Marketing Analytics and Big Data

Professor: Manel Guerris Larruy, Alberto Lempira Guevara

E-mail: manuel.guerris@upf.edu; alberto.guevara@bsm.upf.edu

Office hours: by appointment

Course Description

Nowadays, people generate more data and do so at a faster rate than in any other moment in History. From mere individuals and small communities, to small and medium companies, to large multinationals and government organizations and administrations, everyone's capacity to generate information rapidly grows every day.

We are constantly generating data and this phenomenon is being boosted even further due to the Internet, cell phones, and the Internet of Things (which allows traditionally off-line devices such as electronic appliances or cars to connect to the Internet in order to send and receive data). Thanks to those technological advances, not only computers and Smartphones but also medical equipment and even electronic appliances generate millions of data every second, data waiting to be used as information.

Companies are already aware that the correct analysis and understanding of the available data, both internal and external, is the key to find competitive advantages. In the fields of business and marketing, all the talk about data is focusing more and more on consumer trends, the planning of new products, and other market insights.

Working with traditional statistical techniques, explorative analysis, and data mining, marketing professionals will have to face the new challenge of interpreting this huge amount of data and incorporating it into their decision-making processes.

From a marketing perspective, the advantage of using data is not limited to the possibility of offering better contents or applications to consumers. By relying on

data, it is also possible to improve the products and services brands offer, or to facilitate the process of making certain marketing decisions beyond what traditional market research would allow.

Objectives

- Understanding the new challenges that marketing professionals have to face when, in order to improve an organization's products and services, they use technologies and documented principles to extract and analyze information out of large volumes of data, they access and disseminate information on cell phones, and they gain presence in social networks.
- Understanding the importance of data bases and knowledge bases in order to manage and reach the company's goals.
- Understanding the concept of 'Key performance indicator', its design, and its applications as a measurement tool of marketing management.
- Learning how to efficiently integrate the company's internal and external information.
- Learning to use Business Intelligence (BI) by familiarizing oneself with the appropriate tools and data analysis techniques.

Methodology

Students are expected to actively participate in class, to work in groups, and to use the Internet.

In-person activities to be conducted in theory sessions:

- Theory classes.

- Project presentations.

- Debates and discussion around marketing cases.

- Seminars taught by collaborators (professionals in the field...).

Autonomous learning:
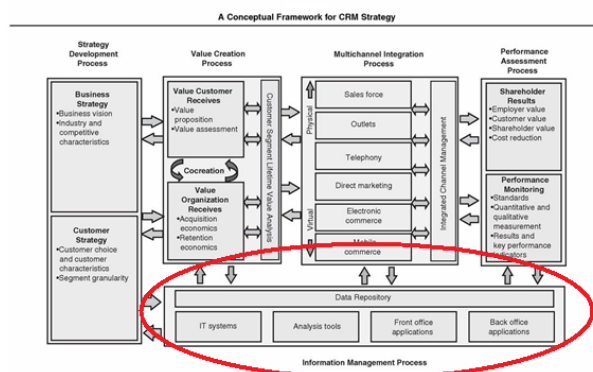
MSc in Marketing - Marketing Analytics and Big Data
*The information contained in this document is for information purposes only and may be subject to change in the adaptations of each academic year. The definitive Guide will be available to students enrolled in the virtual space before the start of each subject.

- Preparation of group/individual projects

- Resolution of cases

- Research on topics related to the course

- Group dynamics involving topics discussed in class

- Individual and group tutorial sessions

- Final exam

The Payne and Frow framework, Journal of Marketing (2005)

We will rely on the conceptual framework by Payne and Frow and, specifically, we will focus on the information management process and its five components (see figure 1 below):

1. Data repository

2. IT systems

3. Analysis tools

4. Front office applications

5. Back office applications

Competencies to acquire
MSc in Marketing - Marketing Analytics and Big Data
*The information contained in this document is for information purposes only and may be subject to change in the adaptations of each academic year. The definitive Guide will be available to students enrolled in the virtual space before the start of each subject.

CE2. Decide between the main market research methodologies and consumer insights acquisition for decision making together with market research companies.

CE9. Apply the models and methodologies for monitoring and updating both strategies and marketing tactics, as well as the portfolio of products and customers, in order to reach the management objectives set.

Learning outcomes

CE2.

R1. Methodologically differentiate market research options.

