The Supermarket of the Future
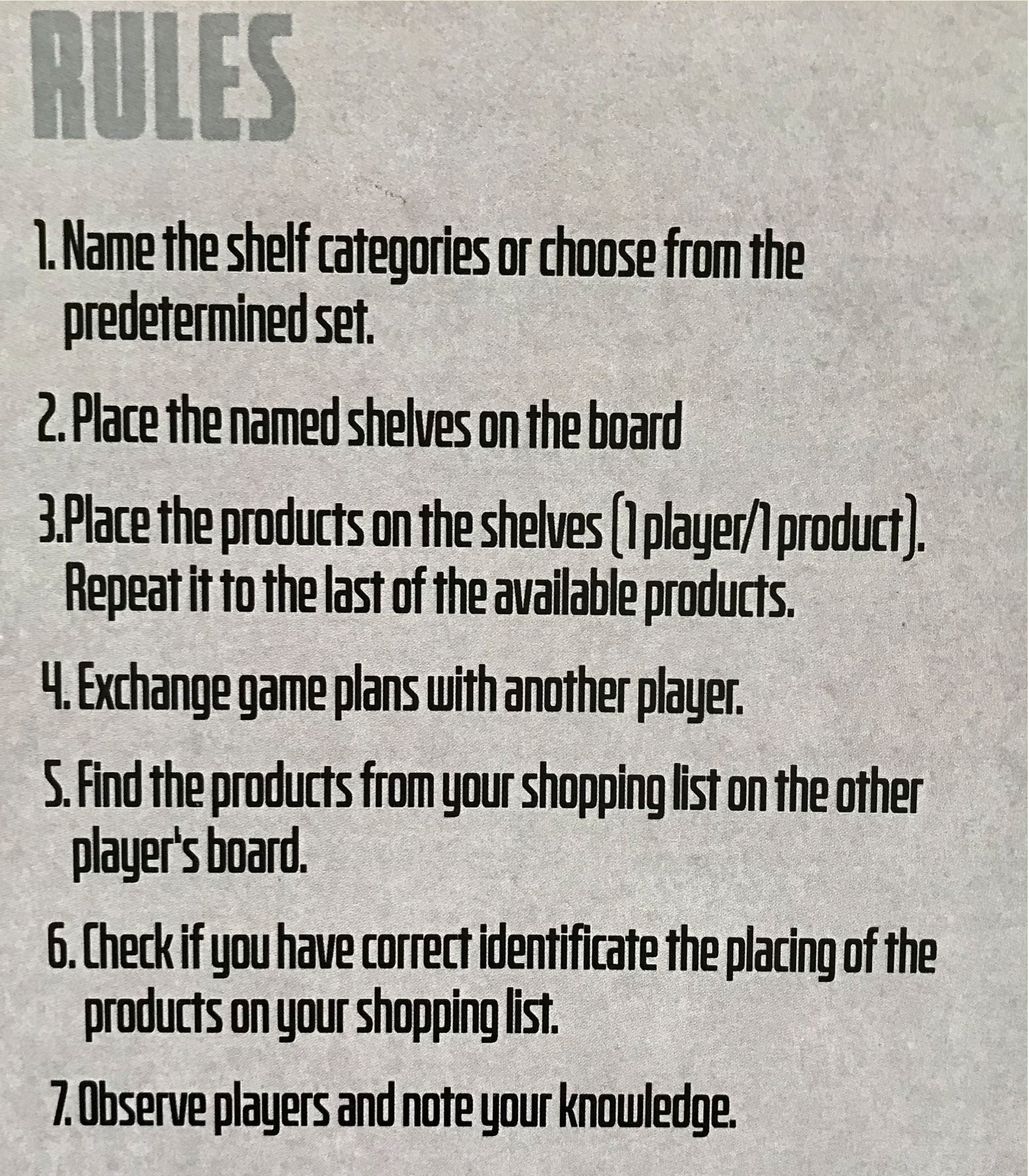
Alexandra Molitorisová

(Researcher and Lecturer Chair of Food Law, University of Bayreuth)

UNIVERSITÄT BAYREUTH

1 Introduction

- This research introduces a game-based approach to explore consumer perceptions of novel foods through categorization theory, aiming to inform better labeling policy and law in the EY.
- Innovative food products often cannot be labelled in the same way as their conventional counterparts.
- When regulating food names and labelling of innovative foods, policymakers often use mental shortcuts, which do not prevent misleading consumer practices. E.g. they rely on cognitive biases like the availability heuristic
- It is difficult to collect statistically relevant empirical data on the likelihood of misleading European consumers by labels used for conventional products on novel foods. Such evidence would only be optimal in a shopping experience as close to reality as possible, e.g. a supermarket. In this respect, more modelling and experimentation with the experimental setting is required
- Categories that players create during the game allow conclusions to be drawn about product characteristics (e.g. production processes) that are important for consumers as regards labelling of novel foods

RULES

1. Name the shelf categories or choose from the predetermined set.
2. Place the named shelves on the board
3. Place the products on the shelves (1 player/1 product). Repeat it to the last of the available products.
4. Exchange game plans with another player.
5. Find the products from your shopping list on the other player's board.
6. Check if you have correct identificate the placing of the products on your shopping list.
7. Observe players and note your knowledge.

MEINE EINKAUFSLISTE

3 Results

The game can be used for two purposes:
1) awareness raising for future policy making:
- awareness of novel foods is low among policy makers. Players can imagine a future supermarket with innovative products.
2) research of categorization of novel foods:
The board game can be utilised as a new research tool to:
- apply gamification to the study of (cross)categorization;
- categorise through communication strategies,
- test categorisations based on visual and/or textual inputs,
- use a very large pool of test products (200) + 200 blank cards for any new products under development or entering the market,
- test the categorisation of products not on the market or represent a foresight of market trends of food production technologies
- test legal restrictions on the labelling of certain innovative food with category prompts and without prompts

2 Materials & methods

Method: Gamification
- Realisation: Cooperative board game which requires high concentration and encourages participation.
- Steps:
1. Novel food product identification based on simple internet research on specialized websites (foodnavigator.com, greenqueen.com.hk) and the list of novel foods approved in the EU
2. ChatGTP prompts to identify additional food products that could be found in a potential supermarket of the future
3. Drafting product names with and without limitation imposed by EU law
4. The AI tool Midjourney to generat images of packaging of novel foods identified in the first two steps in a future supermarket.
5. Creation of 200 cards representing innovative products and traditional products (dairy, meat/fish, bakery, beverages, vegetables/fruit, non-perishables and confectionery).
6. Czech company designed a board resembling a future supermarket with 3D shelves.
7. Game rules based on 3 gaming sessions with a total of 18 players
8. Writing an accompanying protocol for gaming.

4 Conclusion

- Supermarket of the Future can be used to study categorisation and cross-categorisation of innovative food products (e.g. precision fermentation, cell-based technologies, plant-based products, hydroponics, genetic engineering).
- The game's variability can shed light on which labels, e.g. product- or process-related, mislead consumers.
- EU legislation and policy-making can respond to findings to ensure a high level of consumer protection and consumer empowerment in EU food law.

Furter possibilities to be explored in the folow-up research and outreach:
- conducting a representative study
- creation of a video game on the basis of the board game
- partnering with science museums to place a board or a video game station

References:
1) Hoek et al., Identification of new food alternatives: How do consumers categorise meat and meat substitutes?, Food Quality and Preference 22 (4) (2011): 371-383
2) Chollet et al., How protein containing foods are represented in memory? A categorisation study, Food Quality and Preference 96: 104381 (2022)
3) van der Meer, Fischer und Onwezen, Same strategies – different categories: An explorative card-sort study of plant-based proteins comparing omnivores, flexitarians, vegetarians and vegans, *Appetite* 180: 106316 (2023)