project (expected end of 2021) is the EndPoverty Fund – a highly innovative investment vehicle focused on leveraging funds from the public as an alternative to charitable giving to assist social ventures at the bottom of the pyramid.

Recommended Actionable Solutions

- Encourage academics to use design thinking in their courses to enhance the critical skills of students
- Encourage UoM students to participate in EPIC organized by Social Ventures Foundation.
- Engage discussions with the private sector to promote researcher mobility for knowledge spill-overs from universities to industry.
- To work closely with SME Mauritius Ltd to identify needs of SMEs and enhance their capacity to innovate.

The Way Forward

UoM intends to mount and offer a Bachelor in Social Entrepreneurship

Day 3: Wednesday 02 December 2020

University-Industry Collaborations: The Way Forward

Day 3 was dedicated to interactions between the University and Industry Leaders on how to enhance University-Industry collaborations to promote Innovation. Chaired by Dr Yousouf Ismael, Secretary-General of MCCI and moderated by Prof Dhanjay Jhurry, Vice-Chancellor, UoM, Panelists were requested to ponder on these 3 key questions as a guide for discussion:

1. What is the most urgent challenge in your business sector?
2. What eco-system needs to be put in place to address this challenge?
3. How can you work with UoM to address this challenge?

Panelists were:
Mr Bruno Dubarry, CEO, Association of Mauritian Manufacturers,

Mrs Jaqueline Sauzier, Secretary General, Mauritius Chamber of Agriculture,

Mr Anthony R Coombes, Archemics Ltd,

Mr Shateeaum Sewpaul, General Manager, Harel Mallac Technologies Ltd,

Mr Kendall Tang, CEO, RT Knits Ltd,

Mr Geerish Bucktowonsing, Head of Manufacturing, EDB

Mr Ramanathan Venkatasawmy, Head, Collaborative Economic Development, Business Mauritius.

The following resulted from the discussions:

Agricultural Sector

Problems identified:
1. Significant decrease in agricultural production in Mauritius for the last 6 years.
2. Depend on imported products and their transformation into local products.
3. Not self-sufficient in terms of milk production
4. Aging workforce.

Proposed solutions:
1. Need of think tanks to come up with solutions for this decreased production.
2. Study to be carried out to assess soil fertility.
3. Investigate the effects of climate change on agriculture –agroecology.
4. Promote livestock and milk production.

IT Sector

Problem identified:
Easier nowadays to access knowledge/data from our smartphone, tablets etc and while this provides a favorable environment for collaboration, it also provides concern over data security.

Proposed solutions:
Use of AI, predictive modeling tools to optimize productivity

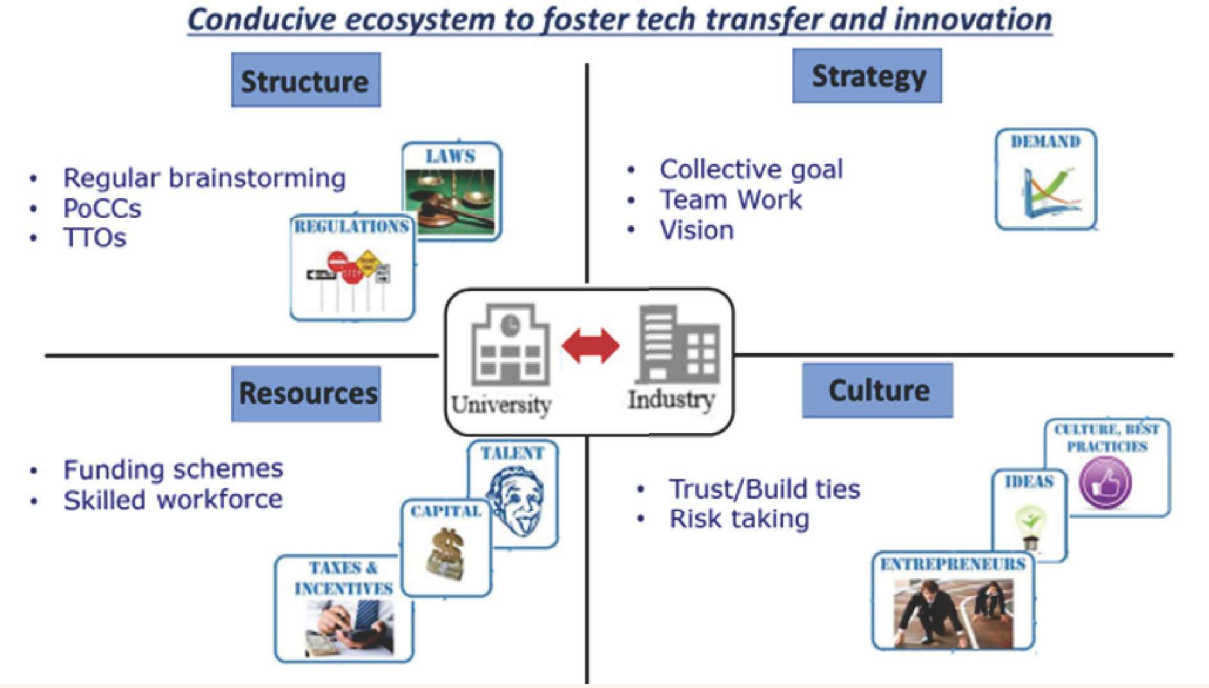
Engineering/Manufacturing Sector

1. Not enough service engineers and technicians
2. Environmental responsibility and thus the need to integrate SDGs
3. Dependence on European market

Proposed Solutions
1. Reskilling of labour and revamping of the current curriculum to address current and future needs.
2. Retain local talents and creation of value added jobs
3. Shift to more sustainable materials and favor the optimal use of resources, re cycling of plastics and use of recycled plastics, use of new biomaterials which can be sourced locally, innovative and efficient material handling, water and waste water handling
4. Develop market research (distribution channels in the regional market not well defined)

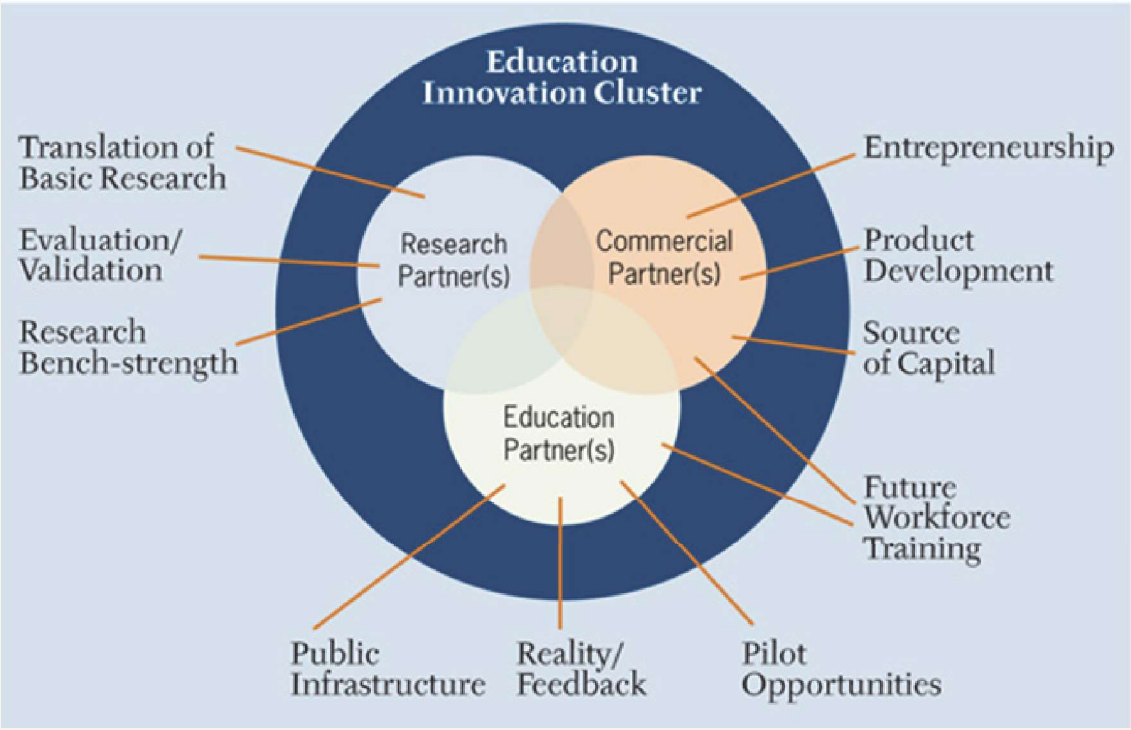
The UoM also had the opportunity to showcase its services, innovation, human intellectual capital and projects undertaken in collaboration with Industry.

During the brainstorming, all the participants agreed to the need for a supporting structure, strategy, resources and appropriate culture and an enabling environment for innovation to thrive.



Given that Industry 4.0 relies heavily on interconnectivity between various stakeholders and the ability of people to communicate efficiently via smart ecosystems, Panellists and participants also agreed on the need to encourage collaborative work and clustering - as opposed to sectors working in silos.

Clustering: Connecting the Silos



Recommended Actionable Solutions

- University must align its research with the needs of the industry.
- Important to identify a funding mechanism to support University-Industry Collaborations. The Vice-Chancellor's proposal of Corporate Sustainability Responsibility (CSR) is a possible avenue to be explored.

The Way Forward

After this brainstorming session, it was planned for the Industry Participants and the UoM to meet on Day 5 to discuss on potential areas of common interest and come up with an action plan in view of stimulating Innovation and Entrepreneurship in Mauritius.

The afternoon session of Day 3 was dedicated to a presentation by Mr Michal Szymanski, CEO of Mauritius Africa Fintech Hub who talked on Innovation and Opportunities for Fintech in Mauritius. 3 Fintech Startups also had the opportunity to showcase their innovative business ventures: Fundkiss (Mr Paul Perrier), MIPS (Mr Sébastien Le Blanc) and Metennkoste (Mr Hisham Ibrahim & Ms Marie Christine Lasplaces).

