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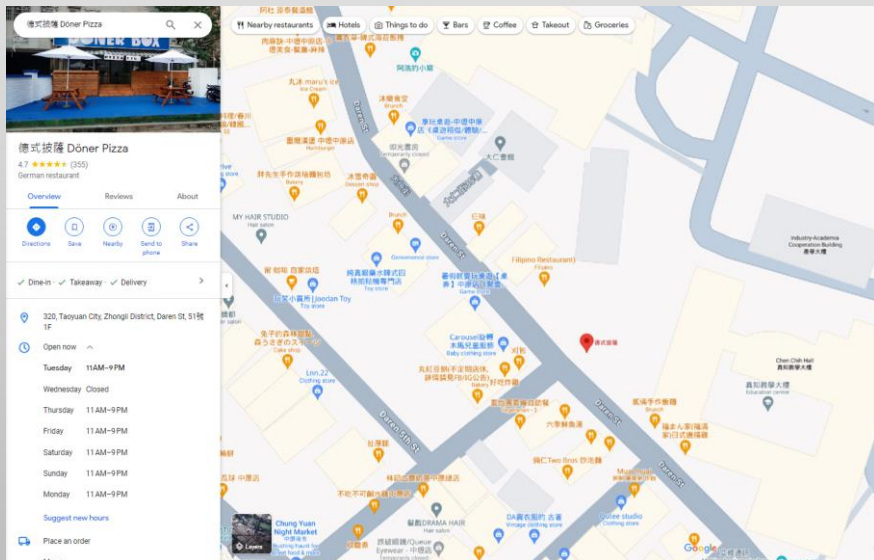
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# Introduction to the Service Business of Döner Pizza



## Service Introduction

- Döner Pizza, a German-style pizza restaurant, was established in 2019, it is owned by Eric and Zoe, siblings who bring six years of experience from their time at Pizza Hut and Domino's.
- Located at 320, Taoyuan City, Zhongli District, Daren St, 51號1F.
- It offers a delightful array of German-style pizzas, döner kebabs, and other Turkish specialties, along with a selection of beverages.
- Customers can choose to dine in, take out, or order using UberEats / Food Panda Apps



## Why did we choose this Service Business?

We've been to this place several times and know the owner. Because one of the owners (Zoe) knows English, we easily communicate with her about their restaurant's operation, as well as identify the problem for our research.

## Service Package

### Supporting Facility

A cosy restaurant with a 34-seat dining area, a well-equipped kitchen, a POS system, and optional outdoor seating for scenic enjoyment.

### Facilitating Goods

Physical menus showcase an array of pizzas, döner kebabs, fries, and desserts (Both in English and Chinese), accompanied by tempting condiments and sauces to customize your feast.

### Information

Signage with the restaurant name, logo, and hours of operation, a user-friendly website with online ordering, engaging social media, and readily available menu and price info.

### Explicit Services

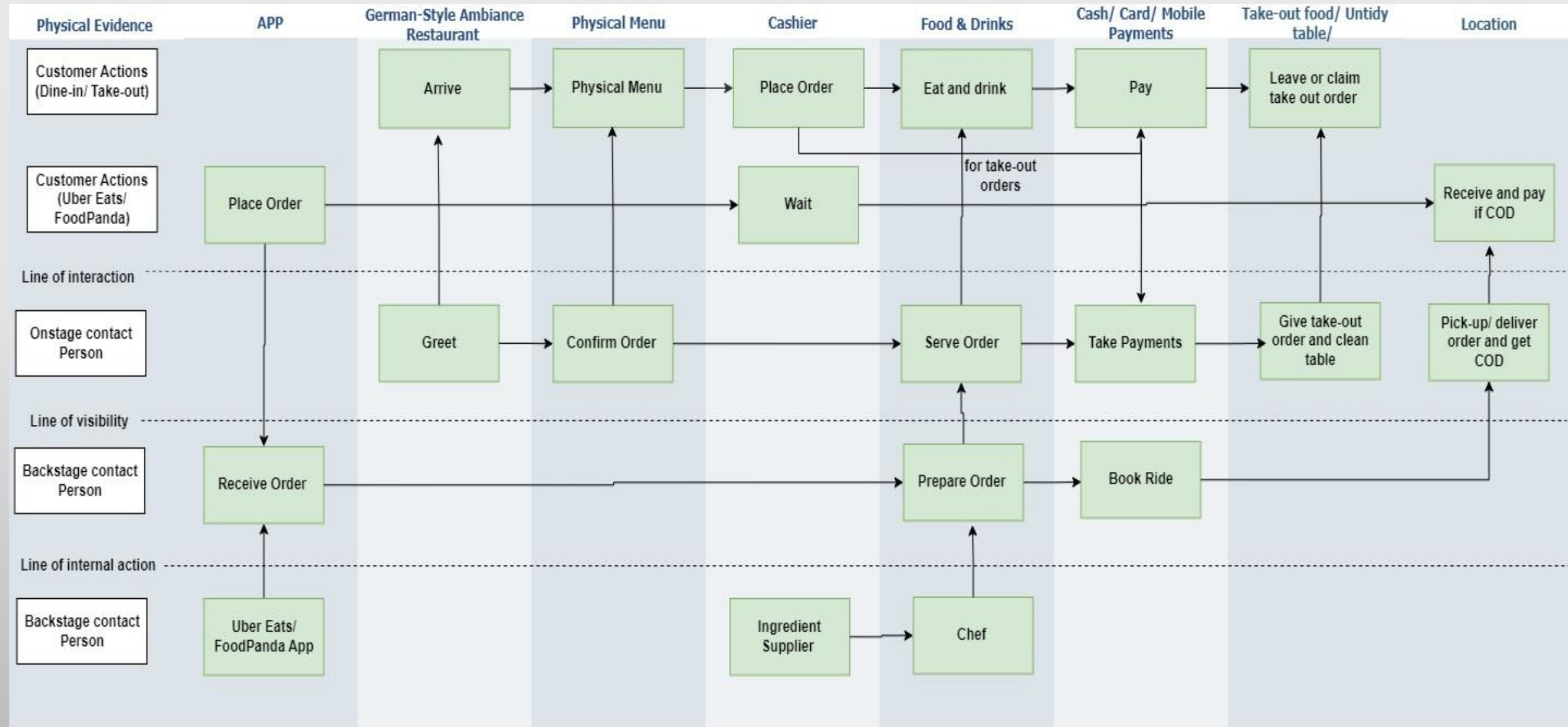
Delicious preparation and attentive service to clean tables, reliable takeout, and satisfied smiles, ensure an exemplary dining experience.