R3 Discriminate between the advantages and limitations of each of the methodologies

R2. Differentiate the usefulness of the information from the implementation of each of the methodologies.

R4 Perform the complete planning of a market study.

CE9.

R1 Differentiate between the models and monitoring methodologies available

R2 Choose between the models and monitoring methodologies available

R3 Apply the analyzes performed to support or maintenance decisions or divestment of brands and / or products.

Evaluation criteria

- In-class participation and activities related to the Master's Final Project: 20%

- Resolution of cases and group projects: 40%

- Final exam: 40%

Important:

MSc in Marketing - Marketing Analytics and Big Data
*The information contained in this document is for information purposes only and may be subject to change in the adaptations of each academic year. The definitive Guide will be available to students enrolled in the virtual space before the start of each subject.

4

In courses that feature a final exam, a minimum grade of **4 out of 10** in the final exam is necessary for the other evaluation criteria to be taken into account when computing the student's overall grade for the course. Therefore, students who obtain less than a 4 out of 10 in the final exam will fail the course automatically. Those students will have to take a remedial exam (more details below).

Courses in the Program will generally include group assignments (case studies, projects etc.). At the end of each term, and in order to disincentivize free-riding behaviors, students will have the opportunity to evaluate the involvement of the rest of their team members in all group assignments that took place within the term. Students who obtain sufficiently poor evaluations from their team members will be penalized. The penalty will involve a reduction in the overall group assignment grades of **all** courses that include group assignments (max penalty: 20% reduction of those grades). More details on the topic are available on eCampus.

All the activities that are submitted past the deadline or that do not follow the submission instructions in terms of content, format, etc. will be considered as 'not submitted'. Students will be informed about the submission and presentation dates the first day of class.

Students are required to attend 80% of classes. Failing to do so without justified reason will imply a Zero grade in the participation/attendance evaluation item and may lead to suspension from the program

As with all courses taught at the UPF BSM, students who fail the course during regular evaluation will be allowed ONE re-take of the examination/evaluation. Students that pass any Retake exam should get a **5 by default as a final grade for the course.** If the course is again failed after the retake, students will have to register again for the course the following year.

In case of a justified no-show to an exam, the student must inform the corresponding faculty member and the director(s) of the program so that they study the possibility of rescheduling the exam (one possibility being during the "Retake" period). In the meantime, the student will get an "incomplete", which will be

MSc in Marketing - Marketing Analytics and Big Data
*The information contained in this document is for information purposes only and may be subject to change in the adaptations of each academic year. The definitive Guide will be available to students enrolled in the virtual space before the start of each subject.

5

replaced by the actual grade after the final exam is taken. The "incomplete" will not be reflected on the student's Academic Transcript.

Plagiarism is to use another's work and to present it as one's own without acknowledging the sources in the correct way. All essays, reports or projects handed in by a student must be original work completed by the student. By enrolling at any UPF BSM Master of Science and signing the "Honor Code," students acknowledge that they understand the schools' policy on plagiarism and certify that all course assignments will be their own work, except where indicated by correct referencing. Failing to do so may result in automatic expulsion from the program."

MSc in Marketing - Marketing Analytics and Big Data
*The information contained in this document is for information purposes only and may be subject to change in the adaptations of each academic year. The definitive Guide will be available to students enrolled in the virtual space before the start of each subject.

6

Reading Materials/ Bibliography/Resources

- Manyika J., Chui M. et al.; "Big data: The next frontier for innovation, competition, and productivity", The McKinsey Global Institute 2011

- Payne and Frow, "A Strategic Framework for Customer Relationship Management" , Journal of Marketing, Vol 69, October 2005

- Big Data Now. O´Reilly Media. Septiembre 2011.

- Big Data: The next frontier for innovation, competition, and productivity. McKinsey Global Institute, McKinsey & Company. Mayo 2011.

- Brad Brown, Michael Chui, James Manyika. "Are you ready for the era of 'Big Data'?",Global Institute, McKinsey & Company. McKinsey Octubre 2011.