Day 3 Afternoon Session: Showcasing Fintech Startups in Mauritius

Parallel Event – Closing of UoM Hackathon

Winners and Award Ceremony

Day 4: Thursday 03 December 2020

University-Public Sector Collaborations

"Bridging with the Public Sector to Find Impediments to Innovation in the Sector"

Similar to Day 3, this Day was dedicated to interactions with representatives of the Public Sector (Ministries and Parastatal/ Statutory Bodies) and aimed at identifying obstacles and means to bridge the gaps to innovation in the Public Sector.

Day 4: Keynote Address by Mr Rakcoomar Auckloo, HRDC

The morning session started with a Keynote Address by Mr Rajcoomar Auckloo, Director of HRDC.

Talking on the various challenges to Mauritius becoming an innovation-led economy, the Speaker stressed that collaboration is crucial for creation of synergies between Academia, Industry and the Public Sector to unlock innovation potential. He called for People to be put at the centre of the digital future of Mauritius. The Speaker detailed the various schemes and programmes of the HRDC that are geared towards partnership with Academia and Industry for the development of multidisciplinary and transdisciplinary skills needed for the development of the k-economy. He entreated Government to play a leading role to trigger connections and build digital capacities.

Other Speakers who contributed to the session were from the Mauritius Tourism Promotion Authority (Mrs Amrita Craig), the Financial Services Institute (Prof Mohamed Khan), the Financial Reporting Council (Mr Vishwajithsing Tuhobol), the Ministry of Industrial Development, SMEs and Cooperatives (Mr Rishi Domun and Mr Kishore Bunjun)), Mauritius Shipping Corporation Ltd (Captain Mahendra Babooa) and the National Productivity and Competitiveness Council (Mrs Hemlata Ramsohok-Jomadar).

Day 4 – University – Public Sector Collaborations

While talking about the challenges and impediments to innovation in the Public Sector in general and for their respective institution, all the Speakers were unanimous in recommending more and enhanced collaborations between Academia, Industry and the Public Sector. The main issues that came out of the presentations are:

- Encourage different sectors to collaborate instead of working in silos;
- Need for continued dialogue, communication and monitoring of partnerships;
- Innovation is not only about technology – it is also about processes and people's behavior and attitudes;
- Need for a business process re-engineering in both the public and the private sectors;
- Use of big data to analyse consumer behavior and development of sustainable products and services;

- Encourage more research collaborations with the UoM;
- Need to reduce bureaucracy which is a major impediment to collaboration between academia-industry-public sector;
- Lack of leadership and critical thinking;
- Government to act as a catalyst in innovative collaborations;
- Re-engineering of the Cooperative Sector;
- Potential of the blue economy to create synergies and collaborations, connecting academia-industry and the public sector.

UoM staff had the opportunity to present highlights of UoM Commissioned Programmes/Trainings/Short Courses/ Consultancy Projects/Research Projects related to innovation during the afternoon session. The aim was to showcase what is already being done at the UoM in terms of innovation in the different areas and fields and also to discuss potential new collaborations with the Public Sector.

Recommended Actionable Solutions

- To develop a tailor-made course on Innovation for the Public Sector.
- To enhance relationships with the Public Sector by inviting Public Officers to share their experience through guest lectures.
- To develop a platform for Public-Private-Academia Partnership.

The Way Forward

Participants agreed that there is a need for greater and more effective collaborations between Academia, the Public and the Private Sectors in order to bridge the gap between these sectors, work in a more multi-disciplinary and pluri-disciplinary manner, which is the need of the hour, especially in the wake of COVID-19, to drive innovation. UoM called for the public sector to engage more actively with academia through the provision of training facilities for staff in selected areas, as well as providing expert assistance for the mounting of university programmes and delivery of guest lectures; greater dialogue between the public sector ministries and institutions and academics of the University of Mauritius.

Charting the Way Forward for Innovation to Thrive

"Roundtable Discussions led by The University-Industry Consultative Committee (UICC)"

The four days of discussion during the Innovation Week on specific thematic areas (design thinking for an entrepreneurial mindset, University-Industry Partnerships, bringing the gaps between University and public sector) has revealed many strengths/weaknesses/opportunities to foster an innovation culture among Mauritians for sustainable national economic growth. The University has a major role to play to act as a catalyst in this process. The key question at present is how to chart the way forward.

Mauritius may be unique in its many characteristics; but many issues to bring about innovation of a higher order are common to many other countries. Solutions can therefore be adapted and contextualised. It is also important to realise that a paradigm shift is needed in the mindset of stakeholders. One example of a paradigm to bring synergy between innovation and development is through the concept of 'Bioeconomy'. In this respect, the presentation of Dr. Stefanie Bröring on Day 1 entitled, '*When Biology Meets Data Science: Interdisciplinarity as a Key Driver for Innovation in the Bioeconomy*' shows that a holistic multidisciplinary approach to economic and social issues, by bringing together different components of the society and nature, is a key driver for innovation. This bioeconomy paradigm can be promoted in different spheres of life, from consumption and production (bio-made products, innovative sustainable processes) in Mauritius and can help to answer questions on how to restructure the economy in an innovative manner. This kind of paradigm shift can promote the *Made in Mauritius* Brand, a key factor to advance Mauritius in the global economy.

A major weakness identified during the discussion is the lack of a clear vision towards innovation, and the absence of the appropriate pathways to attain the many objectives leading to an innovation-driven society. While discussions on the adoption of technologies, reskilling of the labour force, talent creation, fostering sustainable growth, etc., are common, the transformation journey is far from being well-established, or it is not established at all. This is clearly observable when referring to the status of innovation in Mauritius; Mauritius ranks 52nd in 2020 in GII and 117th in Business Sophistication. Gross expenditure to finance innovation-based research is insignificant, with few enterprises currently investing in this field. However, this is not unexpected if the outcome, research, and agenda are not coherently set. Consistently with this observation, Mauritius is also under performing in Knowledge Creation, ranking 79th worldwide.

Day 5 – Roundtable Discussions - Charting the Way Forward

The appropriate ecosystem is required to foster innovation. The Roundtable discussion led by members of the UICC aimed at bringing ideas together to create that ecosystem for concrete actions. Participating panel members were:

Mr Gilbert Espitalier-Noël, CEO, New Mauritius Hotels, Beachcomber Resorts & Hotels,
Mr Ajay Gaya, Senior Manager, HealthActiv (IBL Ltd),
Mr Shateeaum Sewpaul, General Manager, Harel Mallac Technologies Ltd,
Mr Jean Noel Humbert, Senior Consultant, Eclosia Group,
Mr Kendall Tang, Executive Director, RT Knits Ltd
Mr Sridhar Nagarajan, Managing Director IQ-EQ Mauritius.
Mr Chee Peng Tan, CEO, Team SYNthesis Ltd.

Recommended Actionable Solutions

The following proposals were put forward to create the conducive environment for innovation.

Programme-based targets: In order to establish a result-oriented pathway, a programme-based strategy should be envisaged, with clear time-bound targets. A programme would be more detailed and focused so as to achieve the targets. It may be appropriate to establish such a Programme within the NIS.

Collaboration within the University: The University should address the problem of research conducted in isolation, sometimes at individual level, in an ad-hoc manner. Synergies among Faculties have to be developed to foster innovation. Faculties would need to foster collaboration to tackle issues which are inter-related. One area where such collaboration is needed is the tourism and leisure sector, which is connected to marine protected areas, lagoon management, reef conservation, among others.

Promoting strong partnership within and between institutions: This absence of innovation-led ecosystem is also due to the lack of concrete partnership within and between institutions. Significant efforts are needed to promote such collaboration.

The need for openness: It is observed that there is a resistance to openness, perhaps a fear of being swamped by foreigners and welcome new ideas/processes. However, it is important to realise that many smart processes which are fundamental for innovation (digitalisation) would come from abroad.

Fundamental vs. applied research at the University: Another major weakness is the lack of applied research, which can be used in the market, at enterprise level. There is an urgent need to promote applied research to tackle issues at sectoral level. A participatory approach, involving stakeholders, will help to identify niches where research can concretely assist decision-making. For instance, attention can be given to develop high-tech manufacturing sector, with state-of-the-art technology. Applied research is needed to determine possible pathways and how to achieve such transformation. Another example is the development of new food products based on innovative multidisciplinary processes. One sector which offers opportunity for innovative ideas is how to transform the agricultural sector into an agroindustry (e.g. vertical farming). A deep reflection on the new direction for agriculture, manufacturing, and tourism development could assist to identify niche areas where applied research would be needed. Yet, another sector which provides quick wins is the blue economy with the development of ocean related sectors/industries.

Delivering market-driven training to students: The lack of collaboration and absence of interaction with industries means that students are very often not ready to join the labour market. It is therefore important to reflect on a need to design programmes which would assist students to acquire employability skills. One recommendation is to redesign programmes which would allow students to spend more time in training during their three-year programme at the University. Semesters could be rearranged such that students can spend at least 2 to 3 months on training every year.

Enhanced visibility of UoM commercialised services: Given that the University provides a wide range of services from skills development, to training and consultancies, it is essential to make these services more visible to the public and private sectors. It was recommended to work a plan to further commercialise the services of the University.

Identifying sectors/clusters for intervention: One major step forward is to identify sectors/areas which could provide unique opportunities for innovation and to direct resources towards research, scholarships, and training in these identified areas. It is important to search for these unique aspects where Mauritius can become a leader in the international setting. These areas could also be linked to SDGs, so that innovation would also align to sustainable development.

No financing constraints: Speakers were unanimous that there is no constraint on funding or financing innovation from the private sector. What matters is an agenda for intervention with coherent research outcomes.

A major strength of the Mauritian: From the experience of managing enterprises, it is observed that the human capital is a major strength of Mauritian. The Mauritian labour force does have the ability to stay focus and achieve results. The appropriate training is important.

Thinking beyond Mauritius: The Panel emphasised on the need to think beyond Mauritius. Innovation is much bigger than the market size of Mauritius. With technology and global economy, innovation strategies must enable Mauritius to acquire a competitive edge internationally. It is therefore recommended to search for innovation aspects which would allow Mauritius to gain international competitiveness.

