Improving Tasting Processes in the Food Industry using ICT

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Abstract—Sensory Analysis uses Tasting Panels to evaluate products according to the way they are perceived by human senses, thus the main task of a professional taster is to assess the sensorial characteristics of products (appearance, odor, touch, taste and noise). This type of panels are widely used in the food industry (e.g., wine, olive oil, chocolate), as well as in other types of industry, for example cosmetics and perfumes. The tasting process typically generates a large amount of data that is used in decisions about the products and can also be used to evaluate the tasters. The use of Information and Communication Technologies (ICT) as a way to collect and store the data, incorporate different methods and provide results is believed to contribute to a consistent tasting process. The purpose of this work is to present an ICT-based solution that includes statistical methods and techniques used to support decisions regarding the results of the Tasting Process and also, if required, to assess tasters’ performance. This solution, that incorporates two main subsystems (Tasting Process and Taster Performance), combines the Sensory Analysis and the ICT knowledge areas with benefits both for researchers and for the tasting process’ stakeholders.

Keywords—food industry; ICT; sensory analysis; tasting panels

BIOGRAPHY

Ana Luísa Ramos graduated in Industrial Engineering and Management, received the M.Sc. degree in Computers Engineering from the University of Coimbra, Portugal, in 2002 and the Ph.D. degree in Industrial Management from the University of Aveiro, Portugal, in 2011. She is an Assistant Professor of Industrial Engineering and Management with the University of Aveiro where she teaches since 1997 (Simulation, Operations Management and Logistics). She is member of the Department of Economics, Management and Industrial Engineering Executive Board and Council. She is an integrated member of the Research Unit on Governance, Competitiveness and Public Policies (GOVCOPP) of the University of Aveiro being the research work focused on systems engineering and modeling & simulation of complex systems, with applications in the industrial sector and in the transportation sector. She has participated in scientific research projects and industry-based projects. She co-authored book chapters and several scientific papers published in peer reviewed international journals and international conferences proceedings.

Ana Raquel Xambre holds a 5 years undergraduate degree in Industrial Engineering and Management from the University of Aveiro, a post-graduation in Quantitative Methods in Management from Porto Business School - University of Porto, and a doctorate (PhD) in Industrial Management from the University of Aveiro. She is currently an Assistant Professor at the Department of Economics, Management and Industrial Engineering at the University of Aveiro and teaches subjects in the fields of Applied Statistics and Quality. She has published in several conferences and journals, and currently she is a researcher at the Center for Research and Development in Mathematics and Applications (CIDMA) and her current research interests include operational research techniques applied to operations management problems, namely the use of metaheuristics and simulation to address layout issues.

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