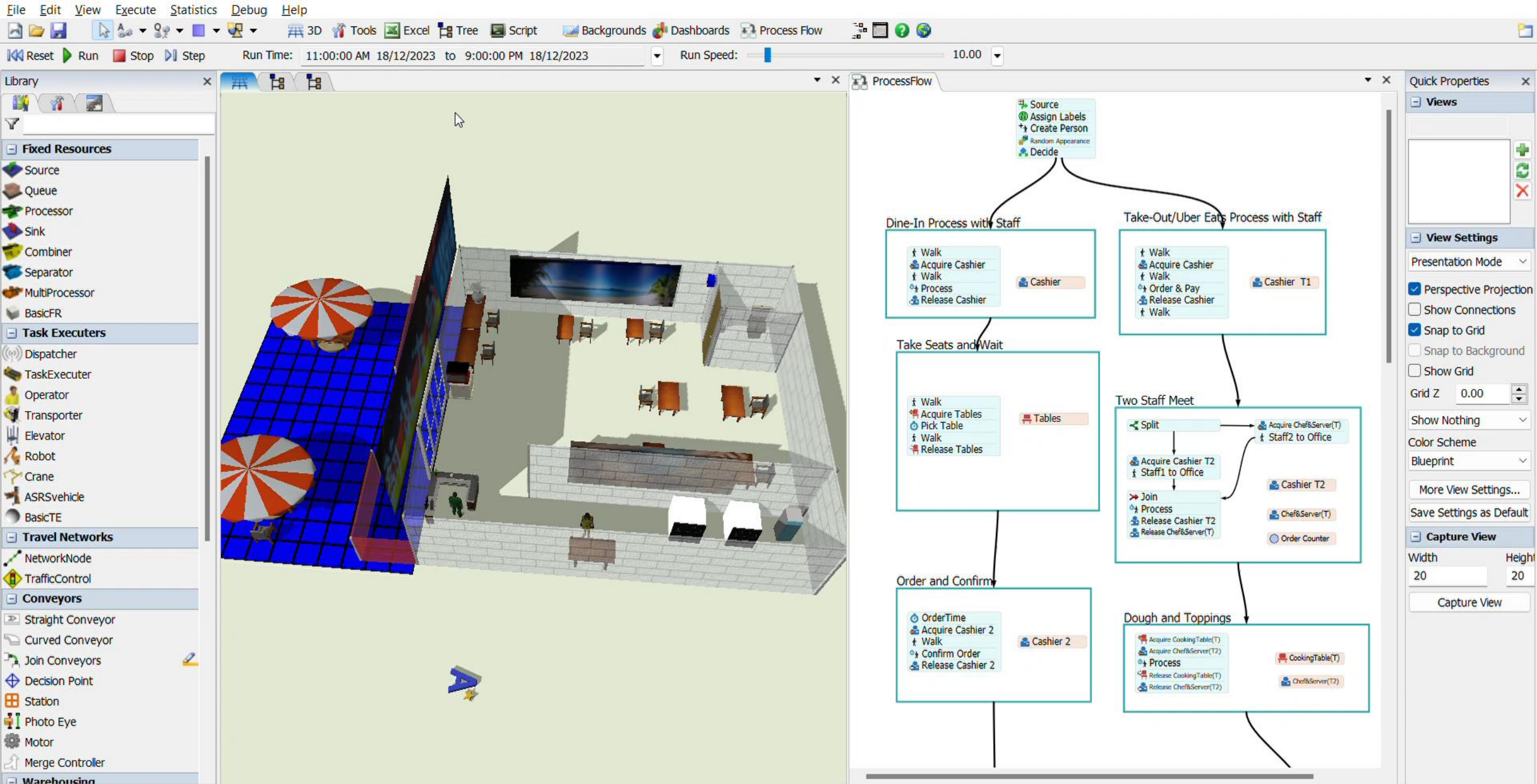
### Implicit Services

Warm ambiance, friendly service, impeccable hygiene, and quality food ambience



# Service Blueprint





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## Key Performance Indicator

