Business Analytics as Part of Marketing Education in Business Schools Settings

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Problem definition

- Big Data and Data Science are shaping our society, but degree programs in data analytics are focusing mostly on technical aspects.
- In business education, the number of courses covering practical application of data analytics remains rather small.

**How can we integrate data science in marketing courses?**

**How far can we go?**

**How far can we get?**
Seminar in Business-to-consumer Management

- master program in business studies
- small groups, approx. 10 students

Course objectives

- dealing critically with theoretical and empirical aspects of marketing research
- explaining and critically evaluating empirical methods of marketing- and customer behavior research,
- designing, carrying out and analyzing empirical studies as well as interpreting their results
How to integrate Business Analytics

Goals

• combine already known marketing approaches with methods from business analytics
• apply web mining
• use web data

Organization

• Three groups
• Three phases
Phase one - theoretical foundations

marketing theory

1. Extraction of electronic word of mouth via web mining
2. Consumer segmentation via web mining
3. Predicting consumer behavior via web mining
Phase two - business understandings

Density and concentration meter: EasyDens

- determines extract content and sugar content of home-produced fruit juices
- determines alcohol content in spirits
- monitors the fermentation process of beer and wine
- Easy-to-use with smartphone app

Anton Paar

- Business-to-business supplier of measurement instruments
- 110 countries, 3100+ employees

- EasyDens: first B2C product
Phase two – business understandings

Group work – **understanding the business case**

1. Exploring data set
2. Exploring variables for customer segmentation
3. Exploring opportunities for predictions
Phase two – business understandings

Anton Paar EasyDens?

Is anyone using one of these? We're currently using hydrometer and refractometer (I know, I know).


This thing is less than half the price of the DMA 35, and seems to use the same technology. Obviously it’s not as robust in all the parameters the DMA 35 can measure, I guess my question is, do you guys think the EasyDens is good enough, or should we splurge for the DMA 35?

https://www.reddit.com/r/TheBrewery/comments/7w56sr/anton_paar_easydens/


Definitely a great gadget to have! Easy learning curve, works awesome, really glad I bought it. Have been triple checking its accuracy, and its been dead on. I like not having to do a conversion to get close to fg. Was going to buy a hydromat digital refractometer, but went with this one instead. Very happy.

Was this review helpful? Yes (0) No (0) - Flag as Inappropriate

March 29, 2019

Must be the best thing I have ever done to improve the efficiency of my brews. 5/5!

Was this review helpful? Yes (0) No (0) - Flag as Inappropriate

February 15, 2019

Great device

Very happy with the EasyDens. It’s pricey but does the job really well. I especially like the fact that it only needs 2-3 ml of sample to give you a reading. Has really improved and shortened my whole brewing process.

Was this review helpful? Yes (0) No (0) - Flag as Inappropriate

December 14, 2018

https://www.reddit.com/r/TheBrewery/comments/7w56sr/anton_paar_easydens/

Phase three – project work

- Extracting electronic word of mouth
- Visualization of electronic word of mouth.
- Customer segmentation based on web contents
Phase three – (1) extracting eWOM
Phase three – (1) extracting eWOM
Phase three – (2) visualization of eWOM

German: n=548; English: n=317
Phase three – (2) visualization of eWOM

“Very easy to set up and use. Readings clear and concise. I like the small amount of work needed to take a reading. I would recommend this to anyone considering purchasing it.”

„Accurate and totally worth the money if you plan on using it in a semi or professional application.”
Phase three – (3) customer segmentation

**Cluster I (59.5%)**

**Positive comments**

**keywords**
- great
- accurate

**topics**
- measurement results
- usage

“Great resource, especially for those shopping to upgrade their measurements!”

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**Cluster II (8%)**

**Lovingly comments**

**keywords**
- love
- simplicity

**topics**
- experience
- usage

“The EasyDens is so easy to use and I love that it only needs a very small degassed sample to work. Highly recommended!”

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**Cluster III (32.5%)**

**Price critical comments**

**keywords**
- price
- hydrometers

**topics**
- product comparison
- high price

“Unless you just have unlimited budget to throw at your first attempt, I can think of a dozen ways to more effectively spend money in the quest to make good beer.”

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English sample, n=126, k means, distance = 0.807, Davies-Bouldin Index = 4.577
Phase three – (3) customer segmentation

**The Sceptic**
- price critical
- inexperienced

“I use a hydrometer."

“$400 is a bit pricey...”

**The Potential**
- price sensitive
- interested

“Would love to know someone’s experiences with the EasyDens, I’ve been eyeing it for a while.”

**The Convinced**
- enthusiasm
- intention to recommend
- price acceptance

“Love my EasyDens!”

“The EasyDens works great!! Fast, easy, accurate.”
theoretical foundations:
- topic definition
- literature review
- presentations

business understandings:
- explorative data scan
- introduction of business case
- case briefing by company representative

project work:
- data collection
- consolidation workshop
- result presentation workshop
- final project presentation with company representatives

1 month
1 month
2 months
Conclusion

- Web mining of eWOM proofed to be a promising use case for teaching data analytics to marketing students.
- Using a real case was key for student’s motivation and learning experience.
- Business students lost their awe regarding data analytic approaches and were much more motivated to experiment.
- Students understood the phases of the data science life cycle and the necessity of acquiring business understandings.
- A plenty of easy-to-handle software applications enable also non-technicians to realize simple data science projects.

Creating knowledge for future scientific and/or practical application of big data analytics in a marketing context.
thank you very much

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