MARKETING ANALYTICS
Course Syllabus

1. General Information

Course name: Marketing analytics

Course code: MAR

Number of credits: 3

Faculty: Marketing

Instructors:

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2. Objectives

The aim of this course is to provide students with the understanding and skills for marketing analytics. This course focuses on the application of analytics for strategic decision making in marketing and presents analytics as the engine that provides a forward-looking and predictive perspective for marketing dashboards.

3. Abstract

This course is structured and functions as a how-to guide for PTIT's marketing students on practical and sensible marketing analytics. The emphasis is on connecting marketing inputs to customer behavior and then using the predictive models to develop forward-looking, what-if scenarios. The topics covered in this course represent the analytics techniques that are widely used in practice and provide students exposure to how marketing analytics relates to strategic business issues.

4. Teaching and learning methods

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

5. Prerequisites

Customer behavior; Strategic marketing, Marketing research

6. Learning Outcomes

On successful completion of this unit a student will:

1. Understand the importance of marketing analytics for forward-looking and systematic allocation of marketing resources

2. Understand how to use analytics to develop predictive marketing dashboards for an organization
3. Understand the biases inherent to analytics that derive from secondary data, the cost-benefit trade-offs in analytics, and the balance between analysis and intuition
4. Learn how to conduct data analysis through linear regression, logistic regression, or cluster analysis to address strategic marketing challenges

7. Assessment Criteria

Learning outcomes *On successful completion of this unit a student will:*	**Assessment criteria for pass** *The student can:*
LO1. Understand the importance of marketing analytics for forward-looking and systematic allocation of marketing resources;	- Explain the nature and importance of marketing analytics - Explain main marketing analytic fields that relate main marketing functions in an organization - Explain the importance of resource-allocation - Explain main problems related to resource-allocation framework that ties together the various marketing analytics techniques to a firm's strategic decisions - Explain considerations in implementing marketing analytics
LO2. Understand how to use analytics to develop predictive marketing dashboards for an organization	- Explain data analytic techniques that relate to product management decisions, such as market segmentation and pricing - Explain data analytic techniques that relate to marketing-mix management decisions where the focus is on obtaining reliable estimates for price and advertising elasticity. - Explain data analytic techniques related to customer lifetime value to predict customer retention and profits. - Explain data analytics related to digital marketing
LO3. Understand the biases inherent to analytics that derive from secondary data, the cost-benefit trade-offs in analytics, and the balance between analysis and intuition	- Explain the biases inherent to analytics that derive from secondary data - Explain the cost-benefit trade-offs in analytics - Explain the importance of the balance between analysis and intuition
LO4. Learn how to conduct data analysis through linear regression, logistic regression, or cluster	- Use and execute cluster analysis technique for market segmentation and conjoint analysis technique for pricing decisions

Learning outcomes *On successful completion of this unit a student will:*	**Assessment criteria for pass** *The student can:*
analysis to address strategic marketing challenges	- Use and execute multiple regression for marketing-mix management decisions - Use and execute logistic regression for customer analytics. - Explain data analytic techniques related to digital marketing

8. Outlines

Chapter 1. A Resource-Allocation Perspective for Marketing Analytics

1.1. Nature and process of marketing analytics

1.1.1. Nature of marketing analytics

1.1.2. Importance of marketing analytics

1.1.3. Process of marketing analytics

1.2. The resource-allocation framework

1.2.1. Resource allocation process

1.2.2. Measuring ROI

1.2.3. Working with Econometrics

1.3. Implementing marketing analytics

Chapter 2. Product Analytics

2.1. Overview of product analytics

2.2. Cluster analysis for Segmentation

2.2.1. Introduction

2.2.2. Basic steps

2.3. Conjoint analysis for identifying customer preferences and potential customers

2.3.1. Introduction

2.3.2. The anatomy of a conjoint analysis

2.3.3. The experimental design

2.3.4. Data collection

2.3.5. Interpreting conjoint results

Chapter 3. Marketing mix analytics

3.1. Overview of marketing mix analytics

3.2. Regression in marketing mix models

3.2.1. Introduction

3.2.2. Reviewing single variable regressions for marketing

3.2.3. Adding variables to the regression

9. Required Textbook

Venkatesan, R., Farris. P and Wilcox, R.T. (2014), *Cutting Edge Marketing Analytics: Real World Cases and Data Sets for Hands On Learning*, Pearson FT Press

10. Suggested Textbook

Rackley, J. (2015), *Marketing Analytics Roadmap- Methods, Metrics, and Tools*, Apress

11. Schedule

Slot	Main contents	Specific contents and activities	Student's tasks
1	**Chapter 1. A Resource-Allocation Perspective for Marketing Analytics**	• *Course Introduction*: outline and schedule, assessment overview, course materials and guide on assignments, assessment criteria • Nature and process of marketing analytics *Activity* • Answer students' questions about the course's overview	Before class: • Reading the course's syllabus • Reading *the required textbook*, pp. 1-5 • Reading *the suggested textbook*, pp. 1-57
2	**Chapter 1. A Resource-Allocation Perspective for Marketing Analytics (cont.)**	• Nature and process of marketing analytics (cont.) • The resource-allocation framework *Activity* - Discuss the practice of marketing analytics in Vietnamese firms	Before class: • Reading *the required textbook*, pp. 6-29 • Reading *the suggested textbook*, pp. 1-57
3	**Chapter 1. A Resource-Allocation Perspective for Marketing Analytics (cont.)**	• The resource-allocation framework (cont.) • Implementing marketing analytics *Activity* - Discuss the challenges for Vietnamese firms in implementing marketing analytics	Before class: • Reading *the required textbook*, pp. 6-29; 282-289 • Reading *the suggested textbook*, pp. 57-71
4	**Group Assignment Coaching**	• Group assignment coaching • Answer students' questions on group assignment *Activity* • Familiarizing students with the database	Before class: • Reading *the required textbook*, pp. 416-451

