National University of Singapore
NUS Business School
Department of Marketing

MKT3421   Marketing Analysis and Decision Making

COURSE INFORMATION

Instructor:	**Professor Dai YAO**
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Session:	**Semester II, 2015/2016**
	Duration: Mon 11 Jan 2016 – Fri 15 Apr 2016
Teaching Assistant:	**TBD**
Office Hours:	**By appointment**

Section Number	U3	U1	U2
Class Time	Thu 11:00 – 14:00	Fri 11:00 - 14:00	Fri 17:00 - 20:00
Class Venue	BIZ 1, #03-05	BIZ 1, #02-04	

COURSE DESCRIPTION & OBJECTIVES

To facilitate well-informed marketing analysis and decision making, marketing academics and practitioners have developed and implemented a large variety of analytic models and tools, which lay down the foundation for marketing decision making and oftentimes high-level strategic consultation. Equipped with these powerful tools, marketing professionals are in a better position to: (1) identify alternative business options and actions, (2) calibrate the opportunity cost associated with each option, and (3) choose one or more options that are most likely to help achieve the business goals. This course guides you through the use of these analytical methods and related software without getting trapped by the mathematics equations and it aims to build your skills and confidence in undertaking analytics for marketing decision making.

   This course follows up on the marketing core course by operationalizing several critical marketing concepts such as segmentation, targeting, positioning, and marketing resource allocation. By completing this course, you will master the skills that companies increasingly desire for, such as using different ways to segment markets, understanding the data required for segmentation, identifying attractive customers to target, determining the best positioning of your brand in customers' minds, and developing new products that add value to consumers and firms, among others.

   The course is designed for students who have some background in quantitative methods (e.g., probability and statistics), and who are motivated to learn to build "smart" spreadsheets in Excel to conduct marketing analysis and decision making.

The course combines lectures and discussions, software tools and simulations, cases and assigned readings, presentations, as well as open questions, to ensure that it meets these objectives:

o To familiarize you with state-of-the-art analytical techniques and quantitative methods widely used in modern enterprises to enhance marketing analysis and decision making.
o To train you to translate a management problem into a feasible research question.
o To equip you with the software tools that will make you capable of applying the models and methods taught in classes to real specific marketing problems.
o To walk you through numerous scenarios and different contexts demonstrating the value of the analytic approach to marketing analysis and decision making.
o To train you to translate data analysis back into managerial insights to solve the business problem.
o To push you to an advanced level to think about marketing processes and view business relationships in a more systematic, analytical, and holistic way.
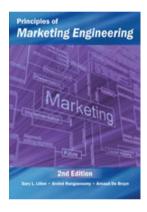
REQUIRED STUDY MATERIALS

Textbook (http://bit.ly/mkt3421-textbook**):**
Principles of Marketing Engineering 2nd Edition, by Gary L. Lilien, Arvind Rangaswamy, and Arnard De Bruyn. DecisionPro, Inc. 2013. ISBN: 978-0985764807.

Software (http://bit.ly/mkt3421-software-new**):**
Marketing Engineering for Excel (MEXL). The software package accompanies the required textbook, and demonstrates the analytical marketing models discussed in the book.

EVLUATION

Individual	*Class participation*	*10%*
	Individual assignments	*10%*
	Midterm test	*15%*
	Final test	*25%*
Group	*Case analysis report*	*40%*

COURSE POLICY

o In the classroom:
  - Respect everyone's opinions.
  - Come to class on time. Habitual delays will be penalized.
  - Come to class prepared for participation in the discussions. *Display a name sign in all lectures.*
  - Switch off your mobile phones. Multi-tasking with your laptop or pad is not welcome and encouraged, and may result in penalty.

- Do not pack up your notes until the class is dismissed.
o Outside the classroom:
  - Plagiarism is *strictly* prohibited. All assignments will be *randomly* submitted for plagiarism checks at www.turnitin.com by the instructor. See more details at: http://www.cit.nus.edu.sg/plagiarism-prevention/ . Once identified, you will lose the corresponding grade (e.g., if you plagiarize in one case analysis report, the whole team loses all the 40% and the best possible grade everyone in the team can get is 60%), and may be referred to the university for further disciplinary actions.
  - The concepts and methods we learn in class will help you in a variety of situations. Please keep your eyes open for real applications that you can bring to the classroom.

