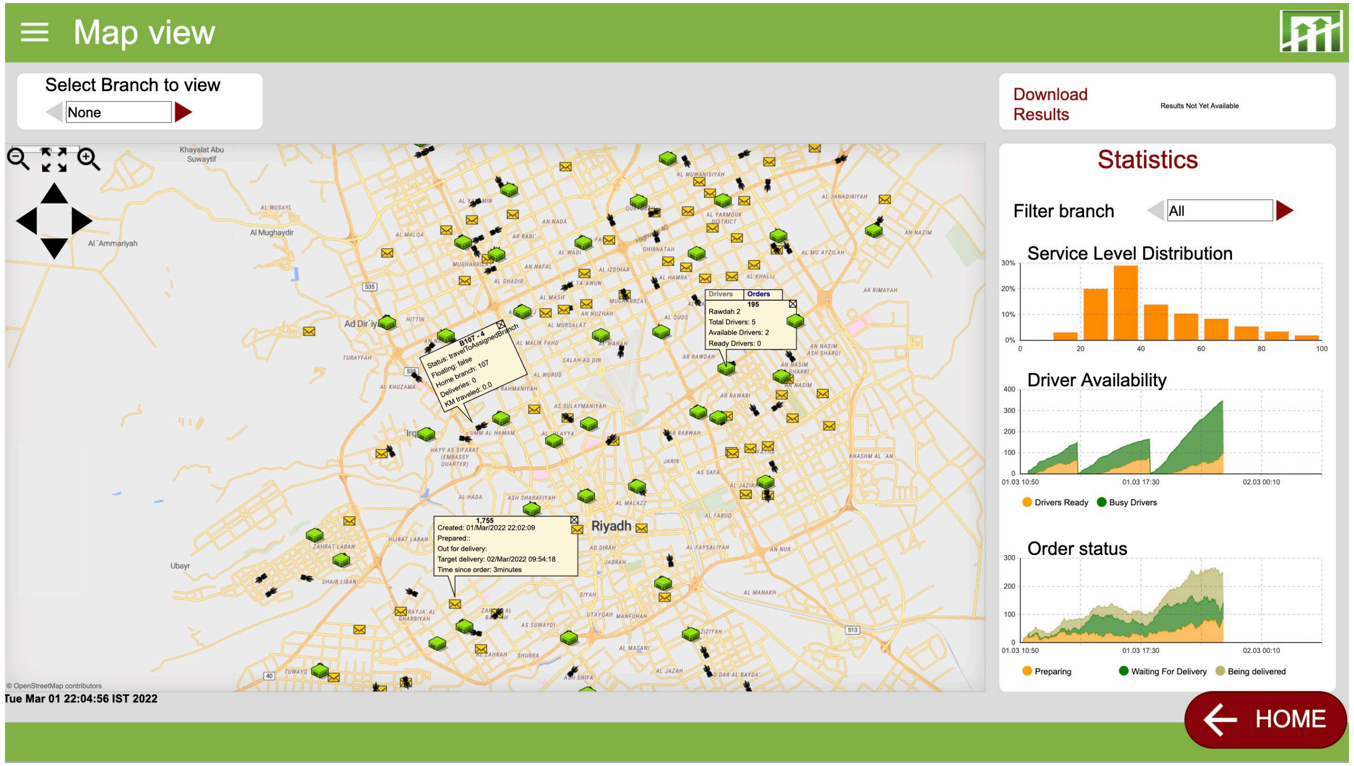
Maestro Pizza
Improving service delivery



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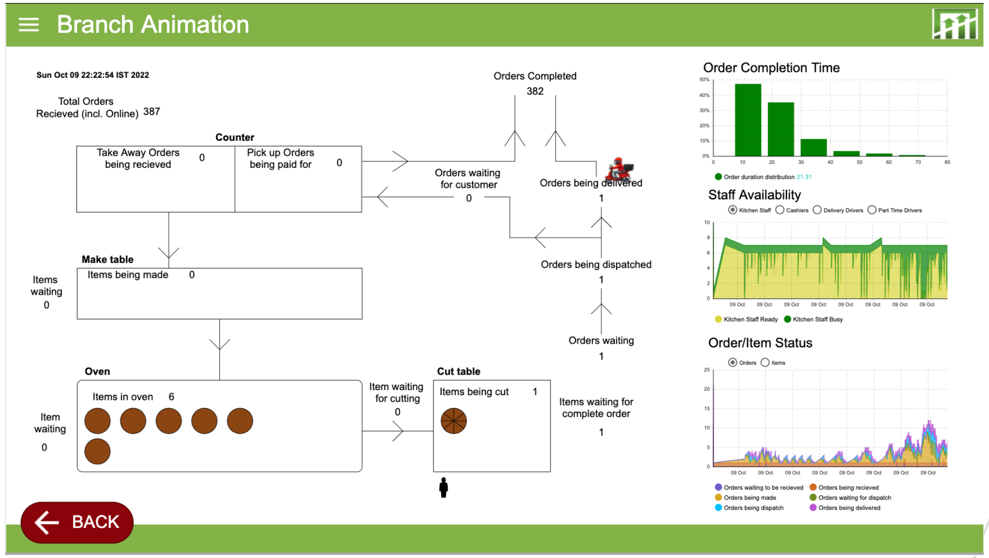
Maestro Pizza: Basil Ayyoob

