IEE 530: Enterprise Modeling

Group 8 – Delivery 4
Dine to Drive
Order on the GO

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Course Description

- Summer 2023
- IEE 530 – Enterprise Modeling
- Prof. Melisa Heiler

Purpose and Significance

Industry Relevance

- Competitive Industry
- Opportunity for Process Optimization

Waitstaff Empowerment

- Increase in restaurant's overall performance.
- Enhance their earning potential

Business Growth Potential

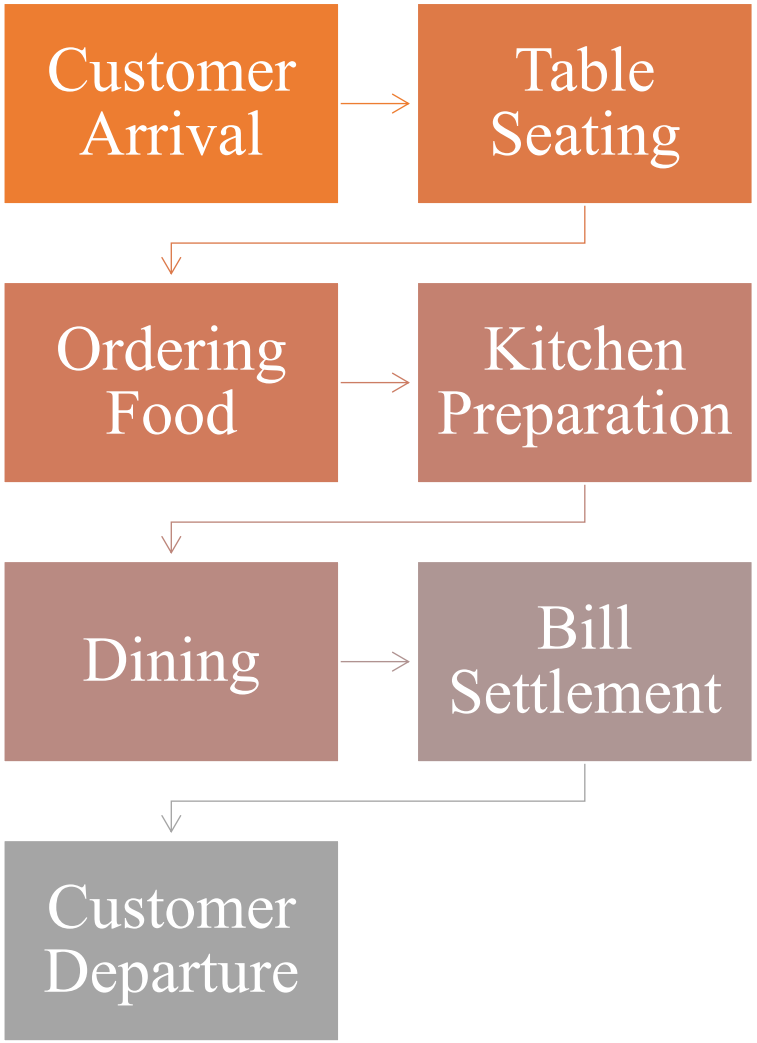
- Increased table turnover

Alignment with Restaurant Objectives

Business Case Overview

- **Problem Statement**: Inefficient and error-prone food ordering process
- **Objectives**: Streamline process, reduce wait time, enhance efficiency
- **Benefits**: Increased table turnover, improved productivity, cost savings
- **Financial Analysis**: Positive ROI, potential cost reductions
- **Competitive Advantage**: Faster service, enhanced customer experience
- **Overall Impact**: Optimized operations, improved customer satisfaction

Business Process



Purpose, Viewpoint and Context

PURPOSE

Understand and improve the food ordering process.

Streamline Current Restaurant operations.

VIEWPOINT

Waitstaff as the frontline representatives of the restaurant.

Consider their experiences, perspectives, and pain points.