Slot	Main contents	Specific contents and activities	Student's tasks
5	**Chapter 2. Product Analytics**	• Overview of product analytics *Activity* • Reminding and discussing marketing decisions related to product and performance measurement	Before class: • Reading *the required textbook*, pp. 34-78
6	**Chapter 2. Product Analytics (cont.)**	• Cluster analysis for segmentation *Activity* • Reminding and discussing goals and effectiveness of segmentation	Before class: • Reading *the required textbook*, pp.2-46 After class • Do the tasks related to the 1st project in the group assignment
7	**Chapter 2. Product Analytics (cont.)**	• Cluster analysis for segmentation (cont.) *Activity* • Discussing challenges in conducting cluster analysis for segmentation	Before class: • Read *the required textbook*, pp. 34-78 After class • Doi the tasks related to the 1st project in the group assignment
8	**Chapter 2. Product Analytics (cont.)**	• Conjoint analysis for identifying customer preferences and potential customers *Activity* • Discussing ways to identify customer preferences and potential customers	Before class: • Read *the required textbook*, pp. 34-78 After class • Do the tasks related to the 1st project in the group assignment (cont.)
9	**Tutorial for the project 1 (Group assignment)**	• Answer students' questions on Project 1 of the group assignment	Before class: • Prepare the questions related to Project 1 (group assignment)
10	**Group assignment tutorial**	• Middle exam • Answer students' questions related to the group assignment	
11	**Middle exam** **Chapter 3. Marketing mix analytics**	• Middle exam • Overview of marketing mix analytics *Activity*	Before class: • Read *the required textbook*, pp. 78-131

Slot	Main contents	Specific contents and activities	Student's tasks
		- Discussing challenges in measuring marketing mix performance	After class Do the tasks related to the 2nd project in the group
12	**Chapter 3. Marketing mix analytics (cont.)**	• Regression in marketing mix models *Activity* - Discussing challenges in conducting regression in marketing mix models	Before class: • Read *the required textbook*, pp. 78-131 After class • Do the tasks related to the 2nd project in the group (cont.)
13	**Chapter 3. Marketing mix analytics (cont.)**	• Design of price and advertising elasticity models *Activity* - Discussing challenges in conducting regression in marketing mix models	Before class: • Read *the required textbook*, pp. 78-131 After class • Do the tasks related to the 2nd project in the group (cont.)
14	**Tutorial for the project 2 (Group assignment)**	- Answer students' questions on Project 2 of the group assignment	Before class: • Prepare the questions related to Project 2 (group assignment)
15	**Chapter 4. Customer analytics**	• Overview of customer analytics *Activity* - Discussing challenges of customer analytics	Before class: • Read *the required textbook*, pp. 133-182 After class • Do the tasks related to the 3rd project in the group
16	**Chapter 4. Customer analytics (cont.)**	• Customer lifetime value *Activity* - Discussing challenges of quantifying customer lifetime value	Before class: • Read *the required textbook*, pp. 133-182 After class • Do the tasks related to the 3rd project in the group (cont.)
17	**Chapter 4. Customer analytics (cont.)**	• Logistic regression *Activity* - Discussing challenges of conducting	Before class: • Read *the required textbook*, pp. 133-182

Slot	Main contents	Specific contents and activities	Student's tasks
		regression	After class Do the tasks related to the 3rd project in the group (cont.)
18	**Tutorial for the project 3 (Group assignment)**	- Answer students' questions on Project 3 of the group assignment	Before class: • Prepare the questions related to Project 3 (group assignment)
19	**Chapter 5. Digital analytics**	• Overview of customer analytics *Activity* • Discussing challenges of digital analytics	Before class: • Read *the required textbook*, pp. 183-277
20	**Chapter 5. Digital analytics (cont.)**	• Designing marketing experiments *Activity* • Discussing challenges of designing marketing experiments	Before class: • Read *the required textbook*, pp. 183-277
21	**Chapter 5. Digital analytics (cont.)**	• Paid search advertising *Activity* • Discussing challenges of measuring performance of paid search advertising	Before class: Read *the required textbook*, pp. 183-277
22	**General review and discussion**	• Give a general review of the course's contents and discussion	

12. Grading Policy

	Assignment	Importance
1	Class participation/In class activities	10%
2	Midterm exam (individual)	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.

Midterm exam

In the 12th slot, students will be given a case study/a scenario with some relevance to topics being discussed in the course, and be asked to discuss or explain their point of view in a limited amount of class time

Group Assignment

This group assignment encourages students to apply knowledge and develop skills in marketing analytics. It requires student to work with other members in an assigned group on a fictional company's database. The group assignment requires students in group to achieve three tasks related to marketing anal' topics with aim to provide information for marketing decision makers:

	Tasks	**Activities and techniques involved**
1	Product analytics	Using cluster analysis for segmentation Using conjoint analysis for value pricing
2	Marketing mix analytics	Using the models that estimate elasticity of marketing tools/instruments or the join effect of the marketing mix on consumer behavior
3	Customer analytics	Analyzing CLV Using logistic regression to predict customer churn

As a result of the group project, each group must deliver a report and submit it in the 21th slot. .

Final exam

The final exam consists of from two to three essay questions that might be related to any topic discussed in the course.