

DO NOT WRITE ANYTHING ON QUESTION PAPER EXCEPT YOUR NAME, DEPARTMENT AND ENROLMENT No.

POSSESSION OF MOBILE IN EXAMINATION IS A UFM PRACTICE

Name of Student ----- Enrolment No. -----

Department -----

BENNETT UNIVERSITY, GREATER NOIDA

Supplementary Examination, July 2019

COURSE CODE: **CIE101L**

MAX. DURATION: **3 HOURS**

COURSE NAME: **Foundations of Entrepreneurship**

COURSE CREDIT: **2**

MAX. MARKS: **100**

Note:

- All questions are compulsory
- All questions carry same (25 marks) each
- Read the Case Study carefully before answering any question.

The Narrow Car Company

(Source: <https://www.heacademy.ac.uk/system/files/4-mini-case-studies.pdf>)

The Entrepreneurial Itch

After 25 years of being involved in developing and selling engineering solutions in the motor industry, Hugh Kemp had had enough.

“Despite being involved in engineering and manufacturing for all that time, I still felt that I wanted to make something, something whole and complete and mine”. Hugh had been a member of umpteen teams but was never the sole owner and champion of a complete product.

“My first idea was to get as far away from the motor industry as possible so I decided to build boats, especially as I love sailing. However, I knew very little about building boats but I did know about making cars so power won over sail in this case.”

Fortunately, Hugh had been working on a new narrow vehicle concept towards the end of his seven years as Director of Engineering at Prodrive Automotive Technology in Warwick in the UK. When the entrepreneurial itch became too much to bear and he decided to move on, the moment of truth coincided with Prodrive’s decision not to pursue the new vehicle concept which became the Naro Car. With a license from Prodrive to develop the product from his own resources, Hugh set up The Narrow Car Company.

The Entrepreneur

With long experience of the corporate world at a senior level, including time at Lotus Cars designing and building engines for GM and Chrysler, Hugh felt confident of his ability to present his ideas to any audience.

"I'd got technical knowledge, commercial nous and presentation skills but what I did not have was enough money to take the Naro car from an idea to a working prototype. There's money around for the back end, such as pre-production prototypes, labour, capital equipment, once you have proved the concept with something that works and looks like the real thing but there's little money around at the risky end, the beginning, for what is a very new and different car concept."

As a client at Coventry University's Vision Works Business start-up programme and also a partner of the University's Engineering Faculty, some good advice and practical design engineering support was on offer which included information on funding options.

Hugh tried a number of potential corporate partners for equity-based arrangements, and sought support from supplier networks and the European Union's Innovative Actions

programme. Prodrive were willing to provide engineering capacity at low rates but cash was needed. After eighteen months Hugh was able to secure a UK Government SMART grant of £57,000 - a programme that supports innovative ideas at the early stage of development. This will be sufficient to enable a static rig to be built to test the steering system and also a 'mule' vehicle, a moving but frame-only prototype.

"The entrepreneur bit, where I focus on an idea and see an opportunity to develop it has not been too difficult because of my all-round experience but when it came to applying for funding I had a bit to learn."

The Naro Car

Narrow became 'Naro' when naming the vehicle, which features a narrow-track, offering the traffic evading agility of a motorcycle with the comfort, safety and load capability of a car.

One or two person models are possible with flexible capacity for carrying loads. It's tall and visible and narrow, it's light and efficient and the really clever bit is in the steering system which features roll-control capability that enables stability to be achieved automatically even though the vehicle leans like a motorbike.

"The software that controls the steering system has many other applications. For example, we are looking at applications to improve transport options for the disabled."

Funding the front-end

The front-end of the vehicle became a two-part issue for Hugh Kemp. He had already learnt that funding for 'proof of concept' was hard to achieve and it was very much the front-end of the car that needed funding in order to prove its worth.

"The main issue was that I found it was vital to tailor my application precisely to the particular funders themes and interests. It can be frustrating having to bend your own priorities to fit someone else's but if that's what it takes I would advise any entrepreneur to do so."

Markets

The potential markets are many and varied and with proof of concept, it remains to be seen how each niche can be developed.

A number of markets could benefit, including: the end customer who could enjoy a step change in personal transport; a new vehicle market segment for niche manufacturers; and new system technology for suppliers of systems such as the roll-control and steer-by-wire systems. Not least of course, The Narrow Car Company itself.

The vehicle concept will provide alternative choice for personal and city transport. There is a segment of the market where currently nothing is offered from today's automobile manufacturers and this is where the Naro is pitched. There's a short car such as the Smart, but not a narrow vehicle unless you shift to a motorcycle, which is unacceptable to many for a variety of reasons. It is therefore important to realise that the products emerging from this

project could help to launch a whole new business stream for the UK automotive manufacturing sector as well as licensing opportunities overseas.

As a commuter vehicle the product could provide travel in comfort at normal motorway speeds and then find gaps in the city traffic to maintain a sensible speed to complete the journey. Once at the destination, parking in a third of the space occupied by a conventional passenger car is possible. As journeys can be achieved with 30% of normal fuel consumption, the Naro car also provides both cost and environmental benefits.

As a taxi the Naro car could provide an alternative for those individuals who value time and need to travel around our cities to tight schedules. Virgin Limo Bikes provide a service in the city for those who don't mind getting wet as a pillion rider on a motorcycle. The Naro vehicle will provide the ideal platform to expand this service for a fainter hearted passenger.

Statistics show that City of London vehicle speeds at peak times are; passenger cars at 3 mph, buses and conventional taxis at 5 mph and dispatch riders at 15 mph. As the Naro has the same 'foot prints' as dispatch bikes, a three fold reduction in journey times could be achieved. As the taxi industry progresses to hailing by mobile phone, the opportunity for the appropriate size vehicle to be dispatched to the caller would make significant reductions in congestion, gaseous emissions and CO₂, and provide shorter waiting and journey times for single passengers.

The final application as a city delivery vehicle would help cut costs and pollution caused by oversized vans used by logistics operators. Initial designs range from a flat bed for carrying awkward shape loads, to a box van concept for the Royal Mail. There is even a bike rack attachment for the outward-bound couple:

Answer the following questions, primarily based on the above Case Study:

Q. 1. What are the personality traits/qualities that would inspire someone to launch a start-up after 25 years of being involved in developing & selling engineering solutions in the motor industry?

Q. 2. Do you agree with Hugh Kemp's assessment of the market potential for his business idea? Please justify your answer.

Q. 3. If Narrow was your start-up, what would you have done differently?

Q. 4. How do you think Bennett University can support such kind of student start-ups?