Average Waiting  
Time for Seating

Customer  
Satisfaction with  
Waiting Times

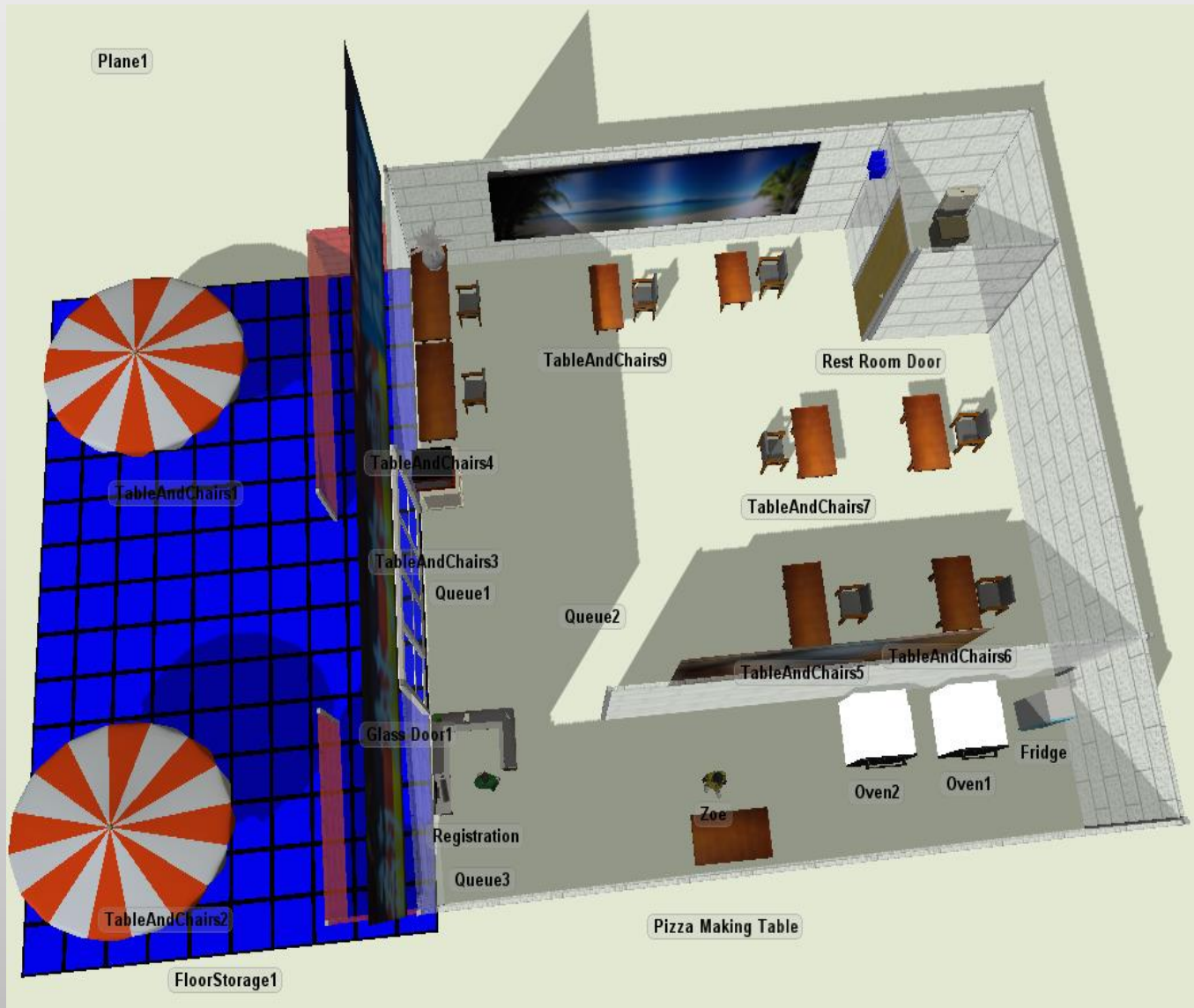
Uneven  
workload  
distribution

Arrival-Time	Quantity
11:01:00	1
11:15:00	1
11:46:00	1
11:57:00	2
12:03:00	1
12:03:30	2
12:10:00	2
12:12:00	2
12:25:00	1
12:31:00	2
12:33:00	1
12:47:00	2
12:58:00	1
13:05:00	2
13:26:00	3
13:36:00	2
13:48:00	1
14:26:00	2
14:49:00	1
15:14:00	1
15:28:00	2
15:45:00	2
16:15:00	1

The researchers gathered data throughout the day, meticulously tracking the arrival times of customers. They used two key pieces of information from this data: "**arrival time**," "**quantity of people arriving**," which simply noted how many customers arrived at any given moment. This comprehensive data capture, based on arrival times and customer groups, forms the foundation for further analysis and understanding of the restaurant's customer flow and potential wait times.



## Simulation Model Explanation



- Detailed Layout:** Researchers built a precise replica of the restaurant's floor plan within the FlexSim software.

- Seating Capacity:** The dining area features 10 tables, accommodating a maximum of 34 dine-in customers.

- Single-Customer Constraint:** To simplify analysis, each table can only seat one customer at a time, allowing clear tracking of individual movements.

- Dedicated Staff:** The layout includes distinct areas for the cooking station and cash register, each staffed by a dedicated employee (cashier and server respectively).

# Simulation Model Explanation- Parameters & Cycle Time of Duties

Model	Oven Process Time	Customer order time (dine in)	Eating time	Payment processing time	Service time (takeout/UberEats)
Original (P)	Uniform distribution	Uniform distribution	Uniform distribution	Uniform distribution	Uniform distribution
Re-designed (P')	min=180 s max=300 s	min=180 s max=300 s	min=1800 s max=3600 s	min=60 s max=120 s	min=240 s max=300 s



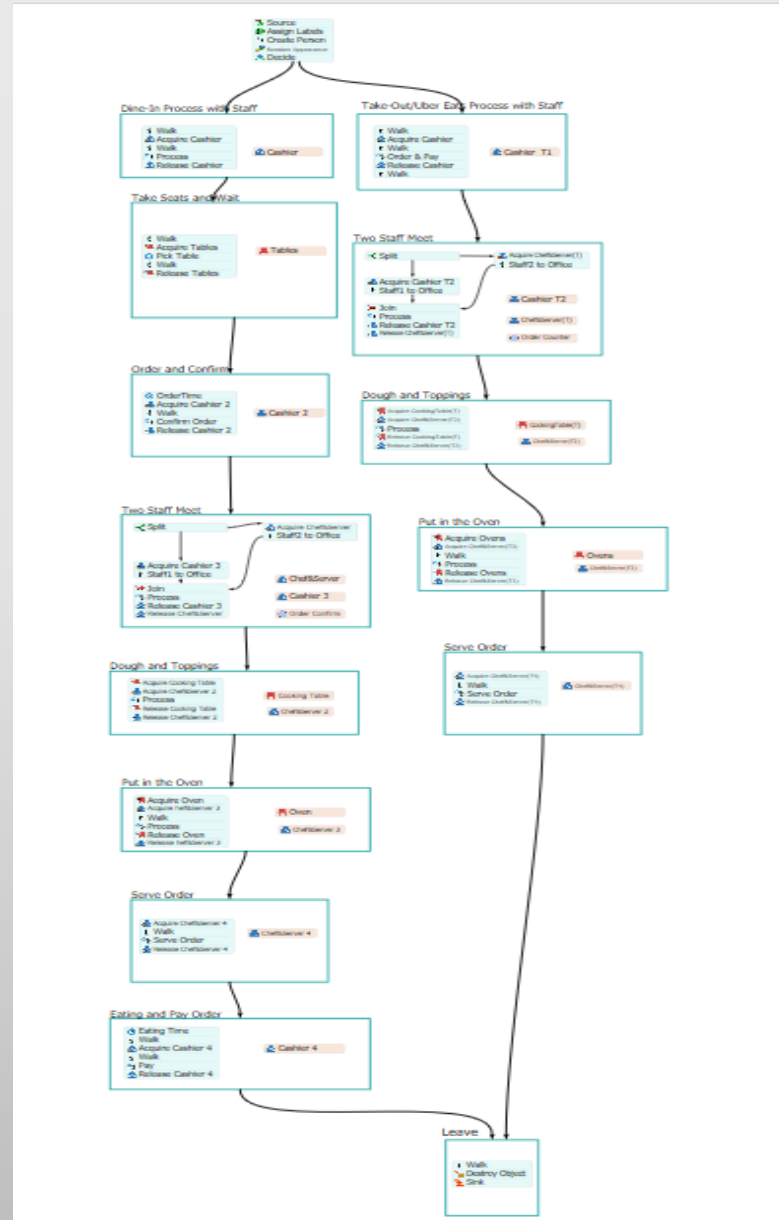
Simulation Statistics Parameters

Activity	Description	Cycle Time, Sec. (Min)	Cycle Time, Sec. (Max)
1	Give Menu to Customers	5	15
2	Take Out Orders/ Uber Eats	240	300
3	Confirm Orders	15	30
4	Cashier confirmed the order to the Chef	30	60
5	Prepare Dough and Toppings	180	240
6	Process the Pizza in the Oven	180	300
7	Serve Order (Dine-in and Take-out)	30	90
8	Receive Payment	60	120

