

Modelling and Analysing Human Behaviour in a Department Store using Discrete Event and Agent Based Simulation

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Abstract

Discrete Event Simulation (DES) is a very popular simulation technique in Operational Research. Recently, there has been the emergence of another technique, namely Agent Based Simulation (ABS). Although there is a lot of literature relating to DES and ABS, we have found less that focuses on exploring the capabilities of both in tackling human behaviour issues. In order to understand the gap between these two simulation techniques, therefore, our aim is to understand the distinctions between DES and ABS models with the real world phenomenon in modelling and simulating human behaviour. In achieving the aim, we have carried out a case study at a department store. Both DES and ABS models will be compared using the same problem domain which is concerning on management policy in a fitting room. The behaviour of staffs while working and customers' satisfaction will be modelled for both models behaviour understanding.

Keywords: Discrete Event Simulation, Agent Based Simulation, Human Behaviour, Retail