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Horses for Courses in Demand Forecasting

Play and Learn

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Outline of Horses for Courses’ presentation

- Aim of this study
- Methodology applied
- Sample Description
- Experimental Setup
- Results
- Conclusions
- Q&As - Contact
The aim of this study is to teach the basic results and conclusions of the published paper “Horses for Courses, in demand Forecasting” to students (and later on to practitioners) based on a different, efficient and attractive way.

- Corporation and combination of different *teaching approaches*
- Categorization of students into different teams but giving them motivation
- Evaluation of students’ understanding
**Gamification**: is the use of game thinking and game mechanics in non-game contexts to engage users in solving problems and increase users’ contributions. (Wikipedia)

Integrating game dynamics into your site, service, community, content or campaign in order to drive participation.

https://badgeville.com/wiki/

- Gamification is a trending topic as a mean of supporting user engagement and enhancing positive patterns in service use, such as increasing user activity, social interaction or quality and productivity of actions. Gartner estimates that over 50% of organizations managing innovation processes will gamify aspects of their business.
- Popular interest in gamification is also reflected in an academic in an academic context. The number of papers published is growing.
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Introduction & Gamification

**Progression**—See success visualized incrementally

- **Levels:** Stamp up and unlock content.
- **Points:** Increase the running numerical value of your work.

**Investment**—Feel pride in your work in the game

- **Achievements:** Earn pride recognition for completing work.
- **Appointments:** Check in to receive new challenges.
- **Collaboration:** Work with others to accomplish goals.
- **Epic Meaning:** Work so achieved something sublime or transcendent.
- **Rewarding:** Be incentivized to involve others.

**Cascading Information Theory**—Unlock information continuously

- **Bonuses:** Receive unexpected rewards.
- **Discovery:** Navigate through your learning environment and uncover pockets of knowledge.
- **Last American:** Try to avoid losing what you have gained.
- **Infinite Play:** Learn continuously until you become an expert.
- **Counterform:** Tackle challenges in a measured amount of time.
- **Sintact:** Work on challenges that require multiple skills to achieve.
Introduction

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Specify loyalty variables
Apply Game mechanics

Enrich challenge with fun
Track and optimize
Methodology

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Categorization randomly into 4 groups of student

Lecture: “Horses for Courses in demand Forecasting”

Team A: complete test
Team B: read pdf
Team C: play game
Team D: read pdf

Team B: complete test
Team C: complete test
Team D: Play game

• Each group follows the instructions of its supervisor
• Every task was limited to strictly 15 minutes.
Lecture: “Horses for Courses in Demand Forecasting”

- 12 min lecture & 3 min for questions
- Presentation of experimental setup and important results
- Emphasizing on conclusions depicted in tables and how to use the table above. These conclusions were the basis of the questions of final evaluation
- During the presentation, examples were given and participation was encouraged
Lecture: “Horses for Courses in Demand Forecasting”

- 12 min lecture & 3 min for questions
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Sample: Undergraduate students of NTUA

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Team A
- Attend Lecture
- Complete the Evaluation Form

Number of Participants: 8

Team B
- Attend Lecture
- Read study as pdf
- Complete the Evaluation Form

Number of Participants: 14

Team C
- Attend Lecture
- Play game
- Complete the Evaluation Form

Number of Participants: 12

Team D
- Attend Lecture
- Read study as pdf
- Play game
- Complete the Evaluation Form

Number of Participants: 15
‘Horses for Courses’ in Demand Forecasting

Fotios Petropoulos, Spyros Malandrakis, Vassilios Assimakopoulos, Konstantinos Nikolopoulos

Forecasting using a correctly designed line program is a task that requires careful planning and considerable effort. The Forecasting eSchool, an online platform for teaching forecasting, emphasizes the importance of understanding the underlying principles of forecasting methods. It is designed to equip learners with the knowledge and skills necessary to make accurate forecasts in various fields, including business, economics, and public policy.

Forecasting methods play a crucial role in decision-making processes across different sectors. By using historical data and statistical models, forecasters can predict future trends and make informed decisions. The Forecasting eSchool provides a comprehensive curriculum that covers a wide range of forecasting techniques, from simple moving averages to complex time series analysis. Learners can access interactive modules, quizzes, and peer reviews to enhance their understanding and practical skills.

The platform is designed to accommodate learners at different levels of expertise, from beginners to advanced practitioners. The interactive nature of the lessons allows learners to apply their knowledge in real-world scenarios, thereby improving their ability to make accurate forecasts in uncertain environments.

Forecasting is not just a tool for businesses; it is essential for policymakers, public health officials, and other decision-makers who need to plan for future events. The Forecasting eSchool aims to provide a solid foundation in forecasting methodologies, enabling learners to make informed decisions, improve operational efficiency, and ensure better resource allocation.

For more information on the Forecasting eSchool and its courses, visit their official website or contact their support team for further assistance.
Play “game”

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Level 3 & 4
Choose method for fast moving and intermittent demand data. You can learn more.

Level 5
Choose method for fast moving real data but you can learn more.

Hall of fame
Are you in?

Register
Entry Level Test

Level 1 & 2
Choose method for fast moving and intermittent demand data respectively.

html javascript php, mySQL, Bootstrap
Evaluation test

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- 31 equivalent questions
- Right answer gets 1 point
- 3 general questions about time series components
- 8 questions based on table which depicts the conclusions for practitioners (rules for methods based on time series components)
- The rest of questions based on other important conclusions of this paper, which were emphasized during the lecture.
- The same final stage of each team
Results (1/3)

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### Analysis

- Lecture helps to get a general idea
- Teams who played the game had better performance than the others
- Reading pdf seems to contribute to the educational process but not as much as game does
Lecture helps to get only the basic conclusion of the paper.

Teams who played the game had better performance than the others taught by conventional way.

Reading pdf seems to contribute to the educational process but not as much as game does.

Using median, we get the same ranking of teams as before, but the impact of the game is also underlined.
• Lecture helps to get only the basic conclusion of the paper.
• Teams who played the game had better performance than the others taught by conventional way.
• Reading pdf seams to contribute to the educational process but not as much as game does
• Using median, we get the same ranking of teams as before, but the impact of the game is also underlined.
Conclusions

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01
Attending only lecture is not sufficient enough

02
Reading a pdf is not as helpful as it is was expected

03
Playing a game kept students engaged and more motivated

04
Playing a “little” game has positive impact on learning forecasting (better than reading)

05
Gamification can be a simple procedure and games can be easily applied in courses

06
Motivate student to academic research
General, people interact with game-like systems in different manners and for different studies. Thus more studies need to be examined in order to have more results of gamification in forecasting and its impact on learning and forecast as well.
References

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• http://www.forecastingprinciples.com/
Thank you for the attention!

Q&A?
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Stochastics and Statistics

‘Horses for Courses’ in demand forecasting

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