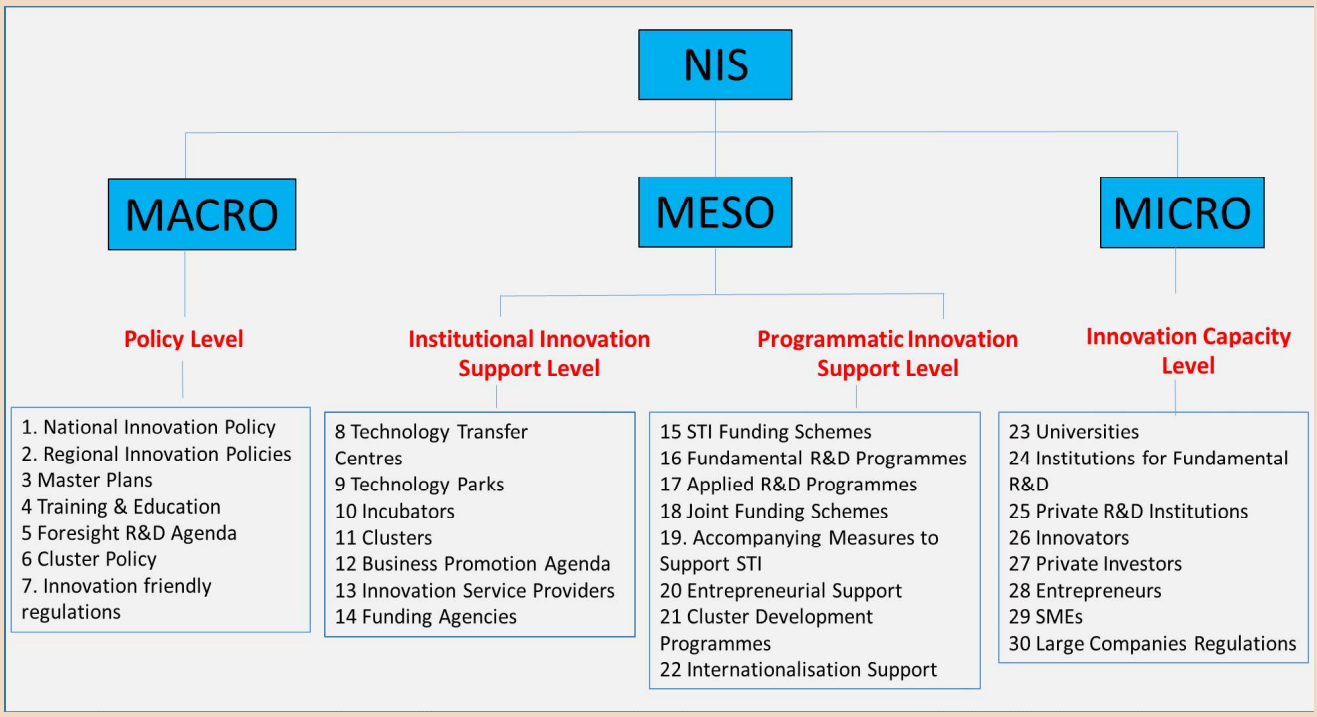
(*On the one hand, it is recommended to promote innovation in every sphere of the production process and on the other hand, it is also recommended to search for those unique aspects where innovation can position Mauritius as a leader in the international setting*)

Investing in talent creation: While talent creation is key for innovation, there is limited attention given to promoting talents in Mauritius. In many cases, those people/students who have specific talents do not have the opportunities to showcase or to get rewards for their work.

Main Recommendation

In order to set the vision and determine the pathways, one major recommendation is to establish the **National Innovation System (NIS)**. Such a system was also proposed in 2014 as a main recommendation of the 'Analysing the National Innovation System' Workshop organised by the Centre for Biomedical and Biomaterials Research (CBBR). The proposed NIS is structured into 3 levels: macro, meso and micro, as depicted below, which addresses policy issues, the conducive environment and the actions towards enhancing innovation. The mandate of the NIS can include, *inter alia*, identifying high impact sectors in relation to innovation and to search for efficient options to reach the targets.

Structure of the Proposed National Innovation System



As a final note, the Vice-Chancellor was requested to write to the Prime Minister to seek an appointment for handing over the Innovation Week 2020 Report and recommendations and to present to the Prime Minister the National Innovation System which is one of the major outcomes of this UoM Innovation Week 2020.

The Way Forward

In order to move forward, there is a need to establish an appropriate Innovation Action Plan, linking the *macro-meso-micro* systems. To that end, the following provides 9 recommendations for a way forward:

(1) **Putting in place a National Innovation System (NIS)**

(2) **Businesses to increase R&D and R&D expenditure**

(3) **Enhance University/Industry research collaboration**

(4) **Increase GERD financed by abroad**

(5) **University to uplift research quality and performance**

(6) **Attract Research talent**

(7) **Target high and medium high-tech manufacturing**

(8) **New businesses and start-ups**

(9) **Enhance technology adoption and diffusion**

Acknowledgements

- **UoM Staff and Organisers of the UoM Innovation Week**
- **All Speakers and Participants**
- **All Sponsors**

We had an intense Innovation Week with most fruitful discussions with stakeholders from the public and private sectors in line with the theme 'Promoting academia-public and private sector linkages.

It is impossible to have such a week without the full commitment of staff. I take this opportunity to express my deepest thanks to all staff, both academic and support staff, who participated actively in the mounting and conduct of the IW2020. You have shared and learnt, the essence of our duty at the University.

We extend our thanks to all Participants and Speakers. Your distinguished presence and contribution helped to make the UoM Innovation Week a significant forum – a forum that will henceforth become a yearly feature. Your enthusiasm and collaborative spirit helped make our time together highly productive. It was certainly enlightening to hear from captains of industry and the heads of the public sector the need for UoM to respond to multi-disciplinary problems in the tourism, agriculture, manufacturing, digital and finance industry and how much our contribution is awaited.

We are indebted to our Sponsors. Your generous support and contribution helped to make the UoM Innovation Week a most successful event.

The University of Mauritius thanks you for your continuous support in its endeavours.

Our Sponsors

UoM Innovation Week 2020

PROGRAMME

DAY 1 – Monday 30 November 2020	
OPENING CEREMONY **Venue: Paul Octave Wiehe Auditorium, UoM, Réduit**	
9.30 – 9.35 hrs	Welcome by Master of Ceremonies
9.35 – 9.45 hrs	**Welcome Address by** **Dr Louis Jean Claude AUTREY, *CSK*** Chancellor, University of Mauritius
9.45 – 9.55 hrs	**Address by** **Professor Dhanjay JHURRY, *CSK, GOSK, FAAS*** Vice-Chancellor, University of Mauritius
9.55 – 10.15 hrs	**Address and Opening of the Innovation Week** **& Launching of the 4th (Special) Edition of the UoM SDGs eNewsletter** **by** **The Hon. Mrs Leela Devi DOOKUN-LUCHOOMUN, *GCSK*** Vice-Prime Minister and Minister of Education, Tertiary Education, Science and Technology
10.15 – 10.30 hrs	***Refreshments***

10.30 – 10.35 hrs	**Registration**
10.35 – 10.40 hrs	**Welcome by Professor Sanjeev Kumar SOBHEE** *Pro-Vice-Chancellor (Academia)*
10.40 – 11.40 hrs ***(incl. 15 minutes discussions)***	**Keynote Address by** **Professor Dr. Stefanie BRÖRING** **Title: *When Biology Meets Data Science: Interdisciplinarity as a Key Driver for Innovation in the Bioeconomy***  **Stefanie Bröring** is full professor for "Technology-, Innovation Management and Entrepreneurship" at the University of Bonn in Germany. Her main motivation in teaching, research and transfer is to understand the dynamics of clean technologies, interdisciplinary research and technology-bases startups to foster sustainability transitions. Prior to academia she gained a wide array of consulting and industry experience working mainly in new business development-related functions in the chemical and agricultural sector. After her studies in Lübeck, Münster and Rotterdam she obtained her PhD on "The front end of innovation in converging industries" from the University of

	Münster in Germany, which included a research stay at the University of Quebec at Montreal and the Institute of Nutraceuticals and Functional Foods in Quebec City, Canada. Her research focuses on the challenges of technology and innovation management in the emerging bioeconomy, industry convergence as well as technology-based ventures and entrepreneurial-ecosystems (see www.tim.uni-bonn.de)
Rapporteur: **Assoc. Professor (Dr) Shakuntala BAICHOO** *Faculty of Information, Communication and Digital Technologies*	

DAY 1 – Monday 30 November 2020 (Continued) **PARALLEL EVENTS**	
10.45 – 11. 30 hrs	**Launching of the UoM Hackathon: "*Building Innovative Solutions for Healthcare and Agriculture*" by** **Professor Dhanjay JHURRY, *CSK, GOSK, FAAS*** *Vice-Chancellor, University of Mauritius*
11.30 – 17.00 hrs	**Hackathon Starts** *Click here to access the full 18-hr Hackathon Programme* **Venue: Covered Raised Plaza**
13.15 – 15.15 hrs	**Round Table** **Organised Jointly by MIE and UoM** **Theme: *Making Critical Thinking Critical through Innovative Pedagogies*** **Venue: Paul Octave Wiehe Auditorium, UoM, Réduit** **Panel:** • **Professor Yashwant RAMMA** *Chair, Research, MIE* • **Professor Mike WATTS** *College of Business, Arts and Social Sciences, Brunel University, London* • **Assoc. Prof. Henri LI KAM WAH** *Associate Professor, Department of Chemistry, UoM* • **Dr Shobha JAWAHEER** *Senior Lecturer, Department of Biosciences and Ocean Studies, UoM*
Moderator: **Dr Ajeevsing BHOLOA** *Senior Lecturer, Mathematics Education Department, MIE*	

DAY 2 – Tuesday 01 December 2020

Venue: Lecture Theatre 1, New Academic Complex, University of Mauritius

Target Audience: UoM Academic Staff and PhD Students

Training on Design Thinking, Entrepreneurial Mindset and Presentation

"Empower Staff to Use Innovation Technologies in Delivery of Lectures and Take Research Findings to Commercialisation"

