

“Sustainable Partnerships between Universities of Technology and Industry in the creation of Entrepreneurial Society”

A Keynote Address delivered at the Graduation Ceremony at the Durban University of Technology (DUT)
www.dut.ac.za

Thami Msubo

Chief of Human Resources, Telkom SOC Limited

Durban, South Africa, 15 April 2013

Acting Chancellor and Vice-Chancellor and Principal of the DUT, Professor A C Bawa, Deputy Vice-Chancellor, Executive Dean of the Faculty of Engineering and the Built Environment, Professor T N Andrew Executive Deans and Deputy Deans of the other faculties, the Leadership of the Student Representative Council, Parents, Distinguished Guests, graduating students, Ladies and Gentlemen. All protocols observed, it gives me great pleasure to address you on this special day.

A graduation ceremony is a special occasion; a time of celebration, of contemplating a new chapter and opening a door onto the world of work and all the joys and responsibilities that go with it.

It is therefore a great honour to share a few thoughts with you on a topic that is close to my heart and close to the hearts of many, many South Africans who care deeply about the future of our country. I am of course referring to education.

When I chose the topic of my Keynote Address, which is "*Sustainable Partnerships between Universities of Technology and Industry in the creation of an Entrepreneurial Society*", it was in the context of the key challenges we face today as a nation. Sustainable partnerships do not have boundaries and by industry I refer to the formal and informal sectors of our economy which include the private sector, small and medium enterprises, business chambers and the public service.

However, before I go any further, please allow me to express my sincere admiration to the honourable Chancellor and Vice Chancellor and their academic and administrative staff on another successful graduation ceremony. I would like to remind everyone present here today that the Durban University of Technology is a great centre of educational and academic excellence. I have no doubt that this institution is on the right track to build on its excellent reputation as a truly tested centre of knowledge on the African continent.

You are one of the few leading Universities of Technology in the world that matches recognised institutions I have encountered during my studies and work experience in Germany. You do not stand in the shadow of the Universities of Technology in Munich, Stuttgart and Saarland.

To the students who are graduating today my message is simple: We live in an information age that is continuously experiencing growing levels of connectivity. Billions of people today use all forms of Social Media to connect with one another. Twenty years ago it was fixed line telephony. Ten years ago it was e-mails. Today it is Social Media and applications like smart phones that contribute to rapid change across the world.

To understand the astonishing age of progress we are living in, you just need to look at the smart phone in your pocket. Your smart phone has more computing power than the Apollo space capsule. That capsule could not even Tweet!

One wonders what the 7 billion people of the world are going to use in the next 20 to 30 years. Two things are certain: technology will continue to evolve and knowledge and information will continue to fuel the economy.

Your chances to secure jobs are going to come from the interconnected world of Social Media rather than from traditional job advertisements and headhunting methods. Who invented these multi-billion Dollar

Social Media companies? It was students like you who took it upon themselves to become entrepreneurs while they were still at university. There is no better example than Mark Zuckerberg who conceptualised Facebook from his room at Harvard University at the tender age of 20. Today Facebook is worth \$64 billion.

If Facebook was a country, it would be the 3rd largest in the world with just over 1 billion people. This figure refers to the number of registered and active users. It is quite staggering to think that India just beats it with 1,1 billion people.

Another good example of entrepreneurial graduates is that of Larry Page and his mate Sergey Brin. They founded the \$50 billion Google Corporation while they were Ph.D students in their mid 20's at Stanford University.

Together they own 16% of Google. Who hasn't heard of Google? And who hasn't heard of YouTube which is owned by Google? These are global phenomenon that have changed the way we interact. This is entrepreneurship at its very best. This is young people identifying an opportunity and seizing the moment. This is people of vision carving a destiny for themselves. Even better, this is job creation in action. Consider that Google alone employs around 53,000 people worldwide.

Universities of Technology play an important role on the global stage to eradicate poverty by coming up with practical methods and solutions to create small and medium enterprises that contribute towards sustainable entrepreneurial communities. The United Nations estimates that poverty has undergone a greater reduction in the past 50 years than in the previous 500 years. And much of this has taken place in the last 20 years. The average Chinese person is 10 times richer than he or she was 50 years ago — and lives for 25 years longer. Life expectancy across the world has risen dramatically. We gain five hours of life expectancy every day — without even exercising! Practical education offered by Universities of Technology with quick access to job opportunities, especially in the arena of entrepreneurship, is what the

mid 21st century will be about.