Presentation Contents

1. Company and project background
2. Process flow overview
3. The need for simulation
4. Benefits of using AnyLogic
5. Model demo
   I. Single Run
   II. Sensitivity Analysis
6. Results
7. Q&A



1) Company and project background

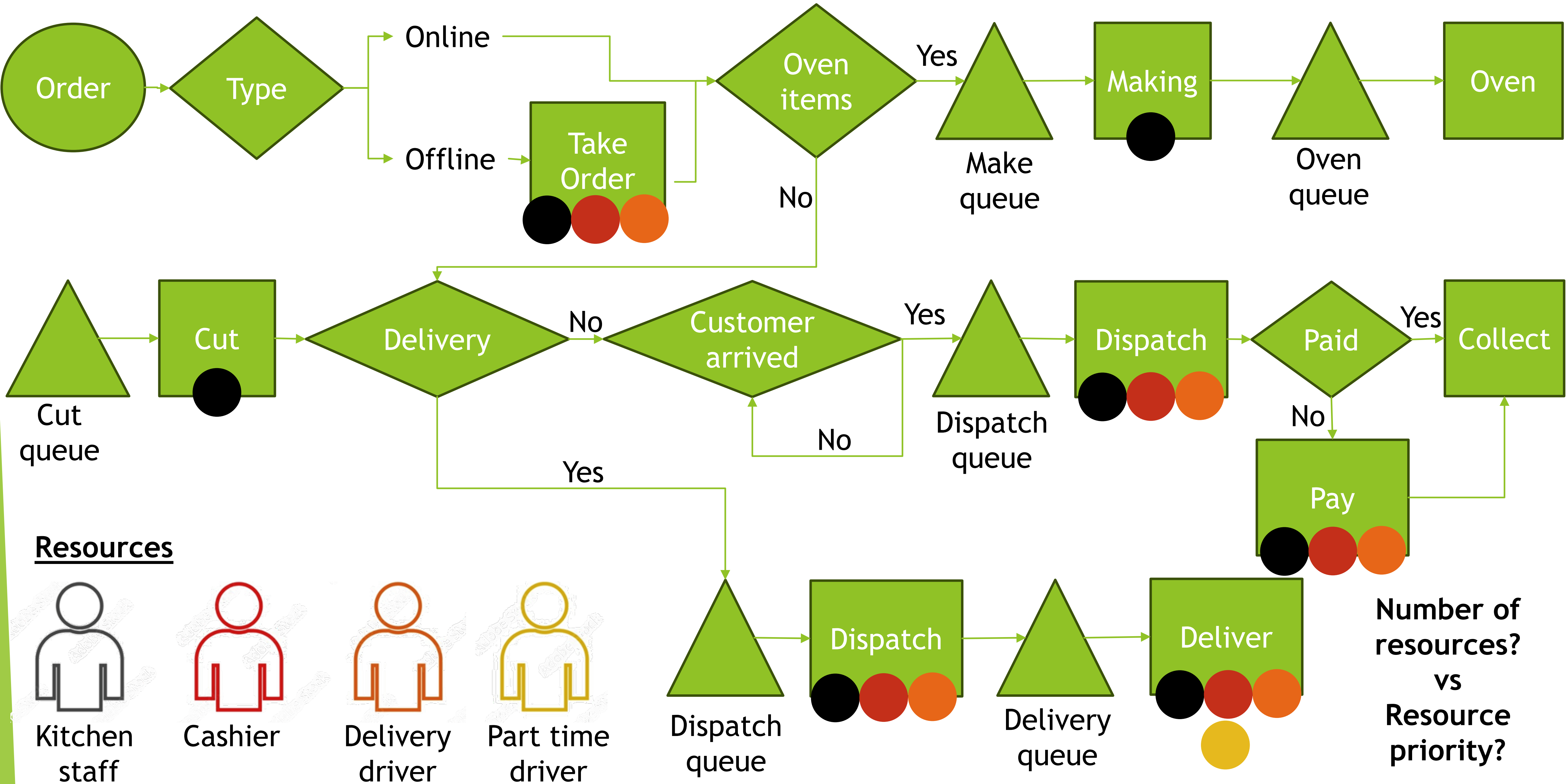
Maestro Pizza:

- Launched in 2013, now the most recognizable pizza brand in Saudi Arabia since 2019
- Forms part of the Daily Food Co.