9.00 – 9.30 hrs	**Registration**
9.30 – 9.40 hrs	**Welcome by Associate Professor Mohammed I. SANTALLY** *Pro-Vice-Chancellor (Planning & Resources)*
9.40 – 12.00 hrs	**Interactive Session on Design Thinking led by** **Mr James VAN DER WESTHUIZEN** *Founder and Managing Partner of KnowHouse, South Africa*  **James Van der Westhuizen** is the founder and managing partner of KnowHouse. Founded 20 years ago out of a passion work differently with the challenge of learning and change in organizations. James's **Formal education** has been in Psychology and Humanities. He has been a Human Resources Manager (SA Ports Authority), Interim Organisational Development Manager (MTN), Business Consultant (QData, Brainware) and for the last 20 Years the Managing Member of KnowHouse cc. James is a global consultant and facilitator working across the African continent, the Middle East, Europe & Asia. Serves as faculty on multiple business school programs and coach to leaders and executives of many blue-chip companies. James is one of very few global master facilitators & accreditation partners of ExperiencePoint & IDEO for the ExperienceInnovation range of learning tools and methodologies. **KnowHouse:** As the name indicates KnowHouse is all about spaces for learning, conversation and reflection. The African master accreditation partner of four of the world's most innovative learning solutions providers KnowHouse is committed to interactive and compelling learning.
12.00 – 12.55 hrs	**Lunch Break *(UoM Cafeteria)***

PROMOTING ENTREPRENEURSHIP IN MAURITIUS

12.55 - 13.00 hrs	**Welcome by Associate Professor Mohammed I. SANTALLY** *Pro-Vice-Chancellor (Planning & Resources)*
	Presentations by:
13.00 – 13.30 hrs	**Mr Ken POONOOSAMY** *Ag. Chief Executive Officer, Economic Development Board* **Theme:** ***Universities as an Engine of National Entrepreneurship***
13.30 – 14.00 hrs	**Mr Ravin RAMPERSAD** *Chief Executive Officer, SME Mauritius Ltd* **Theme:** ***Innovation –The SME Perspective***

14.00 – 14.30 hrs	**Mr Ranjive BEERGAUNOT** *Ag. Controller, Industrial Property Office* **Theme:** ***Awareness Program on the Importance of Intellectual Property Rights***
14.30 – 14.45 hrs	**Q & A**
Moderator: **Associate Professor M I SANTALLY** *Pro-Vice-Chancellor (Planning & Resources)*	
14.45 – 15.00 hrs	**Tea Break**
15.00 – 16.00 hrs	**Keynote Address by** **Mr Marc BLUMENTHAL** *Executive Director of Social Ventures Foundation, USA* **Title:** ***Social Entrepreneurship and Innovation***
Rapporteurs: **Mr Khusal JUGURNATH** *Faculty of Information, Communication and Digital Technologies* **Miss Gwendoline CHAN** *MPhil/PhD Student*	

DAY 3 – Wednesday 02 December 2020

Venue: Lecture Theatre 2, New Academic Complex, University of Mauritius

UNIVERSITY-INDUSTRY COLLABORATIONS
THE WAY FORWARD

8.45 – 9.10 hrs	**Registration**
9.10 – 9.15 hrs	**Welcome address by Professor Dhanjay JHURRY** *Vice Chancellor, UoM*
9.15 – 9.25 hrs	**Keynote Speech by** **Dr Yousouf ISMAËL** *Secretary General, MCCI* ***What the Industry is expecting from the UoM and what opportunities exist to build synergy?***  Dr. Yousouf Ismaël is currently the Secretary- General of The Mauritius Chamber of Commerce and Industry (MCCI). He held several positions of responsibility in both private and public sectors namely: banking and finance, agro-business and utilities. He has served on the boards of several key institutions in the country including Central Water Authority, the Central Electricity Board and MCCI. He is currently board member of Mauritius Investment Cooperation (MIC), Mauritius Standards Bureau (MSB), MCCI Business School (MCCI BS) and CEO of GS1 (Mauritius) Ltd. He holds a PhD and a post- doctoral in Economics from the University of Reading, UK.

PANEL SESSION LED BY INDUSTRY CHAMPIONS	
9.25 – 10.25 hrs	**Co-Chairpersons & Moderators:** **Dr Yousouf ISMAËL and Professor Dhanjay JHURRY** **Panel Members:** **Mr Bruno DUBARRY** *Chief Executive Officer, Association of Mauritian Manufacturers* **Mrs Jaqueline SAUZIER** *Secretary General, Mauritius Chamber of Agriculture* **Mr Anthony R. COOMBES** *Managing Director, Archemics Ltd* **Mr Shateeaum SEWPAUL** *General Manager, Harel Mallac Technologies Ltd* **Mr Kendall TANG** *Chief Executive Officer, RT Knits Ltd* **Mr Geerish BUCKTOWONSING** *Head of Manufacturing, Economic Development Board* **Mr Ramanathan VENKATASAWMY** *Head, Collaborative Economic Development, Business Mauritius*
10.25 – 10.50 hrs	**Panel Discussions**
10.50 – 11.00 hrs	**Tea Break**
11.00 – 12.00 hrs	**What can UoM offer to Industry?** **Chairperson:** **Professor Boopen SEETANAH** *Faculty of Law and Management* **Session led by UoM Faculties & Research Centres** • **Agriculture** • **Engineering** • **Information, Communication & Digital Technologies** • **Law and Management** • **Science** • **Social Sciences and Humanities** • **Centre for Innovative and Lifelong Learning** • **International Centre For Sustainable Tourism and Hospitality** • **Center for Biomedical and Biomaterials Research**

12.00 -12.45 hrs	**Debrief on opportunities for collaboration and Strategising the University and Industry link** **Rapporteurs:** **Assoc. Professor Robin NUNKOO** *Faculty of Law and Management* **Dr Nowsheen GOONOO** *L'Oreal-UNESCO International Rising Talent Research Fellow*
12.45 – 13.30 hrs	**Lunch Break**
13.30 – 14.00 hrs	**Fintech and Innovation** **Presentation by Mr Michal SZYMANSKI** *Chief Executive Officer, Mauritius African Fintech Hub* **Title: *Innovation and Opportunities for Fintech in Mauritius***  Michal was in the teaching profession before being headhunted to join one of the leading incubators in South Africa. He has personally interviewed, worked with, mentored over 6000 entrepreneurs from idea stage to established businesses. He has run his own businesses and was a guest speaker around SMME development for many corporates across numerous industries. Michal was part of a team that successfully developed and executed B-BBEE (economic empowerment) strategies for multinational and listed companies in South Africa. As Head of Incubation for the oldest technology hub in Africa, he worked in clusters of innovations such as Fintech, EdTech, BioTech etc., having launched some of Africa's first dedicated entrepreneurial development programmes in some of the clusters. Michal joined the board of the WHEAT Trust in 2017, an organisation dedicated to upskilling and uplifting disadvantaged women, through skills and entrepreneurial development. He was appointed as the CEO of the Mauritius Africa Fintech Hub in 2018, to position the country as the global Fintech Hub for Africa.
14.00 – 14.15 hrs	**Q & A**
14.15 – 14.45 hrs	**Showcasing of 3 Fintech Startup** **Mr Paul PERRIER** *Co-Founder and Chief Executive Officer, Fundkiss*
	Mr Sébastien LE BLANC *Chief Executive Officer, MIPS*
	Mr Hishaam IBRAHIM and Ms Marie Christine LASPLACES *Co-founders, Metennkoste*
14.45 – 15.30 hrs	**Discussions**

DAY 3 – Wednesday 02 December 2020 (Continued) Venue – Raised Plaza PARALLEL EVENT – Closing of UoM Hackathon	
16.20 – 17.00 hrs	**Announcement of Winning Team and Award Ceremony**

DAY 4 – Thursday 03 December 2020 Venue: Lecture Theatre 2, New Academic Complex, University of Mauritius	
UNIVERSITY-PUBLIC SECTOR COLLABORATIONS **"Bridging with the Public Sector to Find Impediments to Innovation in the Sector"**	
9.00 – 9.30 hrs	**Registration**
9.30 – 9.40 hrs	**Welcoming Address by** **Professor Rajendra P. GUNPUTH** *Dean of Faculty of Law & Management*
9.40 – 10.00 hrs	**Keynote Address by** **Mr Rajcoomar AUCKLOO** *Director, Human Resource Development Council* **Title: "*Making Space for Partnership and Collaboration: Government-Academia-Industry.*"**  **Mr Rajcoomar Auckloo** is the Director of the Human Resource Development Council since June 2009. He is a Fellow of the Association of Chartered Certified (UK2000) and Fellow, Mauritius Institute of Directors (FMIoD). Mr Auckloo holds a Master of Business Administration with specialisation in Finance, an MSc Information Technology, Certificate in Business Studies, a BSc (Hons) Accounting and a Diploma in Accountancy from the University of Mauritius. He has completed his MPhil and is in the process of completing his PhD in Human Resource Development at the University of Mauritius. Mr Auckloo joined the HRDC in 2005 as Manager - Corporate. He started his rich career as Officer/ Executive Officer at the National Transport Authority before he was promoted to Road Transport Inspector. He worked as Accounting Technician/Senior Accounting Technician, and was subsequently appointed Financial & Management Analyst, Senior Financial & Management Analyst at the Ministry of Finance, where he worked for 10 years. In 2000, Mr Auckloo was seconded for duty, as Programme Coordinator/Financial Controller, to be responsible for two IFAD (a UN Agency) funded projects, namely the Community Development & Micro Enterprise / Micro Finance Development Programme. He is presently a member of the Board of the Mauritius Institute of Training and Development (MITD) and also the treasurer of the Board of the World - International Federation of Training & Development Organisations (IFTDO) grouping around 1500 training and development organisations across the

	globe. Mr Auckloo was the Chairman of the IFTDO Board for period 2017/2018. He is also presently a member of the Senate of the University of Mauritius.
10.00 – 10.15 hrs	**Tea Break**
10.15 –12.00 hrs **PUBLIC SECTOR NEEDS**	
10.15 –10.25 hrs	**Mrs Amrita CRAIG** *Marketer, Mauritius Tourism Promotion Authority* **Title: Tourism & Innovation: Latest Trend in Technology to Promote Tourism**
10.25 – 10.40 hrs	**Professor Mohamed KHAN** *Director, Financial Services Institute* **Title: Addressing Impediments to Innovation in the Public Sector**
10.40 – 10.55 hrs	**Mr Viswajithsing TUHOBOL** *Director, Financial Reporting Council* **Title: Financial Regulatory and University as a Partner**
10.55 – 11.05 hrs	**Mr Aveenash APPADOO** *Head Planning & Research Unit,* *Ministry of Gender Equality and Family Welfare* **Title: Alignment of the actions/interventions of the Ministry of Gender Equality and Family Welfare with the Public Sector Business Transformation Strategy**
11.05 – 11.15 hrs	**Mr Rishi DOMUN** *Principal Analyst, Ministry of Industrial Development, SMEs and Cooperatives* **Title: Innovation, Manufacturing Industry – Academic Linkages**
11.15 – 11.25 hrs	**Mr Kishore BUNJUN** *Ag, Permanent Secretary, Ministry of Industrial Development, SMEs and Cooperatives* **Title: Post Covid-19. Opportunities and Challenges at the Ministry of Industrial Development, SMEs and Cooperatives**
11.25 – 11.35 hrs	**Captain Mahendra BABOOA** *Marine Superintendent, Mauritius Shipping Corporation Ltd* **Title: Factors Influencing the Shipping Industry in Mauritius**
11.35 – 11.50 hrs	**Presentation by Erik Von UEXKULL** *Country Economist/ Representative for Mauritius and Seychelles, World Bank* **Title: Innovation and State Support in Mauritius**
11.50– 12.15 hrs	**Q&A/ Discussions**
12.15 – 13.15 hrs	**Lunch Break (*UoM Staff Cafeteria*)**