Honorable Vice Chancellor and Principal, allow me to provide some insight on how Universities of Technology can prepare work-ready Graduates.

The National Development Plan outlined by the President in his State of the nations Address paints a vision of where South Africa should be in 2030 and suggests a road-map to help us get there.

The Plan envisages a South African economy 2.7 times its present size in 2030. The vision is for unemployment to reduce from 25% to 6%, and to eliminate dire poverty so that no one will live below the defined poverty line of less than R500 per month. To help achieve the aspirations of the National Development Plan, it is my respectful submission that it is the Universities of Technology that are best suited to add value by preparing and producing work-ready Graduates who have the skills and the will to become entrepreneurs. It is my honest belief that Governments cannot create sustainable jobs as experience across the world has shown.

Large corporations obviously have a role to play, but more and more small and medium enterprises formed by graduates with a minimum of 2 years and maximum of 5 years experience are the catalyst for job creation. These start-up companies are usually funded by venture capitalists, development finance agencies, pension and provident fund managers and the banks.

Government is there to create an enabling environment and an investor friendly climate for job creation. This talks to our New Growth Path as a macro-economic policy. Partnerships between Universities of Technology and industry must therefore be strong, ongoing and sustainable. Nothing less than the future stability of our nation is at stake.

The role of Further Education and Training Colleges is also crucial as

they are well placed to create work-ready Apprentices and Artisans. A good example is Germany and Switzerland where seven out of ten young people enter the economy via Apprenticeships and spend 40% of their time in the classroom and 60% on on-the-job training in the workplace.

It is interesting to note that in these countries the term "Apprenticeship" is applied to all jobs and all fields of study, not only at undergraduate level but also on postgraduate levels. In South Africa, our understanding of Apprenticeships is limited to trades such as electricians, fitters and turners, brick-makers and boilermakers etc.

Honorable Vice Chancellor and Principal, one cannot speak of University of Technology education without mentioning the basic education of our children that starts at elementary level in our school system as well as the role of parents in education. It is very unfortunate to see chaos at our schools that happen due to a lack of common understanding of the issues at stake. The role of Teacher Unions is crucial in promoting the quality of education of our children. I therefore want to urge all stakeholders in the basic education cluster to cooperate so that the seeds planted at this level are properly nurtured. It is imperative that we produce quality High School graduates who are ready for a University of Technology or a FET College education.

I must say I find it surprising that parents in the Townships do not participate in the education of children by choosing to stay away from attending School Governing Body meetings. However, as soon as they move to the suburbs, they attend these meetings without having to be reminded. This talks to the level of self-consciousness of who we are. The basic education system, whilst showing some signs of improvements in some Provinces, is far from being where it should be and is not producing the number of skilled young people needed to access sectors that hold the bigger slice of the economy.

South Africa urgently needs larger numbers of people with internationally benchmarked post high school qualifications who are

capable of entering these sectors.

I commend Government for its recommitment to education, for example, the review of salaries of civil servants, especially teachers and their conditions of service as announced by the President in his State of the Nation Address.

Honorable Vice Chancellor and Principal, the role of Student Representative Councils is crucial in any University. The question I have for these Councils is this: where in the world have you seen student demonstrations that end up destroying the very physical infrastructure and amenities that we need to provide quality education. It does not matter how urgent your demands are, as a Council you must protect and defend the University infrastructure so that the next generation can continue to benefit from it.

We need such exemplary leadership. In its absence, chances are that we shall end up not having a University at all once the protests and demonstrations are over. I believe that students have a right to voice their grievances with University management, and I believe efforts must be made to investigate grievances and find solutions based on the institution's ability to afford such solutions.

Some of the grievances may not be affordable and this is when the Student Representative Council must display leadership and put the institution and the country first. Universities operate on an approved Budget, just like any other company or Government Department. Student leaders must understand that spending is on a prioritized basis and on the core function of the University, which is the delivery of education programmes to all students.

When a University's infrastructure is destroyed, offices and other amenities set alight and students come close to causing grievous bodily harm to fellow South Africans, I become worried. Keep in mind that employers are reluctant to employ someone who caused havoc because

of insufficient hostel accommodation or lack of warm water.

Repairing infrastructure that is badly damaged may take several years and who suffers in the meantime? It is the next generation of students who may no longer be able to use the state of the art library or laboratory that their predecessors have enjoyed.

