MIT MANAGEMENT SLOAN SCHOOL

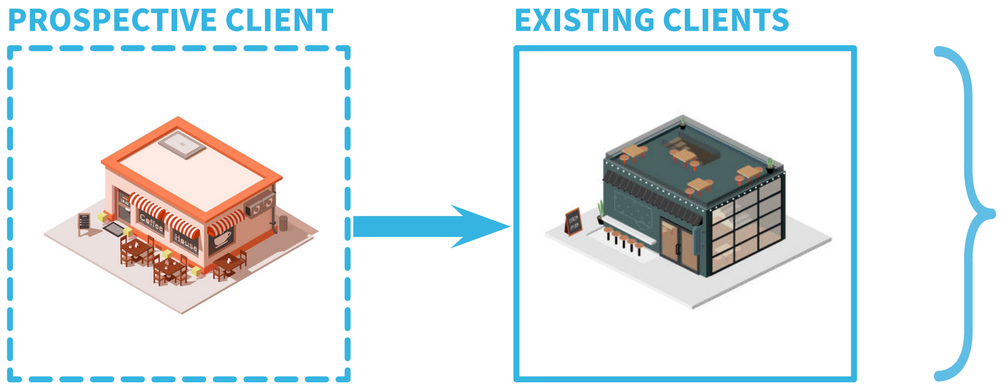
BEARROBOTICS

# Hospitality 2.0

# A Simulation Study on the ROI of Deploying Robots in Restaurants

## Why do restaurants buy robots ?

Quantifying the value of robots in restaurants is hard, but we can estimate it




Before buying, a prospective client needs to:

- understand the **value** of the product without trying it
- ensure the product is **tailored** to their venue
- know the long-term **savings** of the robot

- **layout** of the venue
- **waypoints** (tables, charging areas, pickup points ...)
- potential **obstacles**

- logs of event **history**
- robot **sensor** data (weight, odometry, battery …)
- robot operational **failures**

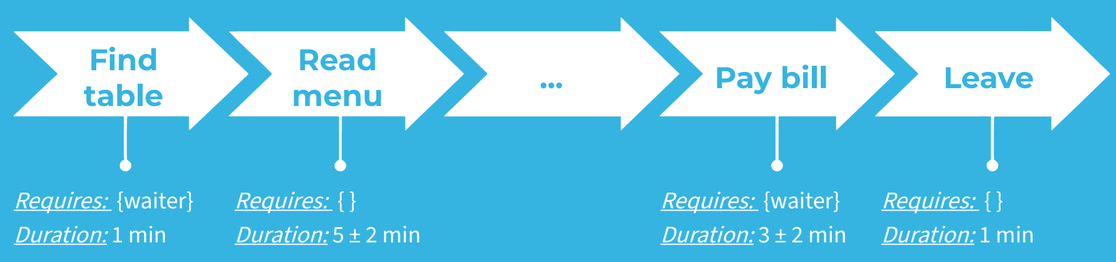
## How can we model the operations of a restaurant ?

Creating a simulation environment to holistically mimic reality requires robust heuristics

The simulation segments the user journey into manageable parts:

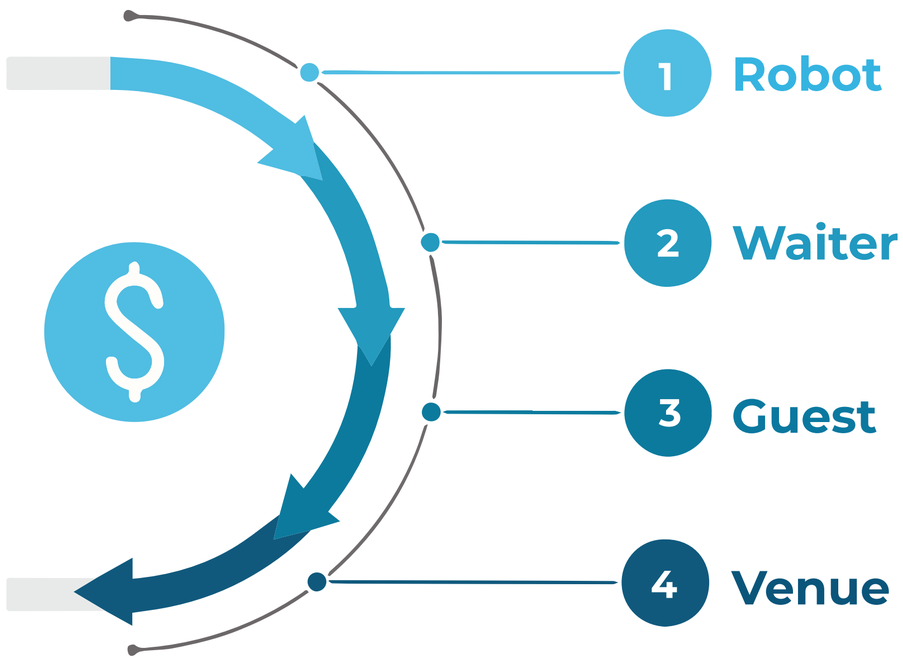
- Each guest goes through the **same sequence of events**
- Simplifies simulation and approximates general behavior of guests
- User journey is **restaurant-specific** & **customizable**
- The **time taken** for each segment is a function of staff, robots, number of people in the party and other variables