13.15 – 15.00 hrs **Highlights – UoM Commissioned Programs/Trainings/Short Courses/ Consultancy related to Innovation**	
13.15 – 13.25 hrs	**SDG 1: POVERTY** **Mr Nicolas RAGODOO,** *Faculty of Social Sciences and Humanities* **Long Term Holistic Accompaniment of Families Living in Poverty: A case study of Lovebridge**
13.25 – 13.35 hrs	**SDG5: GENDER EQUALITY** **Dr Ramola RAMTOHUL,** *Faculty of Social Sciences and Humanities* **Gender Mainstreaming for Innovation**
13.35 – 13.45 hrs	**SDG 17: PARTNERSHIP** **Dr Bhavish JUGURNATH,** *Faculty of Law and Management* **Digital Innovation in Eastern and Southern Africa**
13.45 – 13.55 hrs **13.55 – 14.05 hrs**	**SDG 8 & 11: ECONOMIC GROWTH AND SUSTAINABILITY** **Dr Vijaya TEELOCK,** *Faculty of Social Sciences and Humanities* **The Public Image of Heritage** **Dr Riad SULTAN** *Faculty of Social Sciences and Humanities* **The Quest for Sustainable Growth and Green Jobs Creation**
14.05 – 14.15 hrs **14. 15 – 14.25 hrs**	***SDG 4: QUALITY EDUCATION*** **Professor (Dr) Rajendra Parsad GUNPUTH,** *Faculty of Law and Management* **Labour Legislation Workshops** **Mrs (Dr) Yannick BOSQUET**, *Faculty of Social Sciences and Humanities* **Language Lab**
14.25 – 14.50 hrs	**Dr Goonesh BAHADUR** *Officer-in-Charge and Senior Lecturer* **&** **Mrs Rubina RAMPERSAD,** *Educational Technologist, Centre for Innovative and Lifelong Learning* **Innovative and Responsive Programme Design for the Public Sector**

	14.50 – 15.00 hrs **Rapporteur Intervention:** **Dr Taruna RAMESSUR** *Faculty of Social Sciences & Humanities*
15.00 – 15.30 hrs	***SDG 9: INDUSTRY AND INFRASTRUCTURE*** **Mrs Hemlata RAMSOHOK JOMADAR** *Lead Research, Advisory and Knowledge Management,* *National Productivity and Competitiveness Council* **Productivity in Mauritius: Status, Trends, and Priorities for Action**
15.30 – 15.55hrs	**Q & A/ Discussions**
15.55 – 16.00 hrs	**Closing Remarks**
	Moderator: **Dr Muhsina ALLEESAIB** *Faculty of Social Sciences & Humanities* **Rapporteur:** **Dr Taruna RAMESSUR** *Faculty of Social Sciences & Humanities* **Ms Krishnee A. APPADOO** *Faculty of Law and Management*
16.00 hrs	***Refreshments***

DAY 5 – Friday 04 December 2020 Venue: Lecture Theatre 1, New Academic Complex	
PRESENTATIONS AND ROUNDTABLE DISCUSSIONS	
09.30 – 10.30 hrs	**Presentation of Reports for Days 1 to 4 by Rapporteurs for each day:** **Day 1: Assoc. Professor (Dr) Shakuntala BAICHOO** *Faculty of Information, Communication & Digital Technologies* **Day 2: Mr Khusal JUGURNATH** *Faculty of Information, Communication and Digital Technologies* **Day 3: Assoc. Professor Robin NUNKOO** *Faculty of Law and Management* **Dr Nowsheen GOONOO** *L'Oreal-UNESCO International Rising Talent Research Fellow* **Day 4: Ms Krishnee A. APPADOO** *Faculty of Law and Management*

10.30 – 11.00 hrs	**Debriefing and Reflection Session**
11.00 – 11.15 hrs	**Tea Break**
11.15 – 12.15 hrs	**Charting the Way Forward for Innovation to Thrive** **Roundtable Discussions led by** **The University-Industry Consultative Committee (UICC)** **Chairperson:** **Mr Shateeaum SEWPAUL** *General Manager, Harel Mallac Technologies Ltd*
	Rapporteurs: **Assoc. Professor (Mrs) Verena TANDRAYEN-RAGOOBUR** *Faculty of Social Sciences and Humanities* **Dr Riad SULTAN** *Faculty of Social Science and Humanities*
12.15– 12.30 hrs	**Concluding Remarks and Vote of Thanks** **by Professor Dhanjay JHURRY,** *Vice-Chancellor*
End of Innovation Week	

UNIVERSITY OF MAURITIUS

SDGs NEWSLETTER-UoM

Welcome to the fourth edition of the UoM SDGs Newsletter
Special Edition for the UoM Innovation Week 2020

4th Edition - December 2020

Message from the Vice-Chancellor

PROFESSOR D JHURRY,
C.S.K., G.O.S.K., FAAS
Vice-Chancellor

How the focus on Sustainable Innovation could take Mauritius back on track?

In 2017, innovation was placed at the centre of UoM's new vision. After more than 3½ years, we have to take stock of progress made and gauge the impact of actions, hence the organization of the Innovation Week, a first of its kind at the UoM and at national level. This first edition will stress on the tripartite relationship between the University, public and private sectors and the ecosystem required for innovation to thrive. Students, staff, private companies and ministries will all be involved over the 30 November - 4 December week putting minds together to grow innovation in our country, which is more than ever a must and not a luxury.

I am convinced that working towards UN Agenda 2030 could provide us with a road map for sustainable innovation. This is a process where sustainability considerations (environmental, social, and financial) are integrated into company systems from idea generation through to research and development (R&D) and commercialization.

The Covid19 pandemic has accelerated the adoption and diffusion of health technology innovations. The tremendous progress made worldwide in digital data and data sharing, e-health/m-health, new production methods for rapid and flexible manufacturing, digital health care have fundamentally changed the face of health care provision and huge opportunities exist for business in the sector. Mauritius has a competitive edge and the UoM is working closely with industry in that area. We have recently invested in robotics, AI, GIS and VFX labs that should help spur innovation.

The development of a bio-economy could be another area where a huge potential exists but will require close academia-public and private sector partnership. This overlaps also with the idea of a circular economy championed by some groups locally. The bio-economy and circular economy have a common target which is a more sustainable and resource efficient world with a low carbon footprint and reduce dependency on fossil carbon, thus contributing to climate targets.

The concept of the bio-economy is knowledge intensive and will require a closer university-public and private sector partnership. A few examples what that could mean in the Mauritian context and where the UoM could add value are: production of chemicals from sugar-cane such as lactic acid and lactate esters in great demand as green solvents, nanomask and other health related products from locally available raw materials, transformation of waste from the fish industry into high value added products, bio-energy production such as bio-ethanol from sugar-cane molasses or energy from plants such as arundo donax, deep ocean water applications for air-conditioning purposes and for various other applications including aquaculture, desalination and thalassotherapy; addressing smart agriculture and biodiversity threats through ecosystem pollution management through the value-chain.

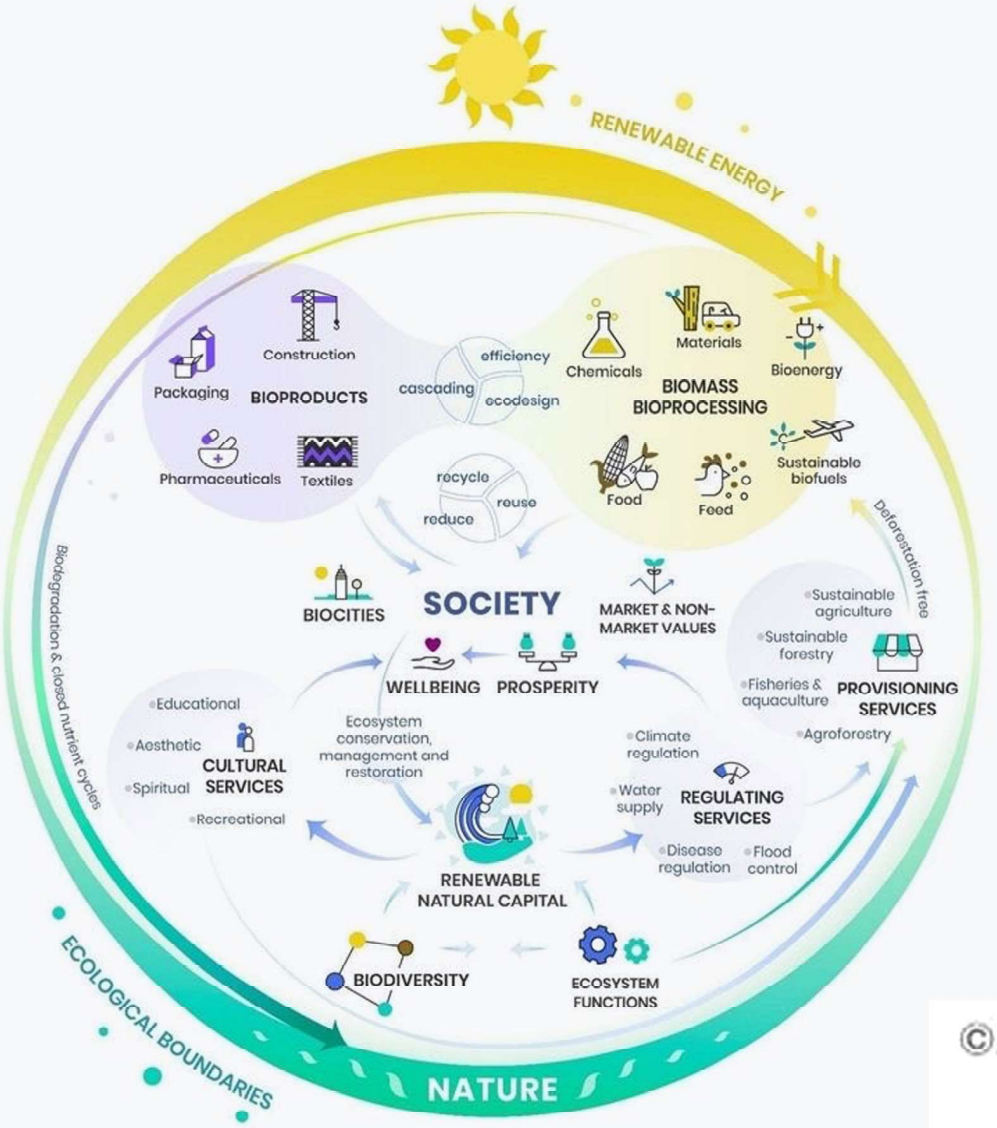
There is a need to groom 'eco-entrepreneurs' and assist them in developing sound business plans and clear business models as well put in place mechanisms to activate the commercialisation process. From the University side, there can be better partnerships between academia and business through improving students/researchers understanding of the commercial realities and implementation issues related to sustainable innovation and facilitating better knowledge transfer.

