MARKETING AND BUSINESS INTELLIGENCE

Course Syllabus

1. General Information

Course name: Marketing and Business Intelligence

Course code: MAR

Number of credits: 3

Faculty: Marketing

Instructors:

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2. Nguyen Ngoc Anh, Email: , Tel:

2. Course Objectives

Marketing and Business Intelligence teaches students the scientific and practical methods of marketing research and analytics to ascertain practical and actionable insights. It develops the analytical skills students need to analyse and interpret a diversity of qualitative and quantitative information sources in professional marketing practice. Having ascertained key data-driven insights, students communicate visually and verbally to inform practical strategic marketing decisions.

Marketing and Business Intelligence is at the core of any organisation's marketing strategy. The ability of an organisation to gather and utilise meaningful market data and customer insights can be crucial in maintaining a sustainable competitive advantage, in today's increasingly dynamic marketing landscape. Deriving and developing successful marketing strategies from such intelligence requires a methodical approach to marketing planning and strategy formulation. This course therefore explores the theoretical and practical perspectives of marketing intelligence, planning and strategy. It will introduce you to a range of tools and frameworks used to analyse an organisation's portfolio, competitors, industry and environmental trends. Moreover, marketing intelligence and research methods will be considered, with respect to design, social listening, web analytics, segmentation, customer personas and experience mapping. You will examine a range of different companies, sectors, industries and international contexts, providing for a deeper and more nuanced understanding of marketing strategy. By the end of the course, you will have a strong and critical appreciation for the role of marketing intelligence in driving marketing decisions and strategies, and the implications for marketing management.

The course uses a combination of lectures, cases, and exercises to learn the material. This course takes a very hands-on approach with real-world databases and equips students with tools that can be used immediately on the job.

3. Abstract

Marketing and Business Intelligence builds upon theories and concepts in marketing (introduced in the first-year courses and second-year marketing course), providing for a more specific and applied study of marketing intelligence, planning and strategy. The course will provide students with a broad understanding of strategic analysis and planning, and an appreciation for the extensive scope of marketing data and intelligence. Further, you will learn

about the various theoretical and practical tools and frameworks used to gather and appraise marketing intelligence, develop and implement strategies, and evaluate and control performance metrics.

In addition, students will have the opportunity to communicate and defend their recommendations and build upon the recommendations of their peers. We will explore the theory and applications of digital marketing concepts through a mix of cases, discussions, lectures, guest speakers, individual assignments, and group projects. We will draw materials from a variety of sources and settings including services, consumer and business-to-business products.

The main objectives of this course are to improve your ability to: Marketing Intelligence, Intelligence Gathering, Customer Analytics, Competitive Analysis, Product and Service Analytics, Price Analytics, Distribution Analytics, Promotion Analytics, Sales Analytics, Web Intelligence, Predictive Marketing

4. Teaching and learning methods

Lectures: 34h
In class discussion & practice: 10h
Individual reading: 1h

Problem-based learning

5. Prerequisites:

Customer Behavior, Marketing Research, Probability & Statistics for Economics (or equivalent)

6. Learning Outcomes

The course learning outcomes are what you should be able to DO by the end of this course if you participate fully in learning activities and successfully complete the assessment items. The learning outcomes in this course also help you to achieve some of the overall course learning goals and outcomes for all undergraduate students. Course learning goals are what we want you to BE or HAVE by the time you successfully complete your course. You demonstrate this by achieving specific course learning outcomes - what you are able to DO by the end of your course.

Learning outcomes describe what students are expected to have learned or achieved; as a result, they usually describe what students will be capable of doing, or what evidence will be provided to substantiate learning.

Fact-based management has always been a critical management practice, only gaining more attention by recent trends such as the overabundance and variety of data available to managers, progress in technologies that can process such data, and the intensity of competition that drives the quest for ever increasing organizational efficiency. The organizations that will sustain their competitive edge in this environment will be those that not only invest in technologies to capture, store, process, and report data, but add human creativity to these processes. Thus this course aims to arm students with major skills required for Marketing and Business Intelligence as well as an understanding of critical issues and trends in this area.