Project background:

- In 2022 Maestro Pizza wanted to optimize their fast-food delivery service and improve efficiency and productivity
- **Phase 1:** Determine the minimum number of delivery drivers to assign to each store, per shift, to meet targeted service level for deliveries
- Test alternative driver setup options, e.g. floating drivers (drivers not fixed to a specific store)
- **Phase 2:** Optimize the staffing inside the stores, and determine number of staff by type, per shift, to meet targeted service levels for preparation time

2) Ordering, preparing and delivery process flow



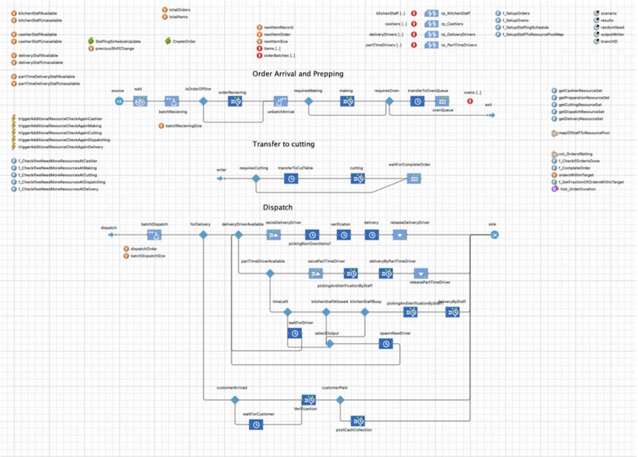
Number of resources? vs Resource priority?

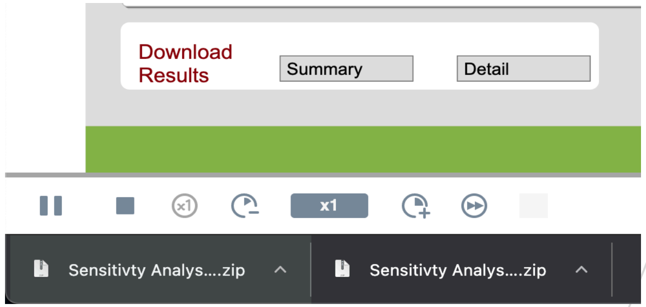
3) The need for simulation

The need	Why?	Benefit of simulation
Measure the service levels to customers with different system configurations	Improve service levels and meet marketing commitments – thus need to staff branches optimally	Ability to adequately analyze events and measure impact of changes on these events.
Cost effective way to test impact of staffing changes	Making changes to the staff schedule can result in significant costs (too much staff) or reputation loss (too little staff)	Provides a low-cost way to test changes and get fast feedback without jeopardizing goodwill or cash
Provide range of likely outcomes for different demand patterns and staffing schedules	Stores need to reliably meet current and future demand as market expands	Can easily and efficiently vary input parameters (sensitivity analysis) and provide results
Test impact of changing prioritization rules and execution philosophy changes	Change the priority of which staff members can do what activities. Floating drivers	Can easily update the priorities by activity for each staff type. Setup floating drivers by store
Incorporate various dynamic events and system interdependencies	Need to measure the impact of resource unavailability and resource task switching from one activity to another	Can consider all the constraints, interdependencies and variability of events.

4) Benefits of using AnyLogic

- Use of GIS map
  - Allows for routing on real road network
  - Ability to download road network locally, no need for internet connectivity during model runs
- Use of standard flow chart like objects with Process Modelling library
  - Great for logic verification and validation with users
  - Quick and easy changes to process flow
- Seamless integration of libraries with standard Java code
  - (Used for writing log and other output files)
- Export model as stand-alone application for testing and analysis by clients and use for future scenario analysis





