

MBAB 821 PEC

TECHNOLOGY MANAGEMENT

Faculty of Economic and Management Sciences

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North-West University

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Module information

Module code	MBAB 821
Module credits	12
Module name	Technology management
NQF Level:	9
Name of lecturer(s)	To be announced
Office telephone	To be announced
Email address	To be announced
Building and Office nr	To be announced
Consulting hours	To be announced

Purpose and structure of this study guide

This study guide, as the name suggests, is not a text book or a set of lecture notes that a student should use to understand the content and pass the module. It is a set of guiding principles that should assist students with the planning for, adoption of, and deployment of technology to stay ahead of the pack. The guide points to a prescribed text book but several other resources such as technical papers, journal papers and conference papers are included in order to enrich the learning an experience of the MBA student. The lectures will be both formal and informal, case studies and papers will be discussed and the student is encouraged to study ahead before coming to the class.

Introduction to the module

The purpose of this model is not to introduce the students of the respective components of technology but rather to create an understanding of how technology can be used to be innovative and disruptive and how this could impact your own world.

Learning in place

The students must satisfy the requirements of studying for MBA in Business Administration as prescribed in the North-West University MBA, Graduate School Handbook, for them to be admitted in this course.

Learning activities

- The module consists of a mixture of taught lectures which will equip students with the necessary theoretical grounding to use technology to gain advantage by causing disruption. Class discussions will be used to solve selected real-life problems as found

in organizations. Groups will also be presented with scenarios to be discussed and will then be expected to provide the whole class with feedback.

- The lecturer will provide details as are essential to motivate the students and give them insight into the scope of activities envisaged in the module so that, students, on their OWN, can start collecting or organizing relevant materials and information ahead of time.
- Students can contact the lecturer by email, phone or make an appointment to discuss their progress or to have any academic query attended to. For extra academic mentoring such as time management, writing of assignments and note taking, students can visit the university ADC department where they will be helped.

Module outline

Study school:

Study Unit 1: Innovation is never a single event and generally a combination of efforts

Study Unit 2: Innovation matrix

Study Unit 3: Developing new business models

Study Unit 4: Business value maps

Study Unit 5: The core of the organisation

Study Unit 6: Organisational ecosystems

Study Unit 7: New era of innovation

Study Unit 8: Bringing it all together

Registered module outcomes and objectives

Upon completion of the subject, students will be able to:

- Define how technology can be used to disrupt existing industries and gain competitive advantage
- Describe selected technology developments and how it could impact the world that they live in
- Gain insight into the complexities of the commercialisation of disruptive technologies

Study material and prescribed books

The following book is prescribed for this module and learners are expected to buy the book or read it online as it will be used during the course. A competent manager will, however, have a range of managerial books in his or her private library.

Satell, G 2017. Mapping Innovation: A Playbook for Navigating a Disruptive Age. **New York: McGraw-Hill.**

Assessment

Assessment will be done through class assignments, individual assignments, practical assignments and a written examination. A student will fail the course if a mark of less than 45% is achieved in either the aggregate assignment mark, or in the written examination. There are no second opportunities for written examinations.

- **Semester Mark Assessment: 40% of the module mark**
 - E Individual Assignment: 50% of semester mark
 - E Group Assignment: 50% of the semester mark
- **Final Written Examination: 60%**
- **Module mark: (a + b) %**

Written examination

Learners are expected to write a **four-hour** open book examination.

Individual assignment

To be confirmed

Group assignment

To be confirmed

Icons



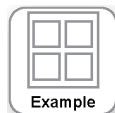
Time allocation



Study material



Individual exercise



Example



Learning outcomes



Assessment /
Assignments



Group Activity



Reflection

Warning against plagiarism

Assignments are individual assessment activities, unless it is explicitly indicated that it is a group assignment. Copying of text from other students or from other sources (for instance the study guide, prescribed material or directly from the internet) is not allowed – only brief quotations are allowed and then only if indicated as such. Learners are expected to reformulate existing text in their own words in order to prove understanding of what they have read.

It is not acceptable to retype existing text and just acknowledge the source in a footnote. Learners should be able to relate the idea or concept, without repeating the original author to the letter. The aim of the assignments is not the reproduction of existing material, but to ascertain whether learners have the ability to understand and integrate existing texts, add their own interpretation and/or critique of the texts and offer a creative solution to existing problems.

Explicit warning: No student may copy any part of hard copy or electronic information in academic or non-academic textbooks, articles, assignments, dissertations and other copyrighted sources without acknowledging or referencing the author. A student who copies from another student, or permits a fellow student to copy their own original work will be committing misconduct. A student may not pay another person to complete any part of an assignment or dissertation on his or her behalf. Any student who submits plagiarized academic work will be dealt with in terms of policy on plagiarism and other forms of academic dishonesty or misconduct.

