LM7: Neuro-Science Marketing Techniques for Shifting Diets and Personalised Branding

1.1 Module objectives

"The primary goal for this module is to summarise neuromarketing techniques that can create effective food branding strategies and increase behaviour change toward health diet."

1.2 Learning outcomes

To understand the truly complex decision-making and consumption environment, modern marketing is focused on studying purchasing decisions from a multidisciplinary perspective. In order to create value in today's competitive and fast-moving environment, it is vital to understand the consumer's experience. Neuromarketing holds promise in offering insights about consumer behaviour and is expected to revolutionise the fields of economics and marketing.

Neuroimaging data could give a more precise sign of the underlying preferences than data from standard market research studies. Learning the importance of brand and labelled information would be beneficial to people interested to create effective food branding strategies and increase behaviour change. This could allow product concepts to be tested rapidly and permit more efficient allocation of resources. The field of food choice and consumption is complex, as it involves both rational and irrational substrates. Individual decisions which lead to a certain choice that determines behaviour occur rapidly, and often without complete rational control. The neuromarketing discipline draws from neuroscience and behavioural economics to examine both conscious and unconscious emotional and perceptual reactions, and therefore can offer more information than traditional marketing approaches. Decision-making processes about food are influenced by a complex set of emotions, attitudes, and values that are difficult to assess just by self-reports or interviews.

This module will equip the student with the knowledge required to understand how neuroscience tools are employed for consumer-led product development and personalised branding. The goal for this course is to summarise neuromarketing techniques that can create effective food branding strategies and increase behaviour change. It aims to make students aware of what neuromarketing is, and gain in depth understanding of the neurobiological

mechanisms underlying consumer preferences and choice processes. This module also aims to teach students the ethical guidelines used in neuroscience, and how to apply principles of psychology and neuroeconomics to determine consumer behaviour and preferences. The aim is to use this knowledge to construct and influence the brand choice of their target audiences. This will enable students to use effectively neuromarketing research output in their branding strategy, to affect dietary preferences.

To summarise, the learning outcome of this course are:

- To provide an overview of neuroscience tools and brain anatomy related to dietary preferences and brand selection.
- To make students aware of the ethical guidelines for neuroscientific research.
- To teach students about how decision-making theories and research helped us understand basic drivers of judgment.
- To provide students with a set of skills that they can use to develop a strategic approach to personalised marketing and to affect dietary preference.

1.3 Course content

1. **Basic concepts of neuroscience**
   - Brain functionality
   - Neuroscience tools
   - Ethical guidelines, credibility & ease of application
2. **Behavioural economics - Neuroeconomics**
   - Decision making theories
   - Basic principles that drive judgment
3. **Choice of food and branding**
   - Eeural and chemical pathways of self-control, reward and evaluation
   - Food preference formation and modification
   - Optimise visibility practices and brand identity
4. **Case studies**
   - Use of fMRI to understand consumers' preferences in relation to brand
   - Use of eye-tracking to evaluate attention to packaging and nutritional information
   - Use of electroencephalogram (EEG) in food advertisement research to evaluate the impact of specific odors during tasting

1.4 Mode of teaching

- Lectures
- Literature study
- Case study, and

- Presenting the results to the group

1.5 Recommended study material

Selected examples of articles, book and online study material.

- Ariely D. (2009) Predictably Irrational: The Hidden Forces That Shape Our Decisions. Harper Press

- Gazzaniga, M., Ivry, R. B., & Mangun, G. R. (2019) Cognitive Neuroscience: The Biology of the Mind. W. W. Norton & Company

- Boyland, E. J., & Christiansen, P. (2015). Brands and Food-Related Decision Making in the Laboratory: How Does Food Branding Affect Acute Consumer Choice, Preference, and Intake Behaviours? A Systematic Review of Recent Experimental Findings. Journal of Agricultural & Food Industrial Organization.

- Cherubino, P., Martinez-Levy, A. C., Caratù, M., Cartocci, G., Di Flumeri, G., Modica, E., Rossi, D., Mancini, M., & Trettel, A. (2019). Consumer Behaviour through the Eyes of Neurophysiological Measures: State-of-the-Art and Future Trends. Computational Intelligence and Neuroscience.

- Giacalone, D. (2018). Sensory and Consumer Approaches for Targeted Product Development in the Agro-Food Sector. In Case Studies in the Traditional Food Sector.

- Hakim, A., & Levy, D. J. (2019). A gateway to consumers' minds: Achievements, caveats, and prospects of electroencephalography-based prediction in neuromarketing. Wiley Interdisciplinary Reviews: Cognitive Science.

- Hsu, M., & Yoon, C. (2015). The neuroscience of consumer choice. Current Opinion in Behavioral Science.

- Kessler, S. J., Jiang, F., & Hurley, R. A. (2020). The State of Automated Facial Expression Analysis (AFEA) in Evaluating Consumer Packaged Beverages. Beverages.

- Shahriari, M., Feiz, D., Zarei, A., & Kashi, E. (2019). The Meta-Analysis of Neuro-Marketing Studies: Past, Present and Future. Neuroethics.

1.6 Coordinator

South East European Research Centre- SEERC / AgTech7 online platform