## ABSTRACT

The store layout is one of the key facets of modern retailing, because it is a vital feature that influences consumer behaviour. This research examines the interaction between user behaviour and retail layout optimization by the use of close-circuit video or CCTV obtained from online data sources, utilizing data visualization. This research uses computer vision model including image recognition and mapping to test the connection with the shop layout between in-store customers. Through performing set of test scenarios utilizing data similar to what it will be in real-world business operation, this study tested how the model fits for the task. In the scenario, the videos were divided into 120-seconds of snapshots to be processed to map the consumer interaction metrics and gauge how well the model fare to measure consumer behaviour. Post-simulation of the research shows that the tracking model used in the research is in-line with management theories and is usable to improve business activities, especially in analysing how effective the consumer-layout interaction works. The model is indeed useful and can work in a typical business circumstance because it can offer information that can be used to refine the layout. The model demonstrates simple enrichment and automation of data where more can be built to enhance usability. The result of this study should suggest that retail stakeholders, mainly those partaking managerial role in the retail service and those responsible for developing a store layout and product positioning, implement strategies that allow use of their current data and render it more useful by rendering it a source of information for their decision taking.



Keywords: computer vision, data utilisation, retail, consumer behaviour, layout