An innovation platform that could link new ideas and opportunities of researchers to entrepreneurs and funders would certainly help in the promotion of sustainable innovation. Access to green financing will require special attention and incentives to companies to re-invest profits into sustainable innovation projects could be proposed by the Government. Some companies such as the Mauritius Commercial Bank champion the Corporate Sustainability Agenda. Why not a Corporate Sustainability Responsibility whereby firms can re-invest a percentage of their profits into fostering innovation?

Innovation leads to wealth creation but it is also question of creating decent jobs for our graduates. The UoM alone produces over 3000 graduates each year and we are responsible for their employment. So, let's put our minds together to develop new sectors that could unleash the creative potential of our young graduates.

When Biology meets data science: interdisciplinarity as a key driver for innovation in the bioeconomy

Professor (Dr) S. Bröring
Email: s.broering@ilr.uni-bonn.de, Head of Chair, Technology and Innovation Management in Agribusiness, Universität Bonn



The bio-economy has the potential to alleviate the grand societal challenges such as climate change and, thus, is of key importance to reach the needed sustainability transition. However, new technologies and innovations in the bio-economy are often complex in terms of the different knowledge areas needed in order to reach the full potential. For example, biology and data science merge when it comes to developing novel enzymes or bacteria that can enhance biomass conversion. In similar vein, different actors of different industrial backgrounds need to collaborate to form new bio-based value chains. Hence, interdisciplinary research and development is a key driver for the advancement of not only the development of scientific knowledge but also its commercial application into marketable products. Moreover, although many authors and national strategies view bio-economy innovations as a key for a sustainable economy transition, a conceptual framework that describes innovation types (ITs) in the bio-economy profoundly is lacking, thus challenging the successful development of technology and innovation management (TIM) strategies and research. Against this backdrop, a conceptualization of four ITs specific to the bio-economy, namely I) Substitute Products, II) New (bio-based) Processes, III) New (bio-based) Products, and IV) New Behavior seems helpful. These types are discussed against existing frameworks dealing with sustainability-oriented innovations (SOIs) emphasizing the particularities of the bio-economy79. The here presented typology can be applied as a guiding principle for future research avenues, monitoring the evolution of the bio-economy as well to design innovation strategies by researchers, policy makers and managers.

What makes you angry? What frustrates you? What do you feel should be improved?

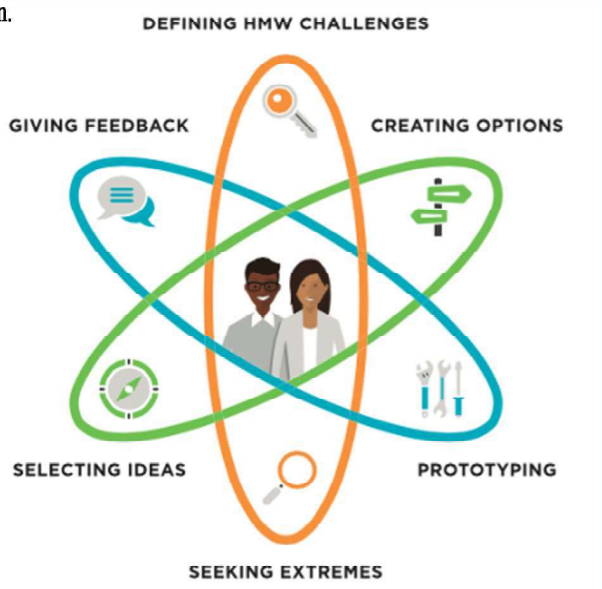
James van der Westhuizen

Email: james@knowhouse.co.za

Is it the economic hardship faced by so many people after the pandemic? Is it the loneliness and isolation felt by older people in our society? Is it the destruction of the environment through big disasters like the running aground of a ship or the continuous damage to our planet and island through plastic or air pollution? Is it the hassle of getting help from a bank when you have a problem with your account? Is it the lack of opportunities since the restrictions placed on entire industries such as tourism for sanitary reasons?

We all feel frustrated, angry and disillusioned sometimes, what is important is what we do next. Which ways of responding do we choose? What does frustration and difficulty do to us?

Some of us break down, get depressed and lose hope. Some of us weather the storm and keep going. Some of us face hardship with an attitude of acceptance and Zen-like inner peace. These reactions are the reactions of fragility (breaking under pressure) or resilience (being able to weather the storm). Obviously, we all have a breaking point and we then need help and support. Resilience is also a good characteristic to have in the face of challenges and sometimes philosophical acceptance of what will be is a healthy reaction.



I would like to share another reaction to stress and difficulty – one that the author Nassim Taleb calls anti-fragility. A reaction to hardship that is like a muscle, getting stronger from being exercised and put under pressure. This is a stance of dissent – a deep sense that things can be – and should be better & then getting to work in making it so. Rita McGrath the Columbia University Professor puts it like this: "Think of your problems as a gift – get out there and fix them".

This requires another set of habits – the habits of creative thinkers who start with challenges framed as "How might we..." statements and end with prototypes of solutions to be tested. For each of us and for each country and continent we always have the choice between cultivating habits of fragility, habits of resilience, and habits of acceptance or – as I would like to share with you habits of anti-fragility and innovation.

Made in Moris, a key driver in promoting the sustainable development goals in the Republic of Mauritius.

A. Dundoo

Email: anya@madeinmoris.mu, Relationship Executive, Association of Mauritian Manufacturers & Made in Moris

The Made in Moris label was launched in 2013 as an initiative of the private sector under the Association of Mauritian Manufacturers to support local manufacturers & entrepreneurs, and promote locally made quality products in Mauritius.

Today, Made in Moris connects over 100 companies of which 50% are SMEs. The label is granted to the following sectors: Agriculture, Manufacturing, Agrifood, Cultural & Creative services, IT tools & Apps, Hospitality & Tourism and Textile.

Over 300 brands and 2500 products have been awarded the label based on eligibility criteria evaluated by Made in Moris and its strategic partner, SGS, a global leader in Certification.

With the help of the auditing process the label aims at encouraging and assisting local producers to rethink their production pattern in favor of more sustainable approaches through innovation, CSR, sourcing from local savoir-faire, controlling waste production and water consumption amongst others. The process allows producers to question the social and environmental impacts of their activity.

Made in Moris' purpose is also to encourage consumers to favour locally made products. Shirin Gunny, Managing Director of the Made in Moris label, insists that Mauritians need to understand that buying local products is the way to ensure a resilient economy, to protect our environment & communities, as well as to achieve food security on the island. Shirin also explains that "All... [Made in Moris] campaigns are geared towards responsible consumption".

The Made in Moris fosters many companies engaged towards sustainable development. A clear example is Attitude Hotel Group's official "Positive Impact pledge" to source up to 50% of all its products from brands within the Made in Moris network by 2022. Another example of sustainability through innovation and partnership within the network is the collaboration between Oeudor and Plastic industry Mauritius Ltd who partnered to design and produce reusable egg trays from recycled plastic as an alternative to single use cardboard. The label itself is also involved with FoodWise, the SigneNatir initiative for a sustainable & inclusive Mauritius, as well as training by the UNDP GEF SGP on SDGs.

Shirin Gunny believes that simple changes in consumption and production patterns can have tremendous impacts on society as a whole.

UoM Hackathon 2020

Dr. Oomesh Gukhool
Senior Lecturer

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In order to inculcate the entrepreneurial mindset in students and enable them to showcase their innovative ideas, a three-days Hackathon (30 Nov-2 Dec) will be organised during the Innovation Week. 22 Teams of 5 students each will develop digital solutions that can potentially resolve challenges encountered by the population, entrepreneurs, institutions, NGO's and Government in the field of Health and Agriculture, following the COVID-19 pandemic. Hackathonians will conceptualise practical and affordable digital (IoT, Web, Mobile, Cloud, AI) solutions that can be developed in 18 hours (3 days). To ensure the relevancy of the proposed digital solution from each team, specific problem areas in the field of Health and Agriculture have been earmarked. For the past 4 weeks, Hackathonians participated in Design Thinking workshops and IoT hands-on training, enabling them to conceptualise and develop their ideas. The jury panel comprises of subject matter experts from the industry and academic experts. Cash prizes will be offered to the top 3 projects. This Hackathon is organized in collaboration with the National Productivity and Competitiveness Council (NPCC).