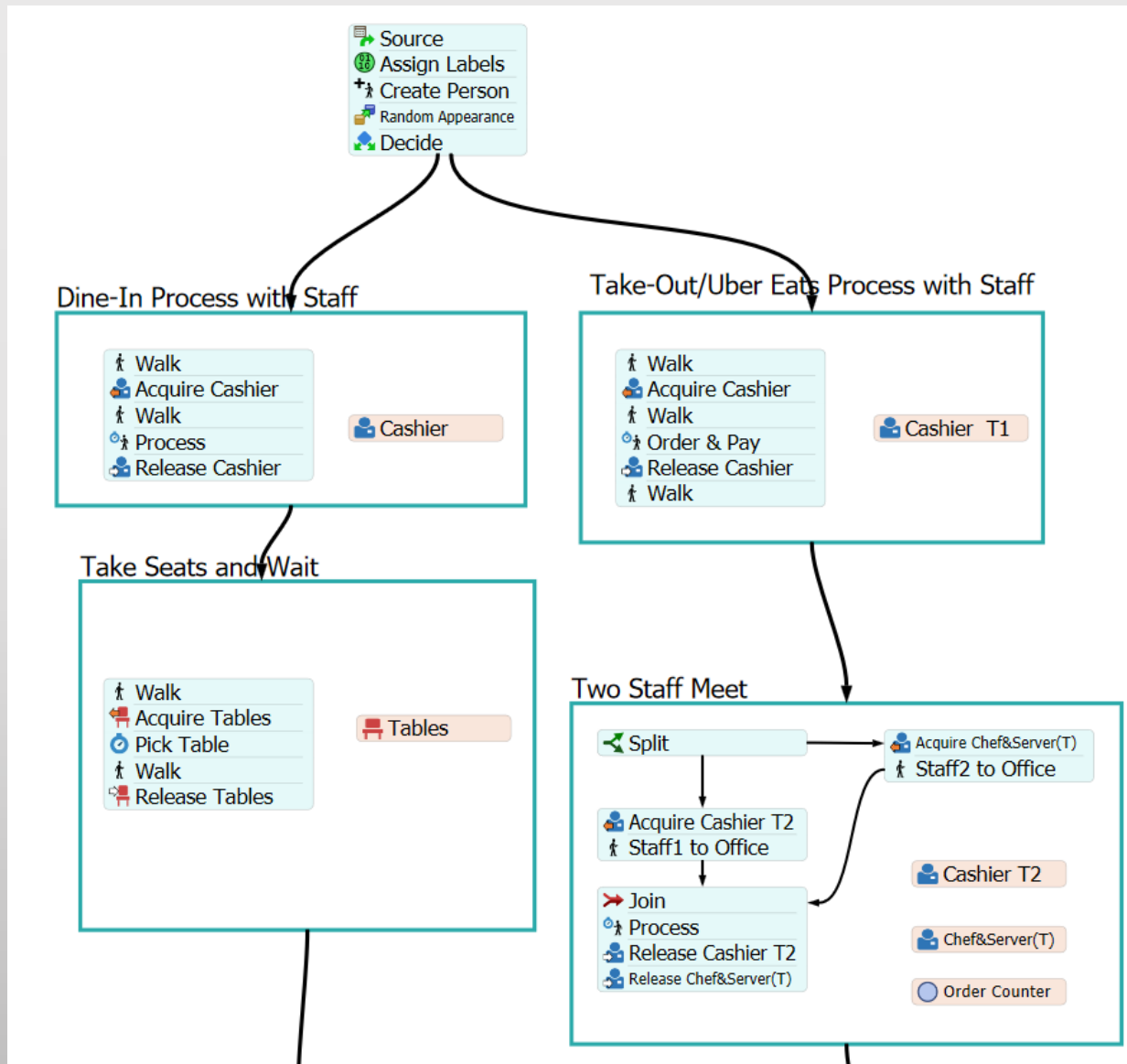


Staff Duties and it's cycle time  
(are in Uniform Distribution)

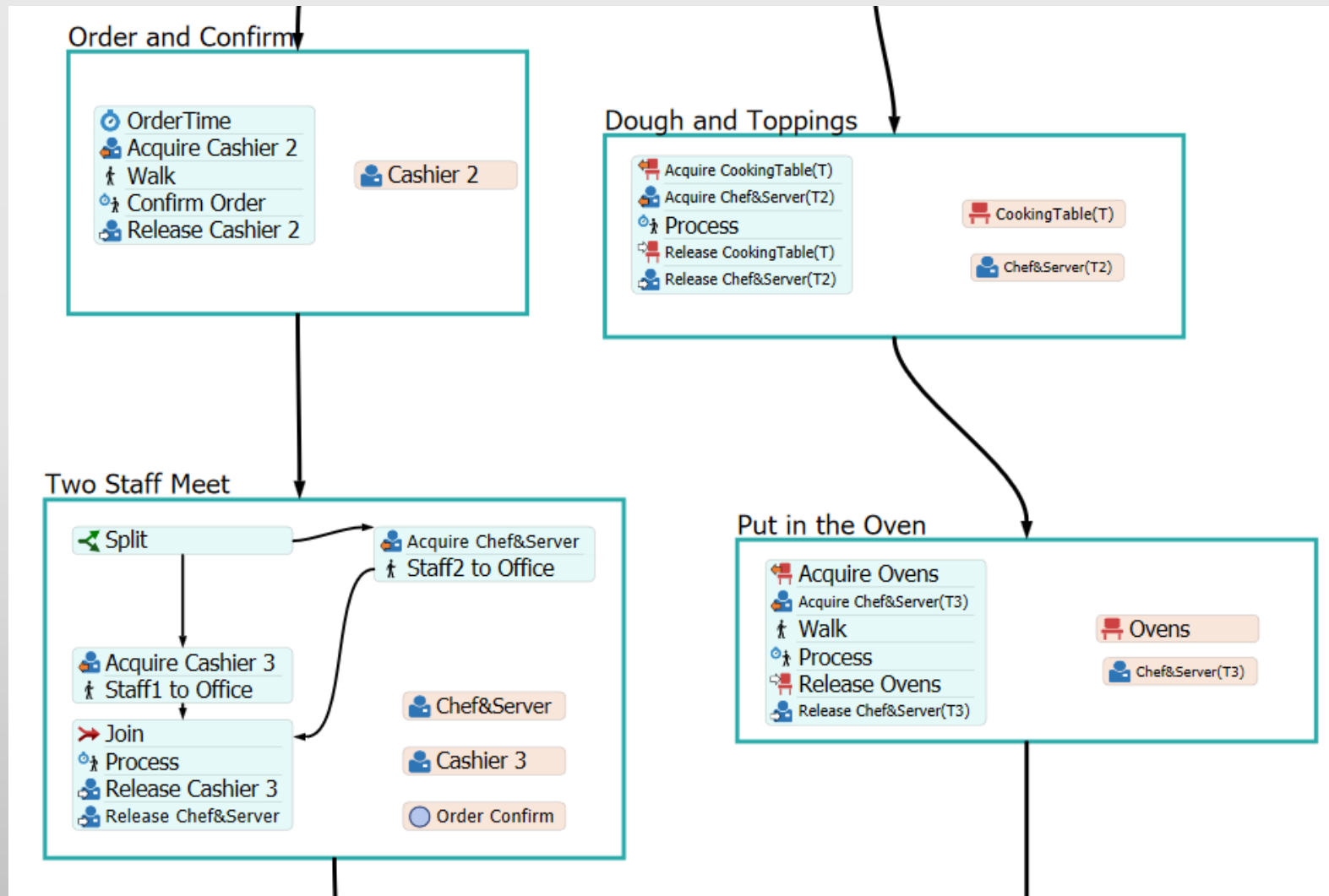
# Simulation Model Explanation- Process Flow



