

**INTERNATIONAL MANAGEMENT INSTITUTE, BHUBANESWAR**  
**POST GRADUATE DIPLOMA IN MANAGEMENT (PGDM)**  
**MARKETING ANALYTICS (MK.....)**  
**CREDIT: HALF (1.5 Credits)**  
**SESSION DURATION: 60 Minutes**

**TERM: VI**  
**YEAR: 2018-19**  
**BATCH: II**

**FACULTY:** Prof. Manit Mishra  
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**Office hours:** 9.30 AM – 5.30 PM

**Course Introduction:** “In God we trust, everyone else must come with,” so says a very popular phrase among analysts. Indeed, with abundance of data flooding from every possible source and with a rapid evolution of techniques required to analyze this data, a skilled analyst is the most prized entity. If data is the new oil, analyst is the sought-after refinery. This course enables students to attain greater expertise in hands-on execution of cutting-edge analytical techniques. The ultimate goal is to prepare market-ready students who are able to understand the marketing dilemma; study the data; choose the most appropriate one from among a gamut of available analytical techniques; analyze and derive insights out of it; and finally, suggest suitable marketing decisions based on generated insights.

**Learning Outcomes:** The specific objectives of the course are-

1. To improve students’ ability to view marketing function analytically.
2. To familiarize students with advanced analytical techniques.
3. To enhance students’ efficiency in using open-source software R Studio for analytics.
4. To learn to use data for creating effective business strategies.

**Course Pedagogy:** The teaching methodology will be an optimum amalgamation of classroom teaching, hands-on experiments and case discussions. A theoretical understanding of the tools will be followed by data-based application of tools and lastly, case-based application.

**Course Readings:**

**Books**

1. Shmueli, G., Bruce, P. C., Yahav, I, Patel, N. R., & Lichtendahl Jr., K. C. (2018). *Data Mining for Business Analytics: Concepts, Techniques, and Applications in R*. John Wiley and Sons. [SHMUELI]
2. Winston, W. L. (2014). *Marketing Analytics: Data-driven Techniques with Microsoft Excel*. John Wiley & Sons. [WINSTON]

3. Linoff, G. S., & Berry, M. J. (2011). *Data Mining Techniques: For Marketing, Sales, and Customer Relationship Management*. John Wiley & Sons. [LINOFF]
4. Kumar, V., & Reinartz, W. (2018). *Customer Relationship Management: Concept, Strategy, and Tools*. Springer. [KR]
5. Lander, J. P. (2014). *R for Everyone: Advanced Analytics and Graphics*. Pearson Education.
6. Venkatesan, R., Farris, P., & Wilcox, R. T. (2014). *Cutting-edge marketing analytics: Real world cases and data sets for hands on learning*. Pearson Education.
7. Sorger, S. (2013). *Marketing Analytics: Strategic Models and Metrics*. Admiral Press.

**Analytical tools:** R-Studio, XL-Miner

**Course Evaluation criteria:**

Case analysis/ Class participation	20%
Project	20%
Quiz	20%
End-term	40%
<b>Total</b>	<b>100%</b>

**Session Plan:**

#	Topic	Learning Outcomes	Reading
1-2	Introduction to R	LO – 1 LO – 2 LO – 3 LO – 4	SHMUELI – Ch. 2 LANDER – Ch. 1 – 6  Reading: <a href="https://www.mckinsey.com/business-functions/mckinsey-analytics/our-insights/the-age-of-analytics-competing-in-a-data-driven-world">https://www.mckinsey.com/business-functions/mckinsey-analytics/our-insights/the-age-of-analytics-competing-in-a-data-driven-world</a>
3-4	What do customers want? Customer management using Logistic Regression	LO – 1 LO – 2 LO – 3 LO – 4	LINOFF – Ch. 8 SHMUELI – Ch. 10 WINSTON – Ch. 17 LANDER – Ch. 17  Reading: <a href="https://mapr.com/blog/how-use-data-science-and-machine-learning-revolutionize-360-customer-views/">https://mapr.com/blog/how-use-data-science-and-machine-learning-revolutionize-360-customer-views/</a>

5-8	Sales forecasting and predictive modelling using artificial neural network (ANN)	LO – 1 LO – 2 LO – 3 LO – 4	LINOFF – Ch. 8 SHMUELI – Ch. 11 WINSTON – Ch. 15  <u>Reading:</u> <a href="https://blog.arcbees.com/2016/12/29/a-non-technical-guide-to-understanding-machine-learning/">https://blog.arcbees.com/2016/12/29/a-non-technical-guide-to-understanding-machine-learning/</a>
9-10	Knowing when to worry Understanding customer churn using survival analysis	LO – 1 LO – 2 LO – 3 LO – 4	LINOFF – Ch. 9 LANDER – Ch. 17
11-12	Listening to customers – Text mining using sentiment analysis	LO – 1 LO – 2 LO – 3 LO – 4	LINOFF – Ch. 21 SHMUELI – Ch. 20 WINSTON – Ch. 45
13-15	Data visualization using R Studio/ ggplot2	LO – 1 LO – 2 LO – 3 LO – 4	SHMUELI – Ch. 3 LANDER – Ch. 7  <u>Reading:</u> <a href="https://www.reddit.com/r/dataisbeautiful/">https://www.reddit.com/r/dataisbeautiful/</a>

### Academic integrity

- a) **Plagiarism** is the use of or presentation of ideas, works that are not one's own and which are not common knowledge, without granting credit to the originator. Plagiarism is unacceptable in IMI and will invite penalty. Type and extent of penalty will be at the discretion of the concerned faculty.
- b) **Cheating** means using written, verbal or electronic sources of aid during an examination/ quiz/ assignment or providing such assistance to other students (except in cases where it is expressly permitted by the faculty). It also includes providing false data or references/list of sources which either do not exist or have not been used, having another individual write your paper or assignment or purchasing a paper for one's own submission. Cheating is strictly prohibited at IMI and will invite penalty as per policies of the Institute.