Modeling Air-travel Booking Behavior and Market Dynamics

Acronym: **MAD**

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Objectives of the project I

- (O1) The main objective of the project is to study the online booking behavior of airline travelers
- (O2) This has far-reaching implications for understanding competition on digital markets, especially in environments where price comparison has become easily accessible
- (O3) Currently the consumer choice is studied by using two stage models, where the stages (search and choice – browsing and conversion) are studied separately from one another
- (O4) Our approach proposes to study the joint determination of browsing and conversion processes

Objectives of the project II

- At a finer level, this comprises of four tasks
    1. Empirical modeling of consumer behavior
        - Using Amadeus' data
    2. Controlled laboratory experiments to gain further insight into factors affecting consumer choices
        - Experiments at LEEN
    3. An online survey and a natural experiment conducted in online environments refining findings from laboratory experiments
        - Using Amadeus' price comparison site
    4. Theoretical modeling of consumer behavior and market dynamics based on the identified behavioral features

Partners

- UCA
  - SKEMA Coordination role of all four tasks
    - Providing expertise in consumer behavior, data analysis and dynamic modelling
  - GREDEG
    - Providing expertise in behavioral and experimental economics
    - Leading the task 2 that involves lab experiments
- External
  - Amadeus
    - An important role of providing data, and access to price comparison website
  - North Carolina State University
    - Providing expertise in modeling multi-agent systems in marketing
  - Osaka University
    - Expertise with experiments
  - Rochester Institute of Technology
    - Expertise in visual search in marketing

Spending allocation

- 3-year PhD
  - Currently 4th year supported by SKEMA
- 1-year Post-Doc
- SAMET – Sophia Antipolis Meetings on E-Travel
  - 4 iterations of the workshop (2018-2021)

- Additionally: 2-year post-doc supported by AAP "Partenariat"

Results

- Development of the methodology to apply to choice modeling with observational data in online environments enhanced by insight coming from psychological research (O1)

- Development of the framework to experimentally study time-money tradeoffs specifically in air-travel context (O2)

- Development of the methodology to evaluate attitudes toward recommender systems based on objective functionality and perceived usefulness (O2)

- Evaluation of the physchological biases in the online e-booking behavior with the field experiment (O3)

- Development of the model to study online search and conversion with recall (O4)

Output

- O1
  - Mirzayev E., et al. (2021) Use of clustering for consideration set modelling in recommender systems. *Proceedings of the 54th Hawaii International Conference on System Sciences* (HICSS-54).
  - Babutsidze Z., et al. Choice modeling with context effects: Generalization to multi-option and multi-attribute settings. R&R in *Journal of Marketing Research*.
- O2
  - Mirzayev E., Babutsidze Z. (2022) User control and acceptance of recommender systems. *Proceedings of the 24th Annual Conference of the Southern Association for Information Systems* (SAIS2022).
  - Rafaï I., et al. Asymmetric dominance in airfare choice. In preparation.
- O3
  - Rafaï I., et al. (2022) No Evidence of Attraction Effect Among Recommended Options: A large-scale field experiment on an online flight aggregator. *Decision Support Systems*.
- O4
  - Bouhlel I., et al. Multi-attribute search with recall. In preparation.