# Simulation Model Explanation- Process Flow

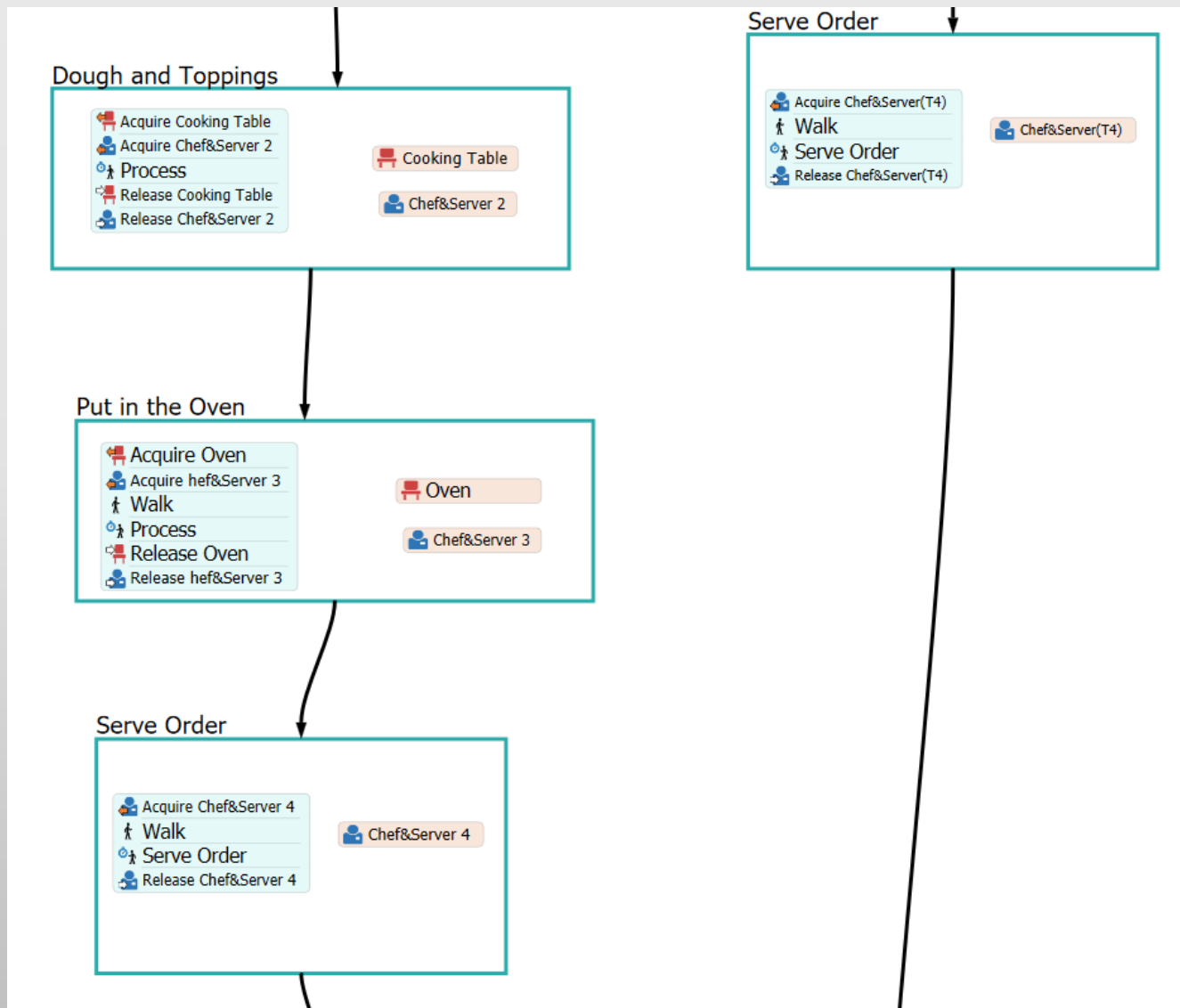


# Simulation Model Explanation- Process Flow

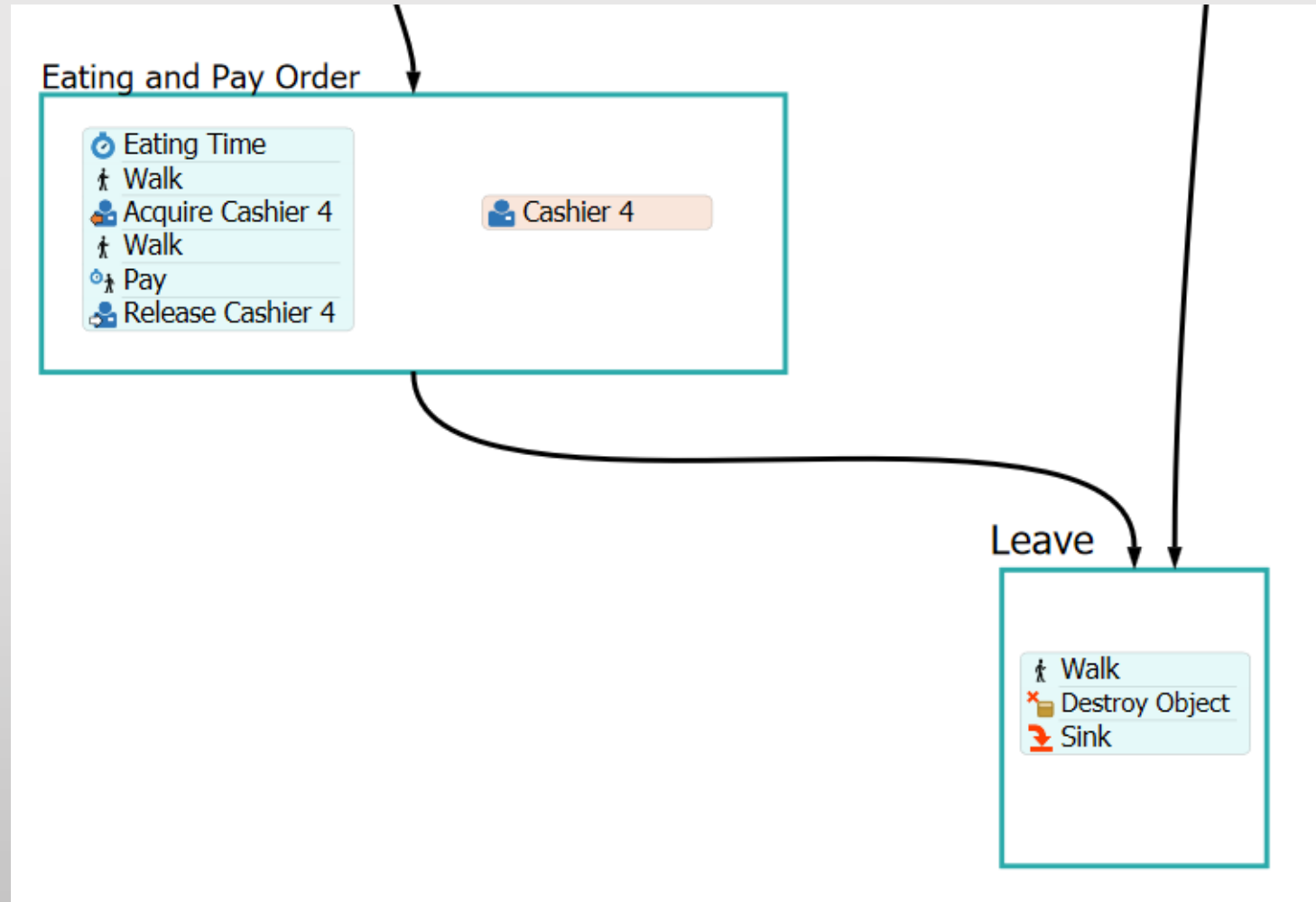




# Simulation Model Explanation- Process Flow



# Simulation Model Explanation- Process Flow



## Result Comparison and Conclusion

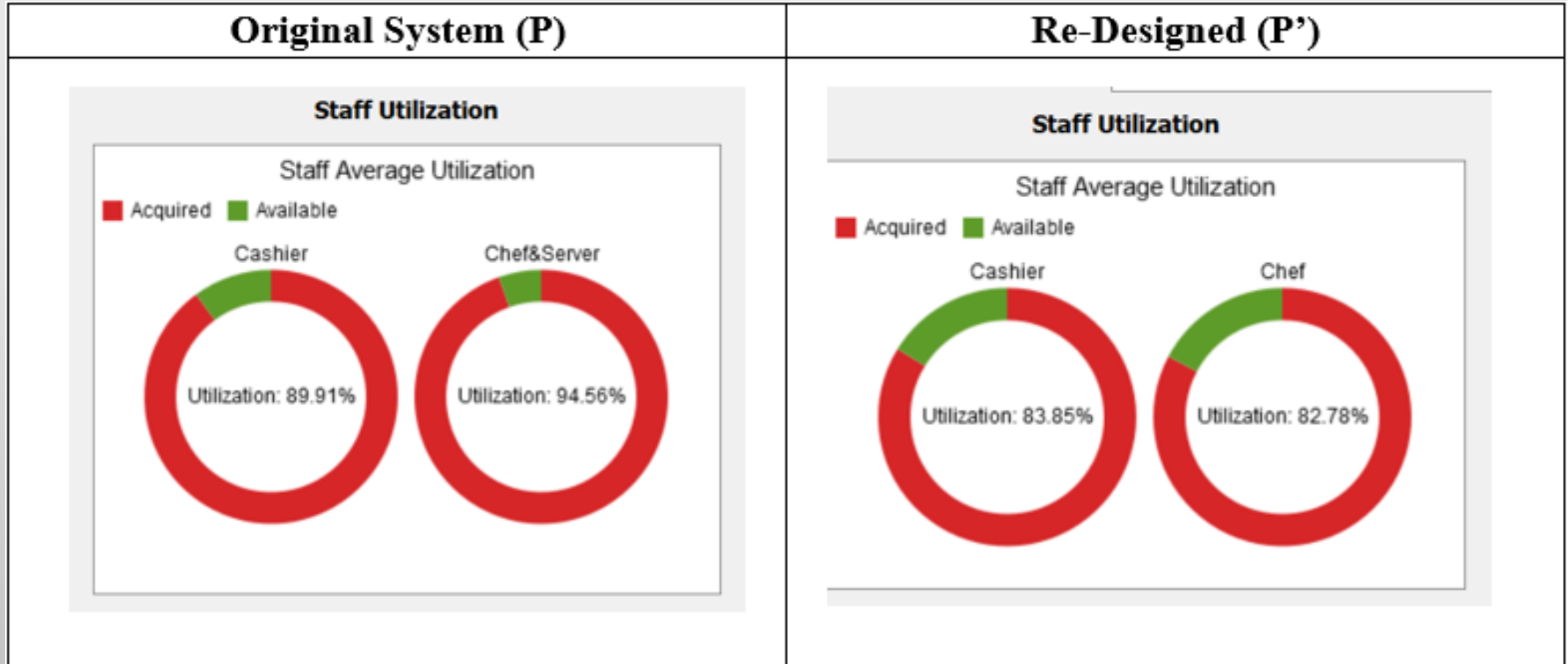
After the implication of the solution like adding extra oven, distributing the serving responsibilities, and loading the uncooked pizza into the oven to both the cashier and the chef provided by the team these results of the simulation comparison of the original system and the redesigned one