At the end of this course students will be expected to demonstrate the following some objectives/skills:

- ✓ Explain the concept of digital business and its relationship to broader marketing and business intelligence strategies.
- ✓ Explain the importance of marketing and business intelligence
- ✓ Providing students with a knowledge foundation from which they can utilize MI effectively
- ✓ Understand the marketing and business intelligence which are used for marketing strategy
- ✓ How to apply your marketing and business intelligence strategy for all functional areas of Marketing
- ✓ Organise and communicate marketing intelligence to a managerial audience.
- ✓ Be capable of applying tools and techniques such as data mining, data visualization, information analysis and selection
- ✓ Have the skills to report market intelligence information in a fashion that facilitates generating a cohesive view of the company's market situation and enhances decision making.

7. Assessment Criteria

The following table shows how your course learning outcomes relate to the overall learning goals and outcomes, and indicates where these are assessed (they may also be developed in tutorials and other activities):

Learning Goals and Outcomes	Course Learning Outcomes	Course Assessment Item
This course helps you to achieve the following learning goals for all students:	On successful completion of the course, you should be able to:	This learning outcome will be assessed in the following items:
Knowledge	 ✓ Learn marketing and business intelligence principles and planning ✓ Providing students with a knowledge foundation from which they can utilize MI effectively ✓ Explain the concept of digital business and its relationship to broader marketing and business intelligence strategies. ✓ Explain the importance of marketing and business intelligence ✓ Learn how to marketing and business intelligence for all functional areas of 	 Project Report Group Discussion Topics Exam

Marketing

- ✓ Understanding of market intelligence (MI) from a managerial perspective
- ✓ Understand the marketing and business intelligence which are used for marketing strategy
- ✓ Understand how to use data from a range of sources to support marketing decision making
- ✓ Understand the world of market intelligence and its importance to businesses
- ✓ Understand analyzing and processing information, and the art and science of identifying appropriate information and sources of information.
- Critically evaluate marketing intelligence information sources.
- ✓ Apply marketing intelligence and analytical techniques to solve marketing problems and demonstrate ROI.
- Organise and communicate marketing intelligence to a managerial audience.
- ✓ How to apply your marketing and business intelligence strategy for all functional areas of Marketing
- ✓ How to gain a practical understanding of key components of marketing and business intelligence or analysis tasks and techniques used in marketing and business intelligence and how to effectively use the resulting insights to support all functional areas of Marketing.
- ✓ How to recognise the role of

	marketing intelligence within the digital marketing landscape; how to identify, define and interpret commonly used marketing and business intelligence strategy. How to use marketing and business intelligence frameworks to building a solid digital marketing strategy for your brand How to make informed decisions on how to analyse and interpret marketing and business intelligence analysis and understand the difficulties and issues involved. How to evaluate different types of software tools, techniques, and reports that are relevant to marketing and business intelligence and understand the basics of how to apply them. Be capable of applying tools and techniques such as data mining, data visualization, information analysis and selection Know the basics of creating intelligence teams Have the skills to report market intelligence information in a fashion that facilitates generating a cohesive view of the company's market situation and enhances decision making.	
Critical thinking and problem solving	Analyse website data and integrate it with market information Steeped in research methods and rigor	 Project Group Discussion Topics
T and a second	Based on empirical evidence and the scientific approach to knowledge development	• Report

	Demonstrated through appropriate and relevant assessment	
Written communication	Develop plans that reflect the overall Marketing and Business Intelligence strategies	• Report
Oral communication	Communicate ideas in a succinct and clear manner during class discussions Present results from the group report	 Class participation Report presentation Group Discussion Topics
Teamwork	Work collaboratively to complete the major group project.	• Team peer evaluation
Ethical, social and environmental responsibility	Identify and assess legal and social considerations in Marketing and Business Intelligence and digital marketing.	ReportGroup Discussion TopicsExam
Social and cultural awareness	Not specifically addressed in this course.	