**DEFINING A STANDARD BUT CUSTOMIZABLE USER JOURNEY**




## How can we make the results meaningful and accessible ?

Creating an interactive dashboard to showcase robot integration success metrics

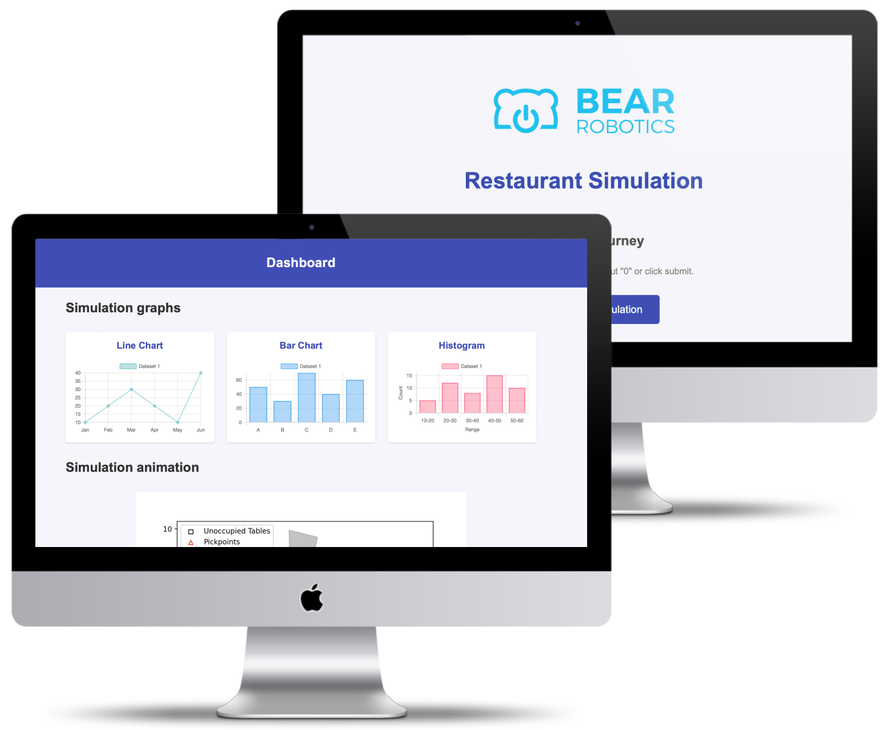



Time saved by using robots, number of deliveries, robot usage …

Distance travelled, interaction time with guests …

Wait time (in queue and seated), journey efficiency …

Occupancy percentage, service efficiency, financial savings …




## What is the actual business impact of this project ?

Our goal is to grow the value proposition by strengthening product visibility and accessibility

**ANALYTICS**

Helps the sales team in **decision making** to better understand needs of the venue

**CONVERSION**

**Strengthens** Bear's **value** for prospective clients by using **tangible metrics**

**ACCESSIBILITY**

Provides concrete insights in a **friendly UI** that can be used by **any stakeholder**

**CUSTOMIZATION**

Uses **configurable** & **dynamic** simulation tailoring customer experience

**ENGAGEMENT**

Offers **unique selling point** differentiating Bear from competitors

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