**Pizza Process Time Between The Original And Re-designed System**

Original System (P)	Re-Designed System (P')												
<div><b>Pizza Process Time</b>  Pizza Process Time with 2 Oven (in seconds) <table><tr><th>Min</th><th>Max</th><th>Avg</th></tr><tr><td>183.23</td><td>299.95</td><td>244.82</td></tr></table></div>	Min	Max	Avg	183.23	299.95	244.82	<div><b>Pizza Process Time</b>  Pizza Process Time with 4 Oven (in seconds) <table><tr><th>Min</th><th>Max</th><th>Avg</th></tr><tr><td>183.23</td><td>299.95</td><td>241.14</td></tr></table></div>	Min	Max	Avg	183.23	299.95	241.14
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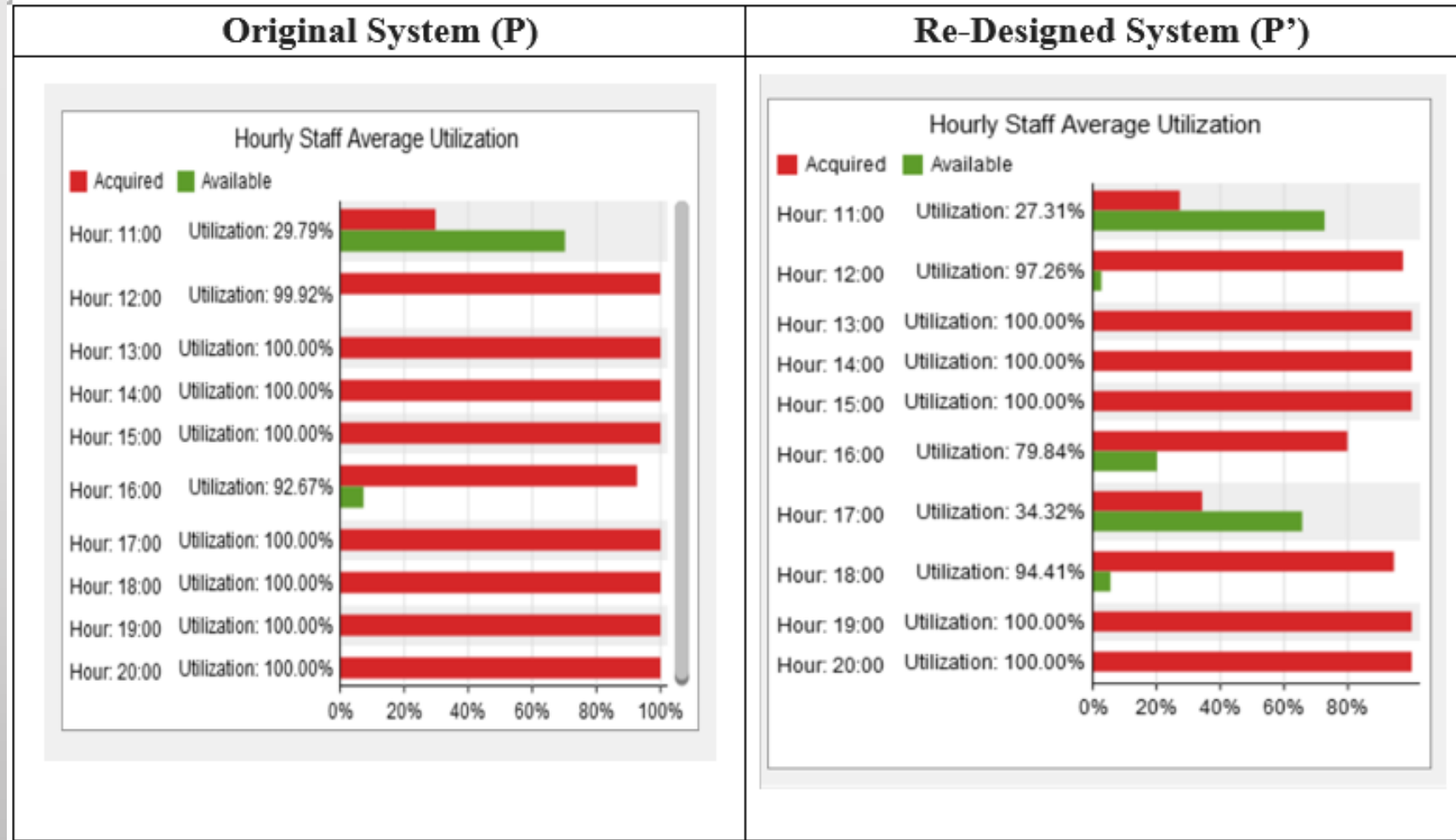
# Result Comparison and Conclusion