For the NWU link for plagiarism, go to http://www.nwu.ac.za/webfm_send/25355



Study unit 1

INNOVATION IS NEVER A SINGLE EVENT AND GENERALLY A COMBINATION OF EFFORTS

All contact sessions follow the same general pattern except for the last session where the final case study will be concluded and the rest of the session will deal with exam preparation. The general pattern includes:

- Deal with a specific section of the prescribed textbook
- Discuss a specific case study relevant to the context of the course
- Discuss a specific technology important for the now and the future. These technologies are selected based on predictions by organisations such as Gartner, Forrester, Singularity University, Quantumrun, and others.

Study outcomes



- Create an understanding of a specific technology – in this case the **Internet of Things or IOT**
- Initiate an understanding of Amazon as an organisation
- Understand why technological innovation is never a single event and why it is generally a combination of effort and skills.

Assessment and Learning Objectives



After completing this study unit, a learner will have been exposed to:

- Amazon the company (Peterson 2017)
- Why technology innovation is never a single event. There are numerous innovations that can be used to demonstrate this principle – such as electricity, penicillin, and numerous others. Refer to Satell (2017) – chapters 1 and 2.
- The IOT – what it is and why it is important (Postscapes)

Study material



- Peterson, R. 2017. 50 amazing facts about Amazon.com to inspire your company. From: <https://biznology.com/2017/07/50-amazing-facts-about-amazon-com-to-inspire-your-company/> (accessed on 30/5/2018).
- Postscapes. The IoT Overview Handbook. From: <https://www.postscapes.com/internet-of-things-handbook/> (accessed on 29/5/2018).
- Satell, G 2017. Mapping Innovation: A Playbook for Navigating a Disruptive Age. New York: McGraw-Hill. Chapters 1 and 2.

Recommended Reading

- Future of the Internet: From: <http://www.quantumrun.com/series/future-internet> (accessed on 15/5/2018).
- IoT trend watch: From: https://ihsmarket.com/Info/0118/iot-trend-watch-2018.html?utm_source=google&utm_medium=ppc&utm_campaign=pc10273-4&gasc_id=862037098&gasc_label=scrXCLnM7m0Q6siGmwM&qclid=EAlaIQobChMIwa-B9tmK2wIVWfhRCh22-QcBEAAYAiAAEqJEKPD_BwE (accessed on 14/4/2018).

Study unit 2

INNOVATION MATRIX

All contact sessions follow the same general pattern except for the last session where the final case study will be concluded and the rest of the session will deal with exam preparation.

Study outcomes



- Discuss a specific technology – in this case Artificial Intelligence
- Continue the understanding of Amazon as an organisation
- Gain an understanding of the application of the innovation matrix

Assessment and Learning Objectives



After completing this study unit, a learner should have a good understanding of:

- Amazon the company – in this session students will expand their understanding of Amazon.
- The innovation matrix (Satell 2017). Refer to chapter 3.
- Artificial intelligence (Victorian All-Party Parliamentary Group on Artificial Intelligence 2018)

Study material



- Satell, G 2017. Mapping Innovation: A Playbook for Navigating a Disruptive Age. New York: McGraw-Hill.
- Victorian All-Party Parliamentary Group on Artificial Intelligence 2018. Artificial Intelligence Primer. From: https://www.parliament.vic.gov.au/images/stories/AI-Primer_Feb2018.pdf (accessed on 30/5/2018).

Recommended Reading

- Any material pertaining to Artificial Intelligence.

Case Study - Group Discussions

Give an introductory view of Amazon

Study unit 3

DEVELOPING NEW BUSINESS MODELS

All contact sessions follow the same general pattern except for the last session where the final case study will be concluded and the rest of the session will deal with exam preparation.

Study outcomes



- Create an understanding of a specific technology – Cryptocurrencies and Blockchain
- Initiate an understanding of Google as an organisation
- Understand the application of the business model canvass.

Assessment and Learning Objectives



After completing this study unit, a learner should have a good understanding of:

- Google (CNN Library 2018)
- The business model canvas - refer to Satell (2017) – refer to chapter 4
- The importance of cryptocurrencies (Rosic 2016)

Study material



- CNN Library 2018. Google Fast Facts. From: <https://edition.cnn.com/2014/06/30/business/google-fast-facts/index.html> (accessed on 30/5/2018)
- Rosic, A 2016. What is Cryptocurrency: Everything You Need To Know [Ultimate Guide]. From: <https://blockgeeks.com/guides/what-is-cryptocurrency/> (accessed on 30/5/2018).
- Satell, G 2017. Mapping Innovation: A Playbook for Navigating a Disruptive Age. New York: McGraw-Hill. Chapter 4.

Recommended Reading

N/A

Case Study - Group Discussions

Discuss the innovation matrix for Amazon and present a basic understanding of Google

Study unit 4

VALUE PROPOSITION DESIGN

All contact sessions follow the same general pattern except for the last session where the final case study will be concluded and the rest of the session will deal with exam preparation.

Study outcomes



- Create an understanding of technology in a specific area – in this case the Health industry
- Continue the understanding of Google as an organisation
- Discuss the Business Value Map.

