



FACULTY OF MANAGEMENT
DEPARTMENT OF BUSINESS MANAGEMENT
SUPPLEMENTARY FINAL SUMMATIVE ASSESSMENT

SUBJECT: Entrepreneurship 2A
CODE: EMT2A01/INT2A01
DATE: July 2016
TIME ALLOWED: 150 Minutes
TOTAL MARKS: 125

ASSESSOR: Mr C Schachtebeck
MODERATOR: Dr D Groenewald
NUMBER OF PAGES: 5

INSTRUCTIONS:

1. This is a closed-book assessment.
 2. Question papers must be handed in together with your answer books.
 3. Read the questions carefully and answer only what is asked.
 4. Answer all the questions in the answer book provided.
 5. Number your answers clearly.
 6. Write neatly and legibly on both sides of the paper in the answer book, starting on the first page.
 7. Structure your answers by using appropriate headings and subheadings.
 8. The general University of Johannesburg policies, procedures and rules pertaining to written assessments apply to this assessment.
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SECTION A**[125 MARKS]****QUESTION 1****[60 MARKS]****Meet the man turning waste into energy**

Meet Sean Thomas, CEO and founder of Bio2Watt and the man behind SA's first biogas plant that uses organic and agricultural waste to produce power for the national grid.

It's taken Thomas, a fluid mechanical engineer, eight years of relentless hustling, sacrifice and persuasion to make his dream of establishing an environmentally friendly power plant a reality. Following the series of rolling blackouts experienced across the country in 2006, Thomas could foresee the "perfect storm" that was brewing within the energy sector and he knew it was the right time to leave his plush job at SABMiller to embark on his entrepreneurial journey.

His initial plan was to get the plant up and running within three years, but it took much longer than anticipated, as he was confronted with a plethora of challenges – the first being to clear the regulatory framework around waste-to-energy production. He was forced to use his savings and cash in his and his wife's pension funds and take out a second mortgage on his home to finance many environmental impact and feasibility studies that had never been done before.

Thomas caught a break when he managed to secure a loan from a US funder and the Dutch government, but the ball really started rolling when he landed R100 million in funding from the Industrial Development Corporation in 2013 to build a biogas plant in Bronkhorstspuit, near Pretoria. The additional R60 million equity required to build the plant came from a number of partners, including the Norwegian investment fund for developing countries, Norfund, the Bertha Foundation, the French Development Agency and the Department of Trade and Industry.

The plant is located on Beefcor's premises, which is one of the SA's biggest feedlots, giving it access to key fuel supplies, grid access and water sourced from Beefcor's storm water collection dams. Around 4 000 tons of mixed organic waste – from cow manure and paper sludge to fruit and vegetable waste – is processed on a daily basis to produce 4,4MW to 4,6MW of power. That's enough electricity to power 2 000 middle class households.

Bio2Watt's first major industrial backing came from BMW in 2010, which Thomas says gave his business the level of credibility required to convince funders and waste suppliers in the area to get on board.

"You really have to find things out for yourself. There will always be naysayers and people who tell you it can't be done, but you shouldn't leave it there – always dig deeper and discover it for yourself. The biggest challenge was trying to convince some of the players that instead of sending your waste matter to [a] landfill, we can process it in the plant. It creates jobs, it's about sustainability and you're meeting some of your sustainability indexes big industrial players and local farmers to divert waste destined for landfill sites to the plant," he says.

BMW has signed a 10-year agreement at a premium price with Bio2Watt to supply the carmaker's Rosslyn manufacturing plant with renewable energy and the enterprise delivered its first contribution to the national grid on 10 October. While the road to full-scale operation has taken longer than expected and required a huge amount of perseverance, Thomas says he learnt valuable lessons that every entrepreneur should take note of.

"When we started out I was told, that it wasn't possible to sell power privately, but I went through the Electricity Act with a fine-tooth comb and I discovered that there was nothing stated in the regulations to stop me. It just hadn't been done before." The Bio2Watt plant also produces non-odorous fertiliser that is manufactured from paper sludge that helps it retain water better. He recently began supplying fertiliser to banana farmers in Mpumalanga and he's anxious to see how it will fare.