## Average Staff Utilization



# Result Comparison and Conclusion

## Hourly Staff Average Utilization

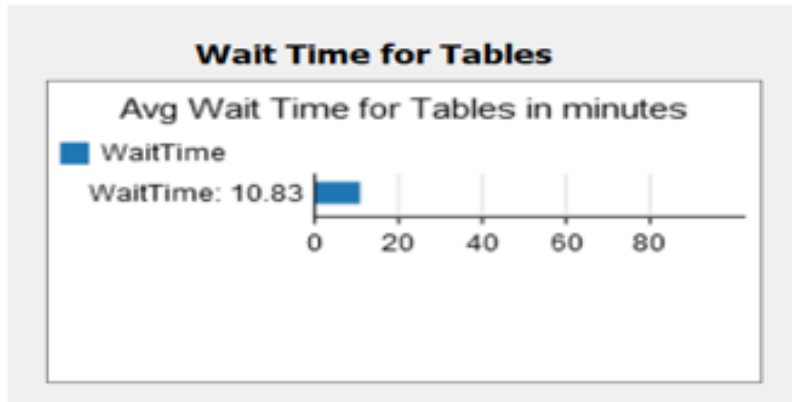




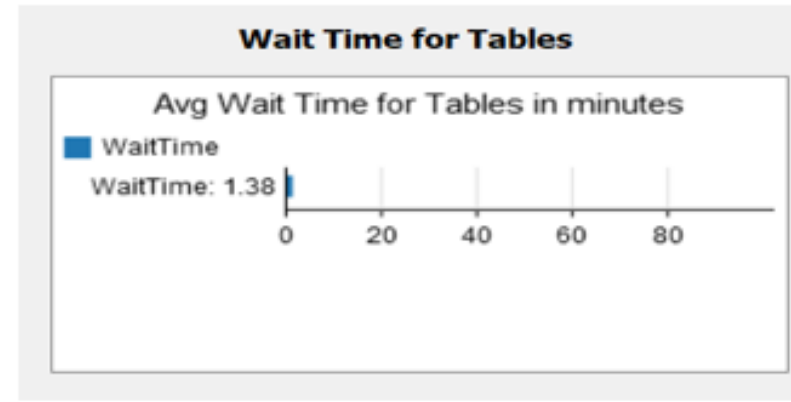
# Result Comparison and Conclusion

## Average Wait Time For Tables In Minutes

### Original System (P)

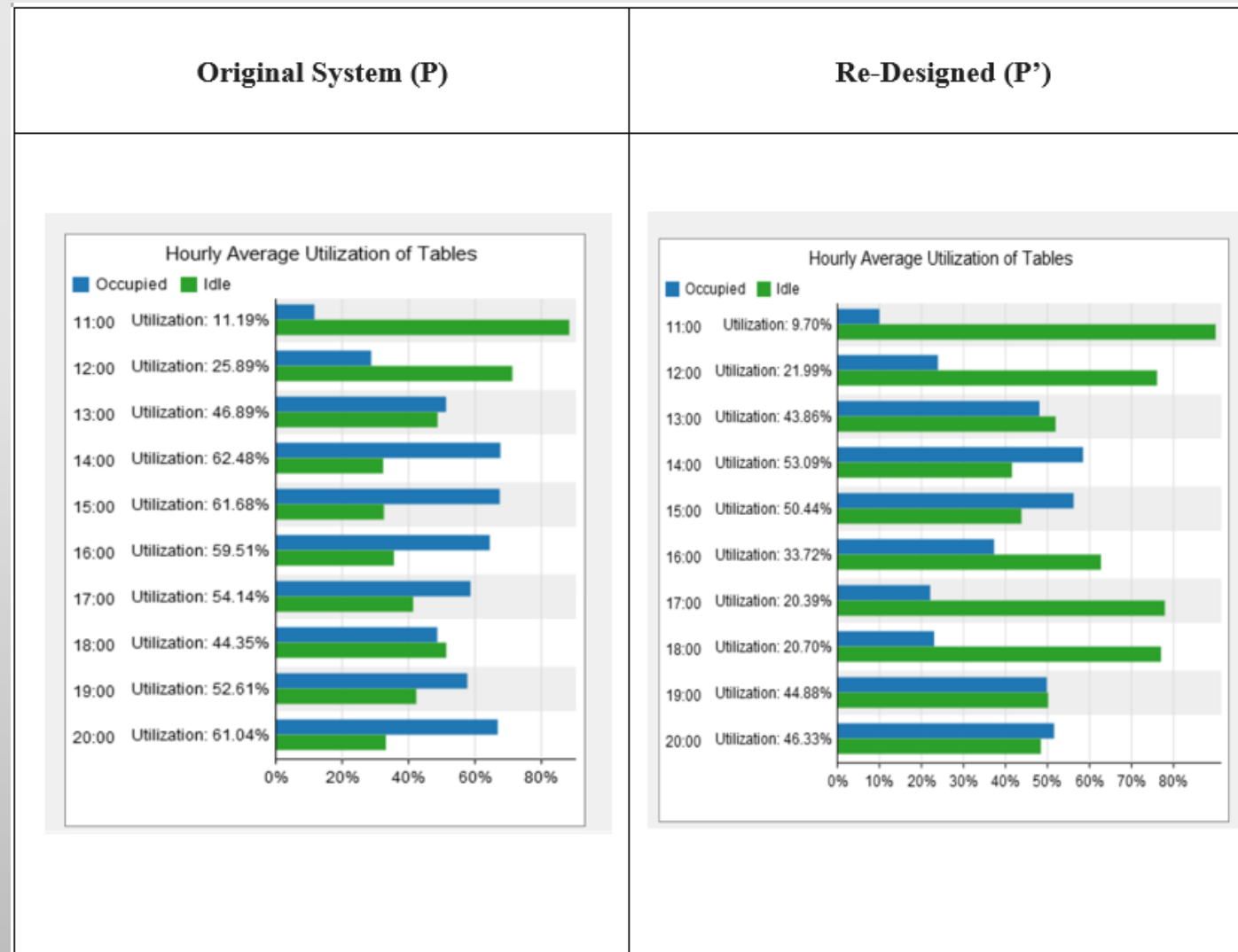


### Re-Designed (P')



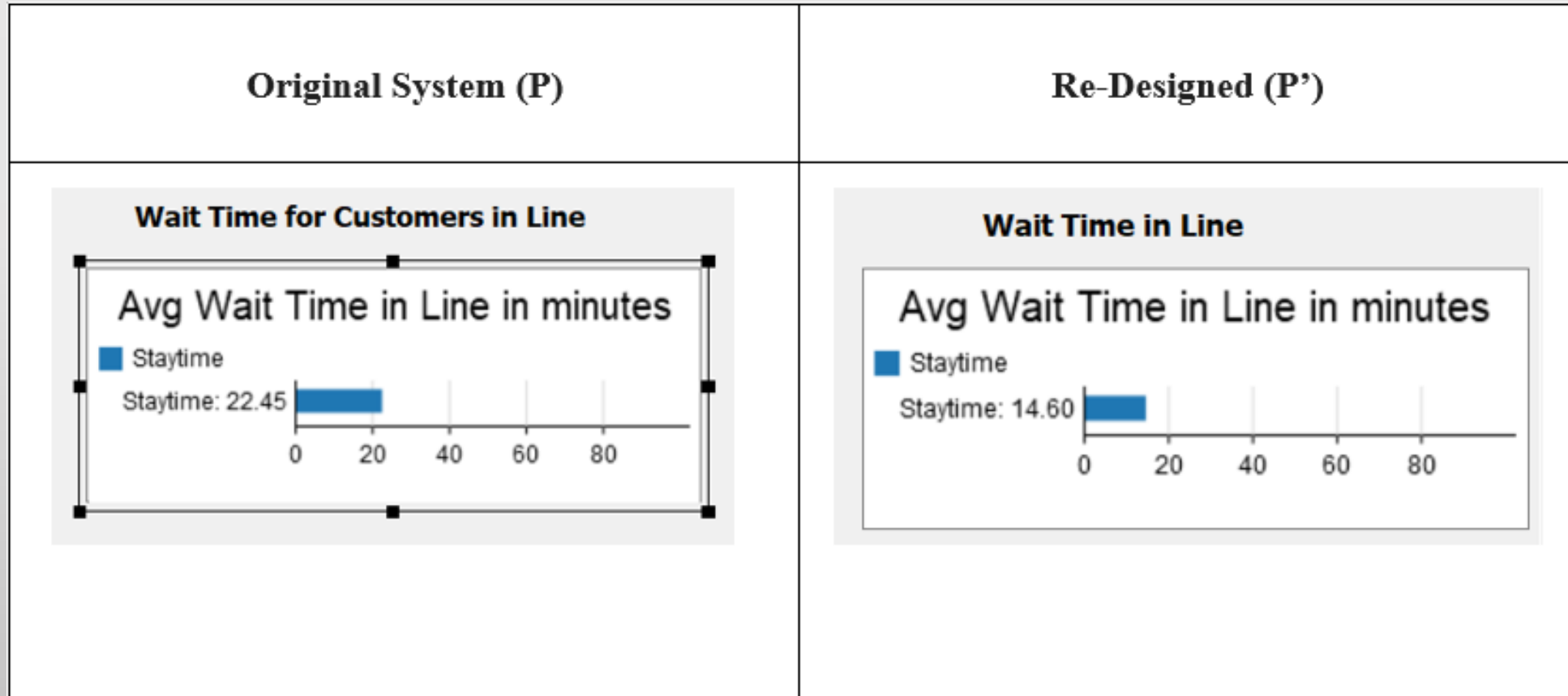
# Result Comparison and Conclusion

## Hourly Average Utilization Of Tables



# Result Comparison and Conclusion

## Average Wait Time In Lines



## Result Comparison and Conclusion

Döner Pizza's unique flavours and welcoming atmosphere are sure to win hearts, but long wait times threaten its success. Upgrading ovens and cross-training staff can fix this, creating a smoother operation and happier customers. By focusing on efficiency, Döner Pizza can become a thriving local favourite.



THANK YOU