DISCLAIMER

The lecture topics, teaching materials, and evaluation procedures are subject to change in the event of extenuating circumstances. Such changes while not anticipated are possible. The instructor reserves the right to slightly alter anything in the syllabus at any time and for any reason.

ANNEXURE 1: Tentative Course Outline[1]

	DATE	CLASS TOPIC	WHAT'S DUE
Week 1	2016-01-14/15	Introduction	
Week 2	2016-01-21/22	Customer Perceptions	Purchase book & software, Form teams
Week 3	2016-01-28/29	Customer Preference	Case report 1
Week 4	2016-02-04/05	Customer Segmentation I	
Week 5	2016-02-11/12	Customer Segmentation II	Case report 2
Week 6	2016-02-18/19	Buffer session, TBD	
Week 7	2016-03-03/04	Mid-Term Test & Debriefing	
Week 8	2016-03-10/11	Customer Value Measurement I	
Week 9	2016-03-17/18	Customer Value Measurement II	Case report 3
Week 10	2016-03-24/25	Good Friday, buffer session.	
Week 11	2016-03-31/-04-01	New Product Forecasting	
Week 12	2016-04-07/08	Sales Promotion	Case report 4
Week 13	2016-04-16	Final Test	

* Recess week: 20 Feb– 28 Feb 2016.

ANNEXURE 2: Detailed Evaluation Criteria

Class Participation (10%)

Class participation accounts for 10% of the final grade, and is measured by class attendance and class contribution. Attendance accounts for *half* of this grade, thus for any absence you should notify the instructor ahead of time *by email*. Should you want to get the attendance point, you can briefly write (1/2 to 1 word page) your understanding of the reading materials for the session and email it to the instructor within 3 days. *If you skip **any single class** without the instructor's approval, **the whole class participation points are gone*** (i.e., your best possible final grade now is 90%, instead of 100%). The other *half* will be used to award those who positively contribute to the class-learning environment, which includes not only answering the instructor's questions but also asking relevant questions. General rules to maintain the quality of class participation:

o Participation means both speaking and listening. Your contribution will count for more if your opinions are built on those offered by others (including me) in the class.

o The purpose of class participation is learning. So, do not attempt to dominate the conversation.

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[1] Detailed plan for each session with additional readings and cases will be provided approximately two weeks before each session.

o Assume that everyone is aware of the case facts. Do not repeat case information, unless you want to drive home a point. Try to ask interesting questions, or offer good examples and insights.

o Finally, don't take things personally. Keep open-minded—be inquisitive and skeptical, but not dogmatic.

Tests (15% + 25%)

Both the midterm and the final tests are *in-class, closed-book, closed-note*, and account for 15% and 25% of your final grade respectively. *They are more like tests rather than exams.* The purpose is to assess your understanding of the basic materials covered in class to help you remember them and potentially apply them easily in your future career. Both will consist of *multiple-choice questions, very simple calculations and very short essays*. The midterm test covers the materials up to session 6, while the final test is more comprehensive and will emphasize more on the materials in the second half of the course.

Individual Assignment (10%)

Throughout the semester, the instructor will prepare and release about 10 questions that are closely related to the course materials as well as our daily life. The questions are supposed to be challenging, usually with no clear right or wrong answers. You need to answer *2 questions* to be considered for this grade. You will have two weeks' time[2] to work on a question and submit your answer either in a) 1-2 page summary, or b) less than 10 slides a powerpoint deck, or c) information graphics[3].

   Good answers with sufficient depth and insights will be invited for short presentations in class and be awarded. Further, you are always encouraged to raise interesting questions (related to the course, and marketing in general). If any question is used by the instructor, the student will be awarded too.

Case Analysis Report (Group, 40%)

Each team is required to analyze the *FOUR assigned cases* and develop management recommendations. One team will ideally consist of *4 members*, preferably with varying backgrounds (e.g., marketing, technology, or finance). You should form the teams before the second session (23 Jan 2015), and email the TA about the group composition. Your grade for the cases will be based on the instructor's grade for each case, as well as a peer evaluation for each report.

   For each case that we will discuss, your team is required to submit a *written case report* (send an electronic version to the TA and hand in a hard copy before the class starts) based on the *case preparation questions* the instructor will distribute. The report cannot be a Q&A for the questions; instead, it should reflect your thinking about the issues raised in the case. There is no standard format for the case reports; however, you should follow some basic guidelines:

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[2] A question is "alive" within two weeks since it is released. Please submit your answer during the period to the TA (a0105026@u.nus.edu). The idea is to not postpone anything to the end of the semester to make everyone suffer.

