ICT Driven Decision-Making in the 4IR (Core Module)

EXAMINATION

MODULE CODE: ICT9X01

EXAMINATION PERIOD: SECOND QUARTER 2021

Date:	Monday, 14 June 2021
Time:	06:30 – 08:30: read the provided case studies 08h30 – 11h30: examination 11:45 submit examination
Total Marks:	80 (Weighting 50% of the total exam mark)
Internal Moderator:	Dr Angus Hervey
External Moderator:	Prof Mjumo Mzyece

Please read these instructions carefully	- This is an open-book examination. - Please answer all **EIGHT** questions provided in the exam - Ensure that your questions are numbered correctly and start each question on a new page - Type in your name, student number, and date on the first page of your answer booklet. - This question paper consists of 4 pages including the cover page - The Lemonade case study consists of 12 pages - The Moderna case study consists of 20 pages **Students must use the naming convention given for their answer book as follows.** - Last Name _Initial_Student Number_MBA Exam Module Title _Date (dd_mm_yy) - - Example: Nkosi_M_201036829_ MBA Innovative Marketing _01_ 09_ 20) - Please make sure that your **laptops are fully charged** before the exam window period. - We advise students to be at a location that has **reliable internet access.** - Use font Arial 12, line spacing 1.5. - All answer books and relevant attachments must be emailed to currentmbas@jbs.ac.za

Plagiarism

Please note that all exam answers will be submitted through the Turnitin similarity index to establish if there is a similarity. As this is an open book exam, you are required to use the APA academic referencing style. Where you quote verbatim from any source, the quotation must be in double inverted commas and the page number given as part of the reference.

Read the case study titled: **Lemonade**

QUESTION 1: (10)
This question is based on the case study.

Lemonade went from a start-up to a $5 billion company in the space of six years, making it more valuable than companies like Anglo American, which have been around for over a hundred years. How is this possible?

QUESTION 2: (10)
This question is based on the case study.

Lemonade is arguably one of the first truly AI-driven business success stories of the 21st century. What role has machine learning played in its success?

QUESTION 3: (10)
This question is based on the case study.

"Few people in our industry have ever started or built something entirely from scratch. It's not in our operating DNA. As a result, the muscles we've developed to run our organization are not very helpful in seeking or achieving breakthrough innovation."
What, if anything, can traditional insurance businesses do to protect themselves against competition from the tech industry?

QUESTION 4: (10)
This question is based on the case study.

In May 2021, less than a year after its public market debut, Lemonade found itself in the middle of a PR controversy, after it posted (now-deleted) tweets describing how its AI analyzes user videos when they file insurance claims for signs of fraud, picking up "non-verbal cues that traditional insurers can't, since they don't use a digital claims process." The public backlash has been swift and fierce, severely denting Lemonade's image as a "lovable brand." Discuss the ethical implications of using machine learning for insurance claims – what kind of risks do AI-powered businesses like Lemonade need to be aware of, and what measures can they take to overcome these?

Read the case study titled: **Moderna**

QUESTION 5:   (10)
This question is based on the case study.

How is mRNA technology a disruptive technology? Use the theories of Clayton Christensen, Mariana Mazzacutto and Dan Wang in your answer.

QUESTION 6:   (10)
This question is based on the case study.

Is Moderna a pharmaceutical company that entered the software business, or a software company that entered the pharmaceutical business? Make sure you justify your answer.

QUESTION 7:   (10)
This question is based on the case study.

As of May 2021, Moderna has shipped over 500 million doses of its COVID-19 vaccine around the world. What are the key technology trends that came together to make the creation and production of this vaccine possible?

QUESTION 8:   (10)
This question is based on the case study.

"*Biotechnology is today where the software industry was 50 years ago – on the cusp of touching all of our lives.*"
What steps could the South African government now take to ensure the country is at the forefront of this revolution in the future?