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An investigation into the innovation-economic growth nexus in Mauritius

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This study has proxied innovation through R&D expenditure and have attempted to assess its impact on economic growth in Mauritius over the period 1970 to 2019. Our results show that the R&D expenditure coefficient is 0.02 and statistically significant in explaining economic growth over the period under study. This elasticity can be interpreted as a 10% increase in R&D expenditure, raising GDP by 0.2% in the long-run, while controlling for the remaining explanatory variables. Our findings comfort the endogenous growth theory, whereby increased investments in R&D can result in long-term growth. We also depicted a bi-directional causality between R&D expenditure and economic growth in the long-run and a uni-directional causality running from growth in GDP towards R&D expenditure in the short-run. Our findings have shown that over the period of the study, there has been no significant short-run impact of growth in R&D expenditure on economic growth. Given that it is generally acknowledged that the private sector is more likely to invest in short-term applied research that result into incremental innovation and subsequent returns; it can be imputed that BERD, barring historical investment in sugarcane research, has been negligible. Therefore, an increase in public R&D expenditure and intensity should concomitantly be complemented by a significant and continual BERD.

Mauritius is strategizing to becoming an innovation-driven economy, and the public policy implications of our findings are multi-fold and can be used as pointers. Given the characteristics of R&D, there is a minimum amount of investment below which R&D activities have minimal effect, as R&D expenditure suffers from threshold effects. According to the OECD, expenditure on R&D as a percentage of GDP for 2018 was 2.4%, and 2.03% for the EU. Public R&D expenditure should amount to 2% of GDP to significantly impact GDP growth in both the short and long term. In 2019 the national R&D expenditure in Mauritius stood at around 0.3% of GDP; it should consequently be increased. It is crucial to increase purposeful R&D expenditure as a percentage of GDP. Public funding for R&D and innovation should be strategized, towards sectors that are nascent, emerging ad driving the economy.

The proportion of direct funding should be more directed towards the needs of the socio-economy and indirect R&D funding, more geared towards the needs of firms. One avenue to improve the productivity relevance of directly publicly-funded R&D; an effective instrument could be through matching grants by firms, addressing their specific business requirements. This co-funding philosophy partly covers the costs associated with the public good nature and the risk associated with R&D, and at the same time better pave the way for the R&D spillovers to positively impact on private sector productivity. Incentivising indirect R&D finding would increase the proportion of BERD in the total national expenditure, thus ensuring better private returns to R&D investment. The private sector thus has to ramp up its endogenous investment in R&D, focusing on applied research and experimental development, to foster innovation and boost its productivity, thus contributing in closing the innovation gap between Mauritius and other economies. The OECD (2017) reported that in developed economies, the business sector performs the largest share of R&D in most economies, thus accounting for over 60%of expenditure on R&D. Mauritius given its level of economic development should strive to proportionately increase its GERD. The results of our study provide some support for schemes that foster the increase in R&D spending across public and private sectors, but the literature also stresses that to increase the positive effect of R&D funding, there is need to also focus on and activate the social filters, innovation boosters and intellectual regulatory factors within the national innovation system.

Our results provide evidence for R&D-based economic growth and R&D data have enabled us to shed some empirical light on endogenous growth theory as it pertains to Mauritius. We do nevertheless acknowledge that R&D is an innovation input measure and that it allows a partial analysis of the role of innovation on economic development.

Catalyzing Industry-Academia partnership in Mauritius

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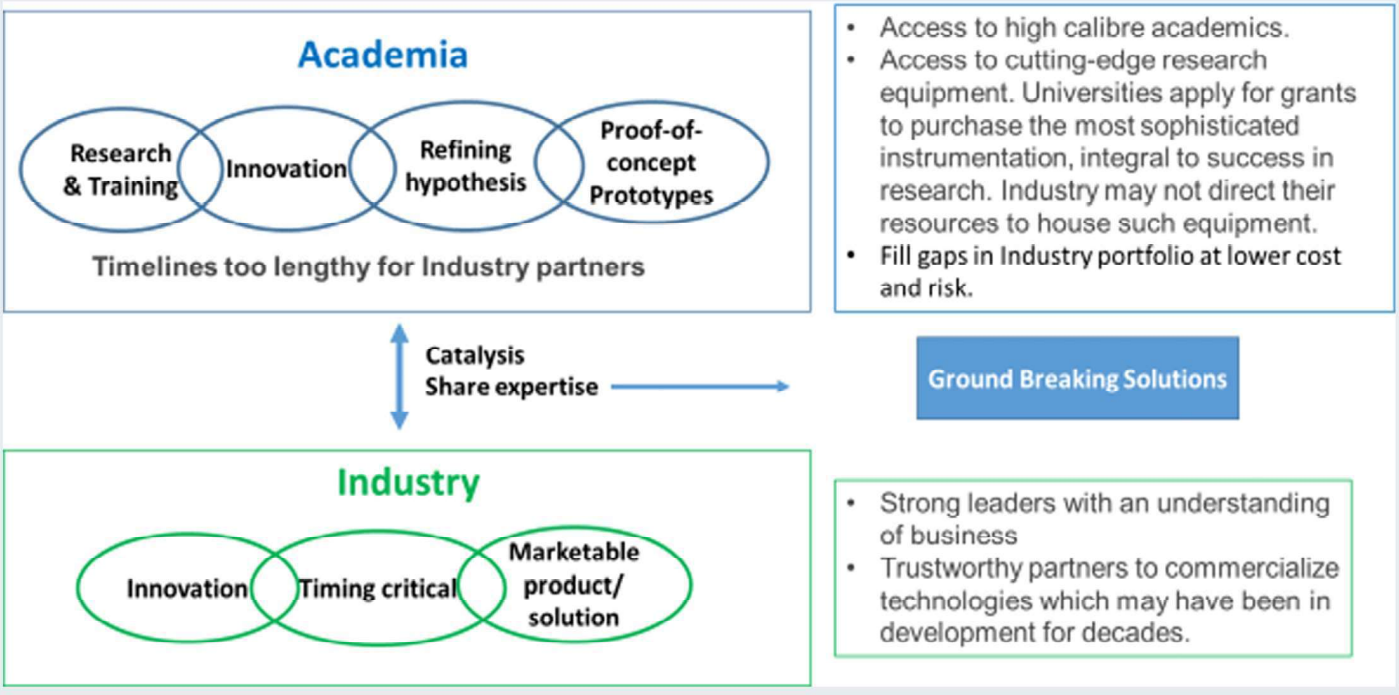
Academic institutions have as primary task higher education with well-trained graduates. However, high quality postgraduate training requires that a major part of universities' activities is targeted towards research and innovation.

In Industry, product or process development demands confidentiality while Academia is open to networking for collaboration. Academia is driven by rules of funding bodies and is more motivated in early research publications. Industry partners are focused on deliverables and timelines, which can often challenge universities relying on collective decisions. Academics constantly have to demonstrate that their projects have deliverables to strengthen their history of successful research, but aligning this with industry-focused timelines can be difficult.

Innovation-led areas have demonstrated various levels of maturity to tackle Industry-Academia partnership. For instance, in drug discovery, one of the most impactful changes is enhanced collaboration between researchers in academia and the pharmaceutical industry. In this area, there are numerous fruitful collaborations between universities, industry partners and start-ups such as Emtriva, which is a lifesaving drug for more than 9 in 10 HIV patients in the U.S., invented at Emory University. Closer to us in Mauritius, Natec Medical Ltd has successfully transitioned from a start-up to an innovative and dynamic enterprise with close to 220 collaborators.

The new model which can act as a catalyst for UoM-Industry partnership is the sharing of expertise and resources which can be transformed into ground breaking solutions. However, it is the human ties, understanding and trust on both sides that will count most in addressing national and regional needs.