[3] A good way to do information graphics is to learn from the New York Times' data visualizations. See a discussion here: http://bit.ly/mkt3421-infographics.

- Start with an *Executive Summary* of about 1/4 to 1/3 page that clearly states your recommendation on the key decision(s) of the case. Typically, a case has 1 or 2 main decisions as well as some other secondary decisions which usually follow from the main decision(s). Your executive summary should focus on the main decision(s).
- The main body of the report should NOT exceed *4 pages* (12 font size with 1.5 spacing).
- Annexure/Exhibits are separate. However, these should contain analysis that is directly relevant to your report.
- The main body of the report should be structured coherently so that you are building a case to support your recommendation strategy and/or reject alternative strategies.

ANNEXURE 3: Details about the Textbook & Software

Students are required to purchase the textbook and software for the course. While the price for the book is about US$30 and that for the software is US$45 for a 6 month license length (more for longer durations), the publisher is smart to offer a good premium package charged at around **US$40** depending on the size of the class.

What's in the Package (http://bit.ly/mkt3421-package):
1. Marketing Engineering for Excel Software for Students
2. Tutorials and Example Data Sets
3. DecisionPro Business Cases with Data Sets for Students
4. Principles of Marketing Engineering 2nd Edition Textbook (in PDF format) for Students

Further to these "paid" materials, students will also have access to the free resources:
1. Technical Notes: The technical notes are designed as additional reference material for the Principles of Marketing Engineering 2nd Edition. The book has removed most of the equations (i.e., the "how to") of marketing engineering in favor of conveying the importance and value of the concepts (i.e., the "why"). These notes provide that technical background material.
2. Software Tutorial: The free software tutorials provide step-by-step instructions for utilizing the Marketing Engineering for Excel software package. The tutorials are designed to work with the sample data sets included with the software. These tutorials are included by default with the software installation and can be found under each model option in the "ME>XL" menu.

System requirements for the software:
- Microsoft Windows XP, Vista, 7, 8 (32 bit or 64 bit)
- Microsoft Excel 2002 (XP), 2003, 2007, 2010, or 2013.

*For **Mac users**, the software is offered as a service (ME cloud) by the publisher and can be accessed through your web browser. As the publisher has verified, the windows software license that is provided to the university can be exchanged for access to the ME cloud.

Making Your Payment

- o Venue: The marketing general office at MRB (BIZ 1, 8-23)
- o Contact: Ms. Wang Kim Fong (mktwkf@nus.edu.sg, 6516 3463)
- o Time: 18-19 Jan 2015, between 9:00am – 5:00pm
- o In case you cannot make it, send an email to me (bizyaod@nus.edu.sg) to reserve your copy and negotiate a time to pay the fee. Failing to do so means that you will have to purchase on your own.

Issues with Using the Software
- o Step 1: Create an account on DecisionPro website: http://bit.ly/mkt3421-create;
- o Step 2: Confirm your student status: http://bit.ly/mkt3421-access;
  - Student access code will be mailed to the registered students by the TA.
- o Step 3: Download the software: http://bit.ly/mkt3421-download;
- o Step 4: Activate the software: Please refer to the user manual available in the downloaded package.
  - *NOTE*: We will purchase *individual license* instead of the group license, and each individual license can be used to activate *only ONE copy* (i.e., just one computer). So you should keep your own license code confidential before using it, and it's advised to activate the software on your laptop so you can bring it to class.

For additional details about the process please visit: http://bit.ly/mkt3421-first.

ANNEXURE 4: Supplementary Reading Materials

Interested students are strongly encouraged to read through (some of) the following books, most of which are available via the collection of the library, to advance their knowledge to be prepared for marketing-related jobs in the future, be it a marketing analyst, or resource allocation planner, or a more advanced role such as the regional marketing manager, or potentially a PhD student in marketing.

- o Some general books on marketing analysis are:

  Donald R. Lehmann and Russell S. Winer (2005), *Analysis for Marketing Planning*, 6th Edition, Boston, MA: McGraw-Hill/Irwin.