Adapted from: <http://www.destinyman.com/2015/11/04/meet-man-turning-waste-energy/>

- 1.1 By means of the various components of a viable business opportunity, **evaluate** whether the Bio2Watt concept constitutes a viable business opportunity. Ensure that you **discuss** the components of a viable business opportunity first. (14)
- 1.2 Suppose that Bio2Watt contacts you to assist them in identifying new sources of raw materials for the electricity plant. By means of the random input technique, **use** the word “newspaper” to come up with alternative possibilities. **Select** the most suitable possibility, according to the alternatives that you have identified. (9)
- 1.3 Sean Thomas is a typical example of an entrepreneur. Although not all entrepreneurs possess the same characteristics, research indicates that certain characteristics are shared among entrepreneurs. In terms of the most common characteristics associated with entrepreneurs, **indicate** five (5) of these characteristics, according to Nieman & Nieuwenhuizen, shown by Sean. **Substantiate** your answer with an explanation and examples from the case study. (10)
- 1.4 What type of innovation is the Bio2Watt? **Substantiate** by explaining this type of innovation. (4)
- 1.5 Briefly **explain** which two (2) blocks to creativity, according to Nieman & Nieuwenhuizen, are most likely to have stifled Sean's innovation (NOTE: Do not merely repeat theory, apply theory to the case study) (4)
- 1.6 **Apply** the five-stage window of opportunity theory to Bio2Watt [Note: marks are only awarded for application, NOT explanation of the theory]. (10)
- 1.7 **Describe** what licensing entails (4 marks) and **substantiate** whether the Bio2Watt plant could be licensed (5 marks). (9)

QUESTION 2**[8 MARKS]**

Discuss what is meant by the concept ‘Open Innovation’ (6 marks). **Provide** a practical example of an organisation or a product which makes use of this concept (2 marks).

QUESTION 3**[19 MARKS]**

- 3.1 **Explain** the implication of the various thinking styles on entrepreneurship. Then **indicate**, in your opinion, which of the thinking styles has the biggest impact on entrepreneurship. (13)
- 3.2 **Distinguish** between an innovation and invention (4 marks). **Provide** any practical business example to illustrate the difference between the two concepts (2 marks). (6)

QUESTION 4**[6 MARKS]**

Joseph Schumpeter (1883 – 1950) was an economist who was responsible for really launching the field of entrepreneurship.

Explain the reason why Schumpeter was credited with launching the field of entrepreneurship. Then **discuss** relevance of his findings for today's viewpoints about entrepreneurship.

QUESTION 5**[32 MARKS]**

Veolia, the UK's largest waste management company, has given its support to an innovative project which aims to bring light to deprived areas of the world through two innovative approaches involving plastic bottles.

Launching the company's support for 'Liter of Light' at London's University of the Arts near King's Cross station yesterday, 14 January, the company's senior vice president for the UK, Estelle Brachlianoff, said supporting the scheme "ticks all the boxes for us".

Mrs Brachlianoff said: "This helps makes the world a safer place as well as a lighter place... We are as a company committed to resourcing the world is you can imagine that recycling plastic and using a small amount of water to save energy and bring light is in a nutshell everything we do as Veolia."

Liter of Light aims to bring light to poorer communities in two ways. One is to insert a plastic bottle containing some bleach and filled with water upside down in the roof of houses typically with galvanised roofs and lacking electric lighting. About half the bottle is above the roof line and sunlight is refracted into the room at the strength of about a 55 watt bulb for about 10 hours a day.

As part of the project, up to 500 London schoolchildren are taking part in a series of school workshops, learning about the Litre of Light technology, resources and recycling around the world. They're also discovering how to make their own light bulb from a recycled two litre plastic bottle.

A separate project sees the plastic bottles used to hold a thin bulb and connected to a large battery which can last up to eight years and is powered by small solar panels.



Adapted from: <http://www.letsrecycle.com/news/latest-news/veolia-supports-plastic-bottle-light-innovation/>

- 5.1 With reference to the invention of the 'Liter of light' bottle, **explain** the various steps in the innovation process. (14)
- 5.2 By means of the metaphors used in the creative problem solving process, **develop** a new application for recycled water bottles. (18)

END OF ASSESSMENT