Assessment and Learning Objectives



After completing this study unit, a learner should have a good understanding of:

- Google the company – in this session students will expand their understanding of Google.
- Business Value Map (Osterwalder 2010)
- The Future of Health (Quantumrun)

Study material



- Quantumrun. Future of Health. From: <http://www.quantumrun.com/series/future-health> (accessed on 29/5/2018)
- Osterwalder A, Pigneur Y, Bernarda G, and Smith A 2015. Value Proposition Design: How to create products and services customers want. From: <https://strategyzer.com/books/value-proposition-design> (accessed on 30/5/2018)

Recommended Reading

- N/A

Case Study - Group Discussions

Discuss the business model canvas for both Google and Amazon.

Study unit 5

THE CORE OF BUSINESS

All contact sessions follow the same general pattern except for the last session where the final case study will be concluded and the rest of the session will deal with exam preparation.

Study outcomes



- Create an understanding of technology in a specific area – in this case the Energy industry
- Initiate an understanding of Facebook as an organisation
- Understand the concept and importance of the core of the business.

Assessment



After completing this study unit, a learner should have a good understanding of:

- Facebook the company (CNN Library 2018).
- The core of the business (Satell 2017) – refer to chapter 6.
- Future of Energy (Quantumrun)

Study material



- CNN Library 2018. Facebook Fast Facts. From: <https://edition.cnn.com/2014/02/11/world/facebook-fast-facts/index.html> (accessed on 1/1/2018)
- Quantumrun. Future of Energy. From: <http://www.quantumrun.com/series/future-energy> (accessed on 24/5/2018)
- Satell, G 2017. Mapping Innovation: A Playbook for Navigating a Disruptive Age. New York: McGraw-Hill.

Recommended Reading

- Any developments in the field of energy creation.

Case Study - Group Discussions

Further discussions on Amazon and Google pertaining to their innovation matrices, business models, and business value maps. Present an understanding of Facebook the company

Study unit 6

ORGANISATIONAL ECOSYSTEMS

All contact sessions follow the same general pattern except for the last session where the final case study will be concluded and the rest of the session will deal with exam preparation.

Study outcomes



- Create an understanding of technology in a specific area – in this case the Computer industry
- Continue the understanding of Facebook as an organisation
- Understand organisation ecosystems.

Assessment and Learning Objectives



After completing this study unit, a learner should have a good understanding of:

- Facebook the company
- The new era of innovation (Satell 2017) – refer to chapter 9
- The future of computers (Quantumrun).

Study material



- Quantumrun. Future of Computers. From: <http://www.quantumrun.com/series/future-computers> (accessed on 22/5/2018)
- Satell, G 2017. Mapping Innovation: A Playbook for Navigating a Disruptive Age. New York: McGraw-Hill.

Recommended Reading

- Recent developments in computers.

Case Study - Group Discussions

Present Facebook as an organisation – background, innovation matrix, the core of the business, business model canvas and value map. Review Apple as an organisation

Study unit 7

NEW ERA OF INNOVATION

All contact sessions follow the same general pattern except for the last session where the final case study will be concluded and the rest of the session will deal with exam preparation.

Study outcomes



- Create an understanding of technology in a specific area – in this case the Work environment
- Initiate an understanding of Apple as an organisation
- Understand the new era of innovation.

Assessment and Learning Objectives



After completing this study unit, a learner should have a good understanding of:

- Apple the company (CNN Library 2018)
- The new era of innovation (Satell 2017) – refer to chapter 9
- Future of Work (Quantumrun)

Study material



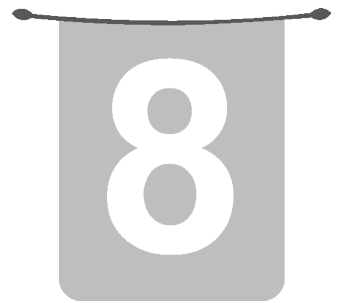
- CNN Library 2018. Apple Fast Facts. From: <https://edition.cnn.com/2014/07/01/business/apple-fast-facts/index.html> (accessed on 30/5/2018)
- Quantumrun. Future of Work. From: <http://www.quantumrun.com/series/future-work> (accessed on 22/5/2018)
- Satell, G 2017. Mapping Innovation: A Playbook for Navigating a Disruptive Age. New York: McGraw-Hill.

Recommended Reading

- Any related articles on the future of work.

Case Study - Group Discussions

Discuss Apple with regards to the theory discussed to date.



Study unit 8

BRINGING IT ALL TOGETHER

All contact sessions follow the same general pattern except for the last session where the final case study will be concluded and the rest of the session will deal with exam preparation.

Study outcomes



- Continue the understanding of Apple as an organisation

Assessment and Learning Objectives



After completing this study unit, a learner should have a good understanding of:

- **Apple the company**
- **Final preparation for the exam**

Study material



- Satell, G 2017. Mapping Innovation: A Playbook for Navigating a Disruptive Age. New York: McGraw-Hill.

Recommended Reading

- N/A

Case Study - Group Discussions

Discuss Apple in the context of the innovation matrix, business model canvas, business value map, the core business of Apple, and ecosystems