  Mooore, William L. and Edgar A. Pessemier (1993), *Product Planning and Management: Designing and Delivering Value*, New York: McGraw-Hill.

  Rao, Vithala R. and Joel H. Steckel (1995), *The New Science of Marketing*, Chicago IL: Irwin.

  Rao, Vithala R. and Joel H. Steckel (1998), *Analysis for Strategic Marketing*, Reading, MA: Addison-Wesley.

- o An excellent marketing strategy book that cover the basics of the analytic methods which can be used to support top-level marketing planning and decision making is:

Urban, Glen L. and Steven H. Star (1991), *Advanced Marketing Strategy*, Englewood Cliffs, NJ: Prentice Hall.

o   Some good marketing research books that you can always refer to are:

Aaker, David A., V. Kumar, and George S. Day (2001), *Marketing Research*, 7th Edition, New York: John Wiley & Sons.

Churchill, Gilbert A., Jr. and Dawn Iacobucci (2002), *Marketing Research: Methodological Foundations*, 8th Edition, Fort Worth, TX: Harcourt College Publishers.

Dillon, William R., Thomas J. Madden, and Neil H. Firtle (1994), *Marketing Research in a Marketing Environment*, 3rd Edition, Burr Ridge, IL: Irwin.

Kinnear, Thomas C. and James R. Taylor (1996), *Marketing Research: An Applied Approach*, 5th Edition, New York: McGraw-Hill.

Lehmann, Donald R., Sunil Gupta, and Joel H. Steckel (1998), *Marketing Research*, MA: Addison-Wesley.

McDaniel, Carl Jr. and Roger Gates (2013), *Marketing Research Essentials*, 8th Edition, New York: John Wiley & Sons

o   Finally, this book covers the development of analytic tools for marketing and is widely used in PhD-level courses (be warned!):

Lilien, Gary L., Philip Kotler, and K. Sridhar Moorthy (1992), *Marketing Models*, Englewood Cliffs, NJ: Prentice Hall.

ANNEXURE 5: Suggested Advanced Statistical Software

While Microsoft Excel can perform some basic data analysis, and is the main software we use in this class, it has limited capability for complex statistical computing and visualization as compared to other statistical software such as R and Python.

If you have great interest in business analytics (meaning you want to embrace the "sexiest job of the 21st century"[4]), you are strongly encouraged to learn either R or Python. Both are free (!) and superior to other statistical software such Stata, SPSS, SAS, and Matlab, in terms of their customizability, capability to produce better graphics, as well as the availability of plenty of third-party packages. Nevertheless, to use either R or Python, you need to learn some (very) basic programming skills (i.e., you need to write your own code to implement some operations rather than click on the menus). The learning curve for R is a bit steeper than that for Python, but R is better suited for statistical analysis and has some more third-party packages, as it has emerged as the most popular programming language among the Data Scientists community for quite some time, but most recently there is debate that Python is replacing R as THE programming language for Data Science[5].

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[4] http://bit.ly/mkt3421-datascientist.

[5] See the discussions: http://bit.ly/mkt3421-debate1; http://bit.ly/mkt3421-debate2; http://bit.ly/mkt3421-debate3.

I'm a veteran in R and a beginner in using Python for statistical analysis, and I would be available for any consultation and discussion about how to use either language.

ANNEXURE IV:
A Word Cloud of the Book & Course Outline

Academic Honesty & Plagiarism

Academic integrity and honesty is essential for the pursuit and acquisition of knowledge. The University and School expect every student to uphold academic integrity & honesty at all times. Academic dishonesty is any misrepresentation with the intent to deceive, or failure to acknowledge the source, or falsification of information, or inaccuracy of statements, or cheating at examinations/tests, or inappropriate use of resources.

Plagiarism is 'the practice of taking someone else's work or ideas and passing them off as one's own' (The New Oxford Dictionary of English). The University and School will not condone plagiarism. Students should adopt this rule - You have the obligation to make clear to the assessor which is your own work, and which is the work of others. Otherwise, your assessor is entitled to assume that everything being presented for assessment is being presented as entirely your own work. This is a minimum standard. **In case of any doubts, you should consult your instructor.**

Additional guidance is available at:
http://www.nus.edu.sg/registrar/adminpolicy/acceptance.html#NUSCodeofStudentConduct

Online Module on Plagiarism:
http://emodule.nus.edu.sg/ac/