Also keep in mind that time spent on demonstrating is time lost. Consider also that bright students from countries we have to compete with on the global stage are using their time to innovate and to break new ground.

Countries such as India, Japan, Brazil and Germany are busy producing their own Zuckerbergs, and Larry Pages. We cannot afford to fall behind and waste precious time engaging in activities that do not add value. If we do, it will be our sad fate to remain consumers and importers of goods and services.

A country that cannot produce and sell its products and services offshore in today's global economy will continue to be the lapdog of the super powers. Even among the BRICS nations, we are the smallest economy. Already we lag behind India and Brazil, and cannot even be mentioned in the same breath as the super powers, China and Russia, who are also part of the BRICS Club.

Honorable Vice Chancellor and Principal, really thinking out of the box at this point in time and taking entrepreneurial thinking to the next dimension I ask the following question: what stops SRCs from forming enterprises to identify areas of the University system that can be managed and run by students on a rotating basis?

A good example would be Student Residences. For example, blocks of flats can be identified in the City of Durban. One then gets pension and provident funds or Venture Capitalists, in other words providers of capital who invest in start-up companies that promise high returns, to finance the acquisition of such assets which are then managed by a

registered Student Trust on a rotating basis.

The proceeds of residence fees paid by other students are then used to pay off the loans and by the time the building is fully paid up, proceeds are used to fund other areas, such as assisting deserving students with bursaries, student loans and accommodation as well as exchange programmes or study tours to other Universities of Technology.

Honorable Vice Chancellor and Principal, on the question of South Africa's ranking on the global competitiveness index, it is important to note that the unavailability of adequate human capital, particularly Scientists and Engineers, is also a cause for concern. The United States currently accounts for less than 8% of new Engineers produced globally each year, while China and India are each currently producing roughly 200,000 engineers per year.

In South Africa, we are producing just below 12000 Engineers at both traditional Universities and Universities of Technology and 60% of them leave the country after graduation for better opportunities overseas. In the United States, only 6% of university and college students major in engineering; in Europe, this rises to 12%. In Asia, over 45% of students major in Engineering, with big volumes coming from India, China and South Korea. In South Africa, only 1,5% of the University students major in Engineering. Clearly, this is a huge cause for concern.

Honorable Vice Chancellor and Principal, Universities of Technology cannot function in isolation because they are integral component of the South African economy. They are very special places and as such they must not only talk about diversity and gender equality but must be seen to walk the talk. Transformation, diversity and gender equality are what I would call the "*key attributes of a relevant institution of higher learning*" in the 21st century".

If one looks at the number of University graduates in South Africa, there is no doubt that more women graduate than men. I believe that gender equality, whether in a village in Limpopo or Zululand or a

Boardroom in Johannesburg or Cape Town is good for South Africa. If you are wondering whether women are in fact smarter than men, the evidence now points to YES.

However, there are certain sections of the economy where women are not properly represented. The Judiciary is one example. The top management structure in the private sector is another. One also thinks of Technical, Engineering and Mathematics related professions.

Let us not forget that South Africa still has the largest and most dynamic economy on the African continent. We dominate the technological landscape, we host some of the world's greatest companies. We house the largest capital markets in Africa and have Africa's greatest Universities. There is no equivalent of this fine institution in Africa. By 2030, South Africa shall be the most diversified country in the world where multi-culturalism and multi-linguism are the order of the day.

Honorable Vice Chancellor and Principal, allow me at this juncture to focus on the importance of Co-operative education or Work-integrated learning in creating sustainable partnerships between Universities of Technology and Industry. The Durban University of Technology is the only University in South Africa with a successful co-operative Education track record.

Experience has shown that a faculty that has limited or no interaction with

Industry tends to view industry as being arrogant and not approachable due to a lack of mutual respect.

Discussions on appropriate protocol can play an important role in addressing this fear and misunderstanding. However, due to the broad nature of higher education and industry's involvement, the primary focus for this protocol should be about identifying matters of mutual interest and respect for one another's fields of specialization. Whilst industries are the wealth creators in any free market economy, it

should also listen to Universities on strategic interventions pertaining to skills and knowledge transfer processes.

One of the reasons why some universities have excellent interactions with the industry through its co-operative education departments, is that most faculty members are keen to see industry finance academic research projects. Once again, due to the unique aspects of these partnerships, as well as the potential for abuse of power and misunderstandings, the faculty may refer to formal protocol to navigate the engagement process.