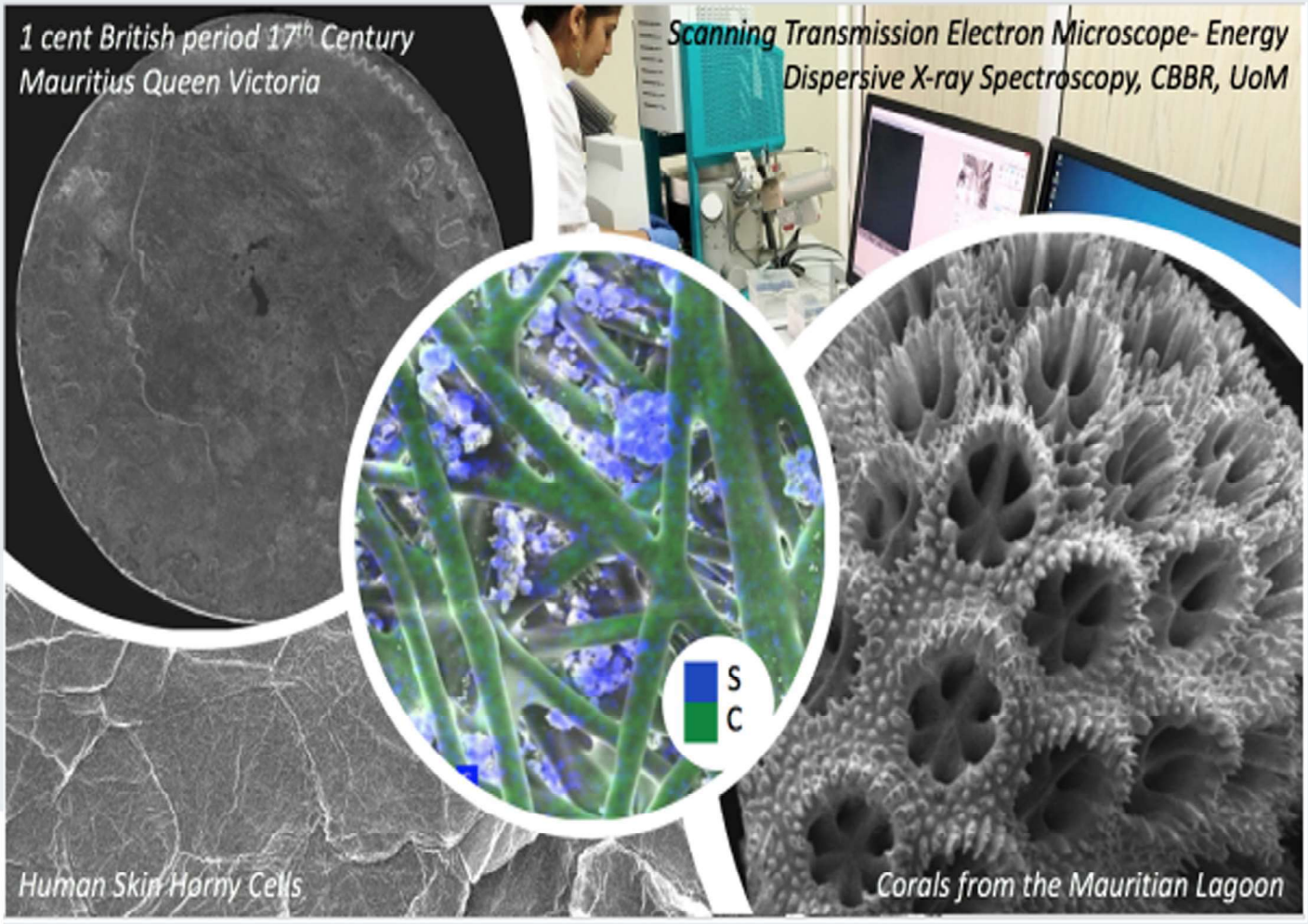


Filling the Innovation Gap in Industry portfolio

N. Goonoo, I. Chummun, D. Bekah

Biomaterials, Drug Delivery and Nanotechnology Unit (BDDN Unit), Centre for Biomedical and Biomaterials Research (CBBR)

In 2016, the Biomaterials, Drug Delivery and Nanotechnology Unit (BDDN Unit), Centre for Biomedical and Biomaterials Research (CBBR) acquired a scanning transmission electron microscope (STEM) (Tescan, VEGA) coupled with energy dispersive X-ray spectrometer (EDX), later in 2018. This microscope is a powerful innovative tool, unique in the Indian Ocean region and allows us to take high resolution images and do elemental mapping. This is an example of how Universities apply for grants to purchase the most sophisticated instrumentation, integral to success in research. Industries may not direct their resources to house such equipment and hence through Industry-University collaboration they can enhance their innovation capacities.



This imaging technique has a wide range of applications across both research and industry-related fields. It has been used for biomedical, archaeological, cosmetics and environmental applications. Other research applications involved in depth morphological analysis and elucidation of the elemental composition of local corals and seaweeds for example, EDX analysis identified Ulva lactuca (sea lettuce) as a rich source of magnesium and potassium. Elemental mapping of aerosol and soil particles has been performed to assess environmental air pollution and its adverse effects. Imaging of one-layered sheet of skin horny cells and single hair stands has also been performed for the evaluation of cosmetic products. This analytical technique can also be useful in trace evidence analysis in crime investigations or in the identification of microorganisms during food inspection.

SDGs at the University of Mauritius

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World leaders at the United Nations universally adopted the Transforming Our World: The 2030 Agenda for Sustainable Development in September 2015. The agenda, which involves the 17 Sustainable Development Goals (SDGs), ambitions to set the world on a path towards a better future for all by 2030. Universities have a critical role in achieving the SDGs through teaching, learning, and research. An evaluation was undertaken this year on programmes serviced at the University of Mauritius, reveal that UoM Faculties/Centre covers in principle all the 17 SDGs. For over a decade now, the UoM has systematically integrated sustainability throughout the curricula of degree and Masters programmes so that our graduates are ready to apply the skills and knowledge underpinning sustainable development both locally and regionally.

Meeting Poverty Challenges with Innovations that Can Lift the Livelihoods Of The Poor

Marc Blumenthal

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During my travels over the past 40 years I have witnessed a lot of poverty on the planet. It was my feeling that if we could include the poor in the free enterprise system, "all ships would rise". But the question remained, how to do it?

I discovered that all too many international development projects are "top down" rewarding first the agencies that fund them, and then the "haves" in the developing nations who implement them, with "trickle down" expectations to the "have nots" who never receive them.

This approach has done nothing to close the income divide in developing nations. Fundamentally this is the poverty reduction industry's "poverty reduction paradigm".

So about three years ago, I started the Social Ventures Foundation that has a mission to facilitate a "bottom up strategy" through the development of social ventures that are focused on "creating markets at the Bottom of the Pyramid". To put it more succinctly, we wanted to focus on social ventures that "employed the poor to deliver meaningful social impact to the poor at a price the poor could afford".

So we set out to do a demonstration of what we meant. So first we identified a major challenge that the poor have in all developing nations, which is food insecurity. Food insecurity begets vitamin deficiency, which begets poor immune systems and susceptibility to a variety of diseases. For kids it translates to an inability to focus in class and thus learn.

So here is the challenge: "how do you create a social venture that employs the poor to deliver vitamin supplementation to the poor at a price the poor can afford"? The answer is a shaved ice cone with a vitaminized topping. We then decided to pick the poorest nation in the Americas, to test it out, figuring if we could succeed there, we could succeed anywhere. This is the island nation of Haiti. We created a brand for the product entitled V'ice Haiti. (pronounced V-ice for Vitaminized Ice) https://www.vicehaiti.com/. We then traveled to Haiti to conduct market research primarily in the slums, which was our target audience. The Haitians loved it!

The Social Ventures Foundation is now engaging the next generation of social entrepreneurs from colleges and Universities worldwide to engage in the next generation of social ventures like V'ice Haiti that can lift the livelihoods of the poor https://www.epicsocialventures.com/.

Innovations of the Triple-Helix Era in a Win-Win Situation

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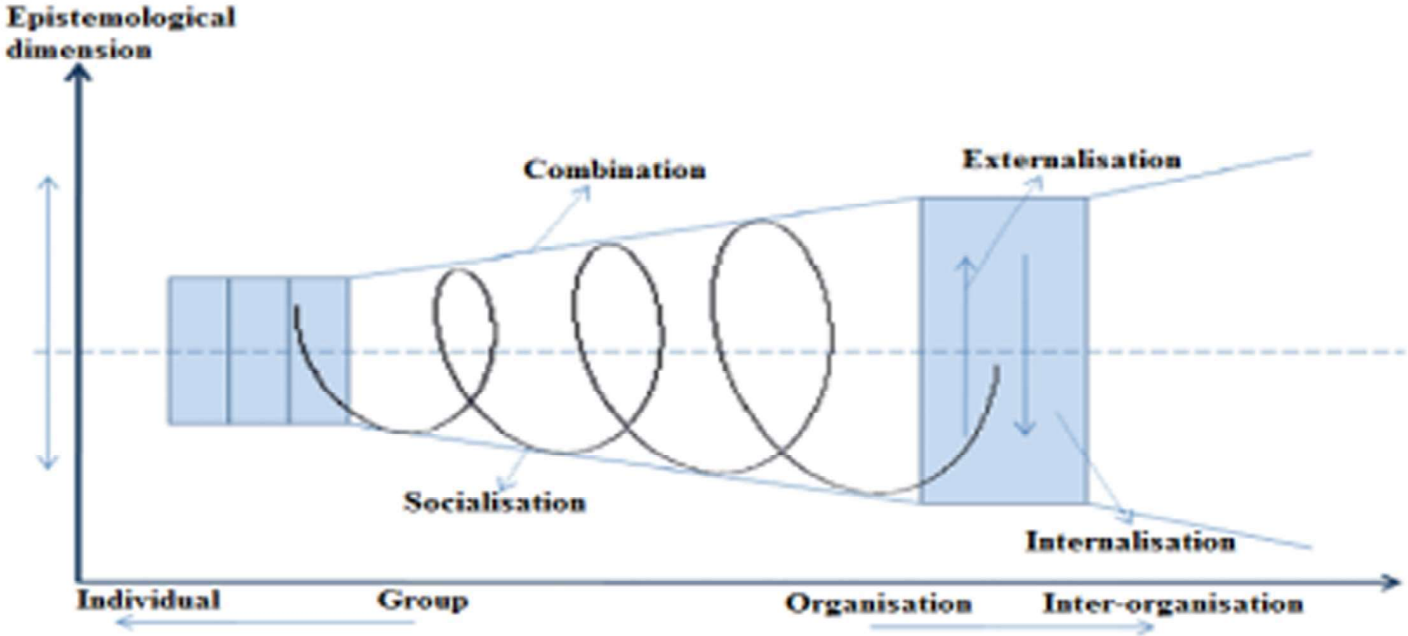
Pandemic diseases are a poison to the socio-economic and financial development of a country but innovations in the triple helix Government-University & Research-Community are the antidote. In a nutshell, this abstract focused mainly on some important SDGS (as tabled) to reflect the importance of innovations with some clues to bring back economy back to life.



The Republic of Mauritius has to look for new innovative challenges, and the COVID-19 only catalyses the whole process for the triple helix to search for additional revenues to the country and nothing prevent us to think 'big' to achieve sustainability as per the UN Sustainable Development Goals (SDGs) in terms of, inter alia,exploitation of the deep sea ocean industry (pearls or medicinal plants), energy decarbonistion (air and sea waves energy, and tidal waves energy), circular economy for a green Mauritius and industrial ecology provided there is a strong sustainable link between the government and its ministries coupled with research, training and reskilling that may be provided by academics in their respective fields but within the framework of a multidisciplinary approach for robust proposals capable of generating trillions of dollars to all stakeholders in a long term era. In return, innovations through knowledge-creation shall frame universities strategies, action plan, goals and achievements and, henceforth, academics and researchers shall benefit immensely in contribution to SDGs, bridging new partnerships, knowledge sharing with new funding streams to achieve socio-economic imperative to the new generations to come.

Enterprises therefore need to build closer relationship with consumers in order to be part of the content that they are consuming (Rashtchy et al. 2007). It is widely recognised and accepted that education is an effective tool for sustainable development in terms of providing training and raise public awareness on sustainable development and its goals. However, given that social media provides for the establishment of a virtual community, organisations and consumers can communicate, collaborate and co-produce in order to improve products and services. In addition, the government and its ministries; with a view to achieve community and a financial-business hub, must bring new policies to facilitate emerging fields (namely fintech and blockchain operations or double tax avoidance agreement); in its vision on the employability among young graduates.

Design,
Artwork
Digital Unit
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