- Brandl, Bernd; "Big data in macroeconomic forecasting: On the usefulness of knowledge discovery in databases"; PROCEEDINGS OF THE 22ND INTERNATIONAL CONFERENCE ON MATHEMATICAL METHODS IN ECONOMICS 2004; 2004

- Chen, Hsinchun; Chiang, Roger H. L.; Storey, Veda C., "BUSINESS INTELLIGENCE AND ANALYTICS: FROM BIG DATA TO BIG IMPACT"; MIS QUARTERLY; Pages 36-4; 2012

- Chui M, Löffler M, Roberts R, , "The Internet of Things", and Roger, McKinsey Quarterly 2010 Number 2

- Competing through data: Three experts offer their game plans. McKinsey Global Institute. Octubre 2011

- Davenport, Thomas H.; Barth, Paul; Bean, Randy; "How 'Big Data' Is Different"; MIT SLOAN MANAGEMENT REVIEW; 54-1; 2012

- Dearstyne, Bruce W.; "Big Data's Management Revolution";HARVARD BUSINESS REVIEW; 90-12;2012

MSc in Marketing - Marketing Analytics and Big Data

*The information contained in this document is for information purposes only and may be subject to change in the adaptations of each academic year. The definitive Guide will be available to students enrolled in the virtual space before the start of each subject.

- How strategic is our technology agenda? Business Technology Office, McKinsey & Company. Octubre 2011.

- Ignatius, Adi; "Big Data for Skeptics";HARVARD BUSINESS REVIEW; 90-10; 2012

- Karlgaard, Rich; "Surfing the Big Data Wave EMC's Joe Tucci"; FORBES; 188-4; 2011

- Lavalle, Steve; Lesser, Eric; Shockley, Rebecca; Hopkins, Michael S.; Kruschwitz, Nina; "Big Data, Analytics and the Path From Insights to Value"; MIT SLOAN MANAGEMENT REVIEW; 52-2; 2011

- McAfee, Andrew; Brynjolfsson, Erik; "STRATEGY & COMPETITION Big Data: The Management Revolution"; HARVARD BUSINESS REVIEW; 90-10; 2012

- McClure, D., "Startup Metrics for Pirates: AARRR!!!", http://www.slideshare.net/dmc500hats/startup-metrics-for-pirates-long-version

- Mouncey, Peter; "Wrestling with 'big data'"; INTERNATIONAL JOURNAL OF MARKET RESEARCH; 54-4; 2012

- Rosenthal C, "Big Data in the age of the telegraph", McKinsey Quarterly 2013

- Russom Philip, "Big Data Analytics", TDWI Research (The Data Warehousing InstituteTM). Octubre 2011.

- Sheppard B, Chui M, Löffler M, Roberts R, "Putting Big Data to Work: Opportunities for Enterprises", GIGAOM. Marzo 2011. "Big Data: Cómo la avalancha de datos se ha convertido en un importante beneficio", paper de TICbeat

- The Data Warehouse Institute, http://tdwi.org/Home.aspx

MSc in Marketing - Marketing Analytics and Big Data
*The information contained in this document is for information purposes only and may be subject to change in the adaptations of each academic year. The definitive Guide will be available to students enrolled in the virtual space before the start of each subject.

8

Bio of Professor

Manuel Guerris Larruy: Lecturer of operations, logistics, industrial management and business strategy at UPF- Barcelona School of Management, UPF-ESCI, Universitat Politécnica de Catalunya (UPC), and IQS – Universitat Ramon Llull. MBA awarded by IESE, MSc in Economics and Management Reasearch awarded by IQS, Industrial Engineering degree awarded by UPC. Has been President of the 'Comisión de Internacionalización de la Asociación Profesional e Industrial de Ingeniería'. Ample experience as a Consultant working for private and public European companies. Has founded a new company in the sector of e-health. Partner of Neo Consulting BCN, consulting company specialized in operations and internationalization processes and that helps other companies expand their internal and external borders.

Alberto Lempira Guevara is a Marketing & Business Development Consultant. He has a bachelor's degree in production engineering by Universidad Metropolitana (UNIMET) from Caracas, Venezuela. MSc in Marketing by UPF, Digital Marketing Postgraduate degree by Tecnocampus (UPF), Inbound Marketing Postgraduate degree by Inesdi Digital Business School and Transmedia Storytelling and Branded Content Postgraduate degree also by Inesdi Digital Business School.

Alberto worked in Political Marketing for more than five years. He has also been working on user acquisition, CRO, digital strategies and advertisements for the last six years. He has worked as a consultant for the past years and is re-launching the consulting agency BoostingOut.

MSc in Marketing - Marketing Analytics and Big Data
*The information contained in this document is for information purposes only and may be subject to change in the adaptations of each academic year. The definitive Guide will be available to students enrolled in the virtual space before the start of each subject.

9