Honorable Vice Chancellor and Principal, the point I would like to touch on in closing is *Customer focus and innovation*. I was recently very honoured to have written a blog together with a friend of mine from the City University of New York's Queens College, Professor Jim Stellar, who is a Provost and Academic Vice Chancellor at this well-established institution. The essence of a blog was to provide a high level overview of the nature of partnerships between industry and Universities from a customer focus and innovation perspective.

In highlighting the question of customer focus in the academic world, we asked ourselves a question: why do universities exist today? Is there competition for students, especially bright students with scholarships funded by the industry? We began by analysing the concept of 'co-creation'.

Let me give you a simple definition of what co-creation means: it is a process that involves two parties in which one party recognises the need to involve the other party in the development or design of a new product. The involvement of the other party simply means 'being part of the development or design process and providing input on an ongoing basis'. In a marketing context this refers to a manufacturer and a customer.

In a University context, this refers to the faculty and the student and ultimately the employer, who has to buy a product. The product in this

case is a Graduate that is prepared and produced by the University. We cited the example of Nike, which is the world's leading co-creator with its customers on all its sportswear products. Before the design process of a new product starts, Nike invites most key customers to provide input.

Customer interactions take place in various platforms including the laboratories where tests are conducted. Customers get a chance to test new running shoes before completion to final product stage. This method of co-creation has made Nike the sportswear manufacturer of choice. Famous sports celebrities that usually get invited are, among others, the world's top Golfers, Tiger Woods and Rory McIlroy and Soccer stars, Cristiano Ronaldo and Lionel Messi, though Messi is an Adidas fan. Nike has reached a stage where it is no longer referred to as co-creating unique customer experiences, but in fact 'co-creating the future with their customers'.

Honorable Vice Chancellor and Principal, with reference to partnerships between universities and industry, the immediate customers of the Universities are the students, who are also receivers of the higher education that is being provided to them. However, in real terms the industry or the 'workplace providers' are the end-users of this product, which we know as a Graduate. The industry has to deal with knowledge and skills transfer from the graduate student to modernize its products and services in the market. The question now is: can Universities get away with the design and development of the curricula without the involvement of industry?

The first question is: How can universities co-create the future with industry, using graduates as case studies? The second question is: what is industry doing to help create knowledge at universities to gain access to a pool of talent that will shape its products in the near future when a graduate is not only an independent contributor, but also an influential leader of a large department or section, 5 to 7 years from today. How often do we get graduates that need to be re-trained by employers in their first 2 years of joining the workplace? What about the opportunity

costs and productivity that is lost during the process of re-training.

Honorable Vice Chancellor and Principal, to reposition Universities and Industry to a sustainable partnership Agenda in the mid 21st century, Jim and I are suggesting the following input to be considered by both parties:

Firstly: Universities should continue to lead the way in terms of innovation and new discoveries in teaching and research. The industry should be able to do the conversion in such a manner that the final product, that is the graduate, remains attractive, competitive and sustainable for the employer who is interested in value addition.

Secondly: Co-creation and sustainable partnerships in high education today remain more important than ever before. The students who graduate at universities in today's world must be entrepreneurial value adders and solution providers. Universities should not be ivory towers, but should understand the needs of the general public to play an influential role in helping employers design products and services that are attractive to the general public.

Thirdly: There is a great deal of appreciation and respect about the fact that academic institutions have been around and stable for a very long time. Which company in the world today is as old as Harvard University with its 350+ years of history and tradition? And remember, the University system was up and running for a long time before Harvard was founded. To substantiate this point, there is evidence that teaching at Oxford University began in early 1100, the same applies to Cambridge and these are still the world's finest institutions of higher learning and esteemed providers of high education.

The question is: how do we take action to address the steps mentioned above? There must be meaningful student exchange and faculty exchange programs. When students are being placed in the industry for experiential learning or in-service training, they must be given work of real value. Industry has to stop paying lip service in this area. Our

South African experience is different from that of other emerging powerful economies, such as, India, China, Malaysia and Brazil.

In these economies real skills transfer happen on the job. On the point of customer focus and innovation, both Jim and I came to the conclusion that sustainable co-creation is a powerful way to go if Universities and Industry are to remain committed to delivering on economic development, educating citizenry and eradicating poverty.

I salute your success and I wish you the best on your journey of life.

Honorable Chancellor and Vice Chancellor, thank you for this opportunity

Thami Msubo

15 April 2013

Durban, South Africa