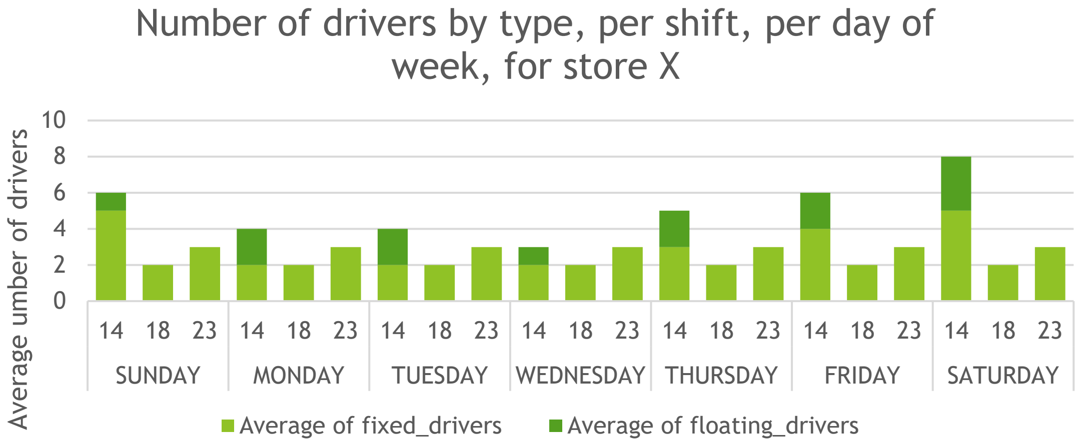
5) Model demo – Single Run

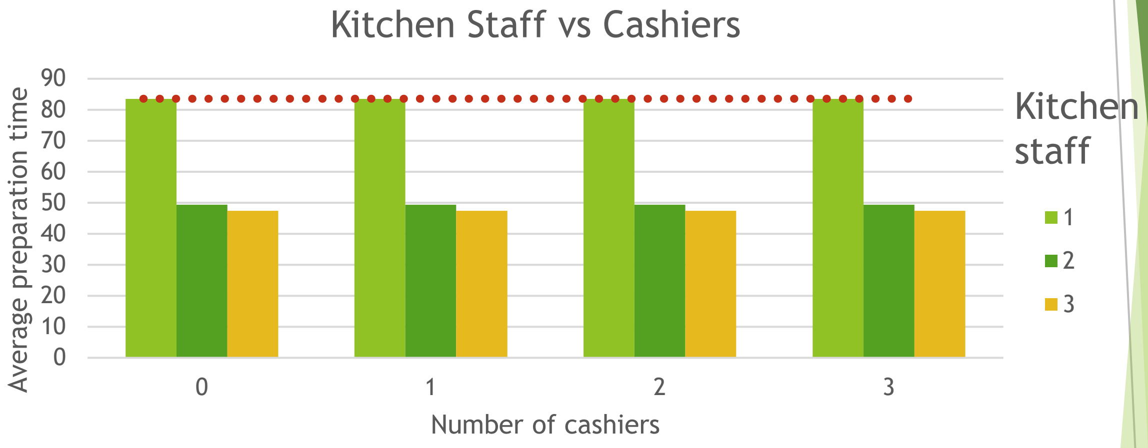
5) Model demo – Sensitivity Analysis

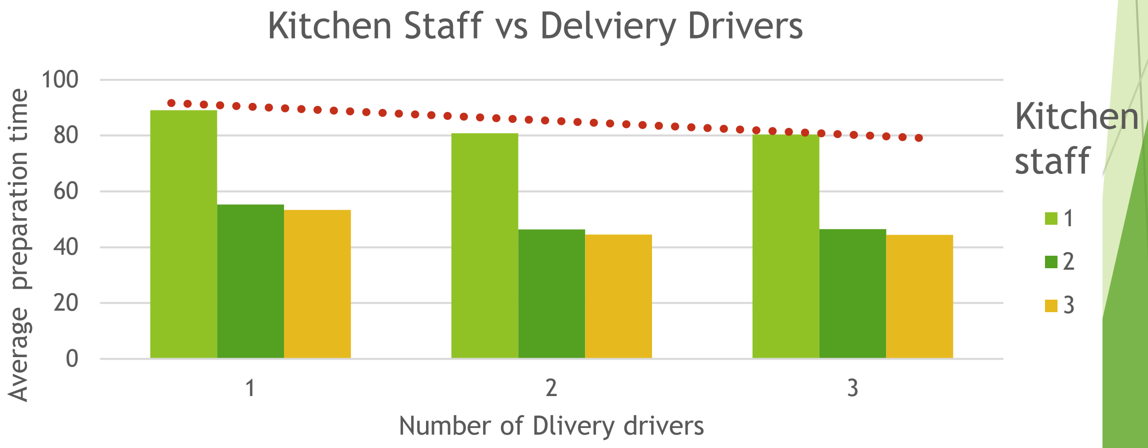
6) Results

- Minimum number of drivers and branch staff by type, for each shift, day of week and by store
- Service level distribution by store, day of week.
- Correlation of kitchen staff required versus cashiers and versus drivers
- Majority of results used sensitivity analysis

Results are for illustration purposes only







Questions

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The AnyLogic Modeler

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Simpler, better models, faster