8. Course Structure:

Lecture 1: An Overview of Marketing and Business Intelligence, Analytics, and Data Science

- OPENING VIGNETTE: Sports Analytics—An Exciting Frontier for Learning and Understanding Applications of Analytics
- Changing Business Environments and Evolving Needs for Decision Support and Analytics
- Evolution of Computerized Decision Support to Analytics/Data Science
- A Framework for Marketing and Business Intelligence
- Analytics Overview
- Analytics Examples in Selected Domains
- A Brief Introduction to Big Data Analytics
- An Overview of the Analytics Ecosystem
- Components of a Marketing and Business Intelligence Architecture
- Case Analysis

Lecture 2: Marketing and Business Intelligence at Digital Business scale

• Knowledge is the most important asset of a company

- Types of Marketing Intelligence and MI function within an organization
- Balancing.the.5.Ps of Strategic Management.
- Adapting BI to the Organization's Configuration
- Understanding the 4.Cs.
- Decision making in an organization

Lecture 3: Understanding the Market through Market Intelligence

- Introduction to Market Intelligence
- The Market Research Process
- Market opportunities
- Basis for market segmentation
- Target-audience segmentation
- Understanding route to market and competitive landscape by market segment
- Overview of marketing research
- Research report and results presentation

Lecture 4: Market Basket Analysis and Association Rules

- Defining Market Basket Analysis
- Association Rules
- Building Association Rules
- Extending the Ideas
- Sequential Analysis Using Association Rules

Lecture 5: Marketing Spending Models and Optimization

- Marketing spending model
 - o Static models
 - o Dynamic models
- Marketing spending models and corporate finance
 - o A framework for corporate performance marketing effort integration
- Case Analysis

Lecture 6: Marketing and Modeling Advertising Campaign

- Marketing and Modeling Advertising Campaign
- Selling Models
- Buying Models
- The Advertising Pulsing Policy
- Internet Advertising
- Predicting Online Purchasing Behavior
- Concluding Remarks
- Further Readings
- Case Analysis

Lecture 7: Causal Modeling and Forecasting

- Introduction and Summary
- Modeling the Causal Time Series
- How to Do Forecasting by Regression Analysis
- Predictions by Regression

- Planning, Development, and Maintenance of a Linear Model
- Trend Analysis
- Modeling Seasonality and Trend
- Trend Removal and Cyclical Analysis
- Decomposition Analysis

Lecture 8: Causal Methods

- Marketing Mix Modeling: Concept, Principles, Methods, and Applications
- Effective Communication of Research, Intelligence, and Analytic Insights
- Case Analysis

Lecture 9: Audience Segmentation

- Behavior and demographics segmentation
- Value segmentation
- Response behavior segmentation
- Customer satisfaction segmentation
 - Model building
 - Validation

Lecture 10: Marketing Channel Campaign

- Multi-channel campaign performance reporting
- Multi-channel campaign performance optimization
- Omnichannel Marketing for Brand Commitment
- Case Analysis

Lecture 11: Data Mining for Cross-Selling and Bundled Marketing

- Association engine
- E-commerce cross-sell
- Online advertising promotions
 - Model building
 - Model validation
- Case Analysis

Lecture 12: Text Analytics

- Natural language processing and Sentiment analysis
- Investigate and explain the steps of text analytics.
- Evaluate and interpret results from the text analytics.

Lecture 13: Decision Analysis

- Problem Formulation
- Decision Strategies without Outcome Probabilities
- Decision Strategies with Outcome Probabilities
- Decision Trees
- Utility Theory

Lecture Discussion:

- Market Intelligence Deliverables to Support Strategic Planning
 - Market Intelligence Support for the Future Watch Process

- Market Intelligence Support for the Plannning Process
- Market Intelligence Support for the Early Warning and Opportunity System

> Discuss New Tactics Leveraging Marketing Tech in Marketing Intelligence

- Data-Driven Marketing: Building a Data Ecosystem for Better Targeting
- Predictive Marketing: Anticipating Market Demand with Proactive Action
- Contextual Marketing: Making a Personalized Sense-and-Respond Experience
- Augmented Marketing: Delivering Tech-Empowered Human Interaction
- Agile Marketing: Executing Operations at Pace and Scale

9. Required Textbooks

There is no single text book that covers the topics you will study in this course. However, most of the lectures main course books is *Business Intelligence, Analytics, and Data Science* 4th (by Ramesh Sharda, 2018) accessible online from here. For each covered topic the corresponding book chapter(s) or other reading will be provided.

10. Suggested Textbooks

Bert Brijs (2013), Business Analysis for Business Intelligence, Auerbach Publications

Pedro Novo Melo (2020), Business Intelligence and Analytics in Small and Medium Enterprises, CRC Press

Jérémie Aboiron (2017), Business & Marketing Intelligence, Neofaculty Europe Business School

The following sources provide many useful analytics cases with business data:

Darden Business Publishing, Harvard Business School Publishing, INSEAD Case Publishing, Ivey Cases, Kellogg Case Publishing, Stanford Graduate School of Business, Data Analytics Websites: DataCamp, Github, KDnuggets,...

Periodicals:

- Marketing News | AMA
- European Journal of Marketing;
- Harvard Business Review;
- The Economist.
- Read also the Business Journals.

11. Course Schedule:

Slot	Main contents	Specific contents and activities Student's tasks	
1	Lecture 1: An Overview of Marketing and Business	• Course Introduction: outline and schedule, assessment overview, course materials and guide on assignments, assessment criteria	Required Readings: • Reading the course's syllabus
	Intelligence, Analytics, and Data Science	 Changing Business Environments and Evolving Needs for Decision Support and Analytics Evolution of Computerized Decision Support 	• Chapter 1, Business Intelligence, Analytics, and Data Science 4 th , Ramesh Sharda (2018)

Slot	Main contents	Specific contents and activities Student's tasks	
	 A Framework for Marketing and Business Intelligence (MBI) Analytics Overview Analytics Examples in Selected Domains A Brief Introduction to Big Data Analytics Marketing Aboiron (2017 The articles are The articles are 		Marketing Intelligence, Jérémie Aboiron (2017) The articles and other reading provided by
2&3	Group Assignment Coaching Lecture 2: Marketing and Business Intelligence at Digital Business scale	 Communicating the research results The major components of a research proposal Group Assignment Coaching Review of contents of group assignment Answer students' questions on group assignment 	 Pre-work: Formulating the students' groups for the group assignment Reading the requirements of the group assignment Required Readings: Chapter 3-5, Business Analysis for Business Intelligence, Bert Brijs (2013) Chapter 2, Business & Marketing Intelligence, Jérémie Aboiron (2017) The articles and other reading provided by Prof
4	Lecture 3: Understanding the Market through Market Intelligence	 Introduction to Market Intelligence The Market Research Process Market opportunities Basis for market segmentation Target-audience segmentation Understanding route to market and competitive landscape by market segment 	Required Readings: • Chapter 2, Business Intelligence and Analytics in Small and Medium Enterprises, Pedro Novo Melo (2020) • Chapter 3, Business & Marketing

Slot	Main contents	Specific contents and activities	Student's tasks
		 Overview of marketing research Research report and results presentation In-Class Discussion Discuss the practice of Digital Analytics Industry Players, MBI and Analytics in the firm Discussing the challenges of Market Intelligence in The Age of Big Data Answer students' questions related to the group assignment 	 Intelligence, Jérémie Aboiron (2017) The articles and other reading provided by Prof Project proposal due
5	Lecture 4: Market Basket Analysis and Association Rules	 Defining Market Basket Analysis Association Rules Building Association Rules Extending the Ideas Sequential Analysis Using Association Rules In-Class Discussion Discussing Market Basket Analysis and Association Rules cases Answer students' questions related to the group assignment 	Required Readings: • Chapter 15, Data Mining Techniques: For Marketing, Sales, and Customer Relationship Management 3rd Edition, Gordon S. Linoff (2011) • The articles and other reading provided by Prof
6&7	Lecture 5: Marketing Spending Models and Optimization	 Marketing spending model Static models Dynamic models Marketing spending models and corporate finance A framework for corporate performance marketing effort integration Case Analysis In-Class Discussion Discussing Marketing Spending Models and Optimization cases Answer students' questions related to the group assignment 	Required Readings: • Chapter 4, Business & Marketing Intelligence, Jérémie Aboiron (2017) • The articles and other reading provided by Prof
8	Lecture 6: Marketing and Modeling Advertising Campaign	 Marketing and Modeling Advertising Campaign Selling Models Buying Models The Advertising Pulsing Policy Internet Advertising 	 Required Readings: The articles and other reading provided by Prof

Slot	Main contents	Specific contents and activities	Student's tasks	
		 Predicting Online Purchasing Behavior Concluding Remarks Further Readings Case Analysis In-Class Discussion Discussing the Marketing and Modeling Advertising Campaign cases Answer students' questions related to the group assignment 		
9&10	Causal Modeling and Forecasting Introduction and Summary Modeling the Causal Time Series How to Do Forecasting by Regression Analysis Predictions by Regression Planning, Development, and Maintenance of a Linear Model Trend Analysis Modeling Seasonality and Trend Trend Removal and Cyclical Analysis Decomposition Analysis In-Class Discussion Discussing the Causal Modeling and Forecasting cases Answer students' questions related to the group assignment		The articles and other reading provided by Prof	
11	 Lecture 8: Causal Methods Marketing Mix Modeling: Concept, Principles, Methods, and Applications Effective Communication of Research, Intelligence, and Analytic Insights Case Analysis In-Class Discussion Discussing the challenges of Causal Methods Answer students' questions related to the group assignment 		 Required Readings: Chapter 9, Data Mining and Market Intelligence, Mustapha Akinkunmi (2018) The articles and other reading provided by Prof 	
12&13	Lecture 9: Audience Segmentation	 Behavior and demographics segmentation Value segmentation Response behavior segmentation Customer satisfaction segmentation Model building Validation 	Required Readings: • The articles and other reading provided by Prof	

Slot	Main contents	Specific contents and activities	Student's tasks
14	Middle exam: Specific and	 In-Class Discussion Discussing the challenges of audience segmentation in the digital age Answer students' questions related to the group assignment Middle exam Activity 	Pre-work • Preparing and
	discussion topics about Digital Analytics in the firm	 Oral presentation of Group Discussion Topics by groups of students Q&A on each presentation Answer students' questions related to the Group Discussion Topics 	submitting slides for oral presentation
15	Lecture 10: Marketing Channel Campaign	 Multi-channel campaign performance reporting Multi-channel campaign performance optimization Omnichannel Marketing for Brand Commitment Case Analysis In-Class Discussion Discussing the challenges of Marketing channel used MBI Answer students' questions related to the group assignment 	 Required Readings: Chapter 10, Marketing 4.0, Philip Kotler (2017) The articles and other reading provided by Prof
16&17	Lecture 11: Data Mining for Cross-Selling and Bundled Marketing	 Association engine E-commerce cross-sell Online advertising promotions Model building Model validation Case Analysis In-Class Discussion Discussing the challenges for cross-channel optimization used Data mining Answer students' questions related to the group assignment 	Required Readings: • Chapter 1&2, Data Mining and Market Intelligence, Mustapha Akinkunmi (2018) • The articles and other reading provided by Prof
18	Lecture 12: Text Analytics	 Natural language processing and Sentiment analysis Investigate and explain the steps of text analytics. Evaluate and interpret results from the text analytics. 	Required Readings: • Chapter 10, Essentials of Marketing Analytics, Joseph F. Hair (2021) • The articles and other reading provided by

Slot	Main contents	Specific contents and activities	Student's tasks
		 In-Class Discussion Discussing the challenges of Text analysis Answer students' questions related to the group assignment 	Prof
19	Lecture 13: Decision Analysis	 Problem Formulation Decision Strategies without Outcome Probabilities Decision Strategies with Outcome Probabilities Decision Trees Utility Theory In-Class Discussion Discussing the challenges of Decision Analysis in Marketing Intelligence Answer students' questions related to the group assignment 	Required Readings: • Chapter 7, Data Mining Techniques: For Marketing, Sales, and Customer Relationship Management 3rd Edition, Gordon S. Linoff (2011) • The articles and other reading provided by Prof
20	Lecture Discussion: Discuss New Tactics Leveraging Marketing Tech in Marketing Intelligence	 Data-Driven Marketing: Building a Data Ecosystem for Better Targeting Predictive Marketing: Anticipating Market Demand with Proactive Action Contextual Marketing: Making a 	Required Readings: Chapter 10, Marketing 5.0, Philip Kotler (2021) Chapter 11, The Handbook of Market Intelligence 2nd, Hans Hedin (2014) The articles and other reading provided by Prof
21	Group Project Presentations	 Oral presentation of group research project by groups of students Q&A on each research project Each oral presentation must not be longer than 15 minutes 	 Pre-work: Submitting research project report Preparing and submitting slides for oral presentation
22	Group Project Presentations	 Oral presentation of group research project by groups of students Q&A on each research project Each oral presentation must not be longer than 15 minutes 	Pre-work: • Submitting research project report • Preparing and submitting slides for

Slot	Main contents	Specific contents and activities	Student's tasks
		Give comments on the group assignment	oral presentation
	Course Wrap- up	• Summary of The Course Give a general review of the course's contents and discussion	Final project due

12. Grading Policy

	Assignment	Importance
1	Class participation/In class activities	10%
2	Mid-term test	10%
3	Group assignment	30%
4	Final exam (individual)	50%

Class participation

Note: Punctual and regular attendance is a minimum expectation for this course. The students must not be absent more than 20% of total scheduled learning slots.

All cell phones & other electronic devices (e.g., pagers, iPads, iPods, PDAs) must be put on vibrate or turned off and not on your desk during class.

Talking and other disruptive behavior are not permitted while classes are in session.

Students are expected to do original work for all assignments, including exams.

Students are responsible for their own conduct and all cases of dishonesty (e.g., plagiarism, cheating) will be reported to the proper university officials.

Homework descriptions and homework uploading via Social media groups and Emails.

In-class Business analytics exercises

- Case analysis assignments with real world data: Case writing to recommend a proper course of action based on analytic results
- Course group project: Define business problem, collect and clean data, conduct a Marketing and Business Intelligence analysis, and recommend a course of action. Data analysis project with a client can be accommodated as this group project.
- Examinations: Formats should require students to demonstrate critical thinking and application/problem solving skills. Multiple choice exams are not allowed.

Midterm exam

In the 14th slot, students will be given a case study/a scenario with some relevance to the Marketing and Business Intelligence topics being discussed, and be asked to discuss or explain their point of view in a limited amount of class time

Group Assignment

This assignment encourages students to apply knowledge and develop skills related to Marketing and Business Intelligence in a real case in order to become familiar with the reality of digial marketing strategy activities.

The Group Project involves an in depth analysis of Marketing and Business Intelligence and Digital Marketing Strategy for a scenario/a real firm and the purpose of the project is to get real, firsthand experience with Marketing and Business Intelligence strategy. The group research assignment requires student to work with other members in an assigned group to develop a Marketing and Business Intelligence plan and present the report. You will form a project team of either 4-5 people. They will be required to design and execute a Marketing and Business Intelligence plan that addresses multiple aspects of the chosen or assigned scenario/real firm. As a result of the group assignment, each group must deliver a written report and present it. The oral presentation of each group must be no longer than 15 minutes.

Groups will be assigned at the beginning of the class and will be announced under Announcements. The instructor may also use a group sign-up sheet to form groups for group assignments or projects. A private discussion area may be set up on the discussion board for internal group communications. A group chat room can also be created for each group to use. Teams can schedule a calendar for teamwork.

Final exam

The final exam consists of from two to three essay questions that might be related to any Marketing and Business Intelligence topics covered throughout the course.

Ngày..... tháng.... năm 2021 **Trưởng Bộ Môn** (Ký và ghi rõ họ tên)

Ngày.... tháng.... năm 2021 Chủ Trì Đề Cương (Ký và ghi rõ họ tên)

Nguyễn Thị Hoàng Yến

Nguyễn Ngọc Anh