Jun 27th, 3:40 PM - 5:20 PM

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iEMSs International Congress on Environmental Modelling and Software

9th International Congress on Environmental Modelling and Software
Fort Collins, Colorado, USA, Mazdak Arabi, Olaf David, Jack Carlson, Daniel P. Ames (Eds.)
https://scholarsarchive.byu.edu/iemssconference/2018/

Effects of Price and Availability on Consumer Behaviour towards Sustainable Food

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Abstract: In recent years, sustainable food products have incrementally penetrated the shopping basket of families owing to the health, quality and environmental issues. Motivated by the increasing importance of sustainable agricultural practices, this paper examines the market share of the organically produced food in comparison to the conventional food and evaluates the impact of consumer choices on the environment. With the aim to gain an insight into the consumer preferences and consumption behavior, a simulation model combining system dynamics and agent-based modelling methods is developed for exploring two competing food products – one grown organically and the other one using conventional practices. A combination of different advertising techniques is adopted to stimulate the willingness of consumers to buy products. Usually, the products would be replaced by the same brand when the food is consumed; however, if organic product is not available due to delays in supply chain or/and if its price exceeds the willingness to pay of the customers, a product switch might take place. The model can help to understand the behavioral and environmental patterns of food consumers and to find optimal combinations between price signals and sustainability messages ('infomercials'). The model is driven by a survey of customer preferences and sustainable practices related to eco-certification and labelling systems. Our sustainable food market simulation provides information for farmers assisting them in conversion towards environmentally-friendly practices and for market analysts who analyze the purchase decisions of organic consumers, the dynamics of demand, and track the inventory levels for food with and without sustainable certification. This will also inform the consumers about the environmental impact that their choices can have.

***Keywords**:* Sustainable food; Consumers' behaviour; Decision-making; System dynamics; Agent-based modelling