

## Motivation

In most supermarkets, if there are long queues at the counter due to inefficiency of the cashiers or large inflow of customers, some customers will be turned off. They will walk out of the supermarket and head to some other convenience shops to purchase their goods instead. This will cause profits of the supermarket to decrease.

Therefore, we want to investigate the relationships between the counter queues and number of counters, along with the flow rate of customers using agent based simulation models. Meanwhile, we would want to replicate the customer walking flows and purchasing behaviours in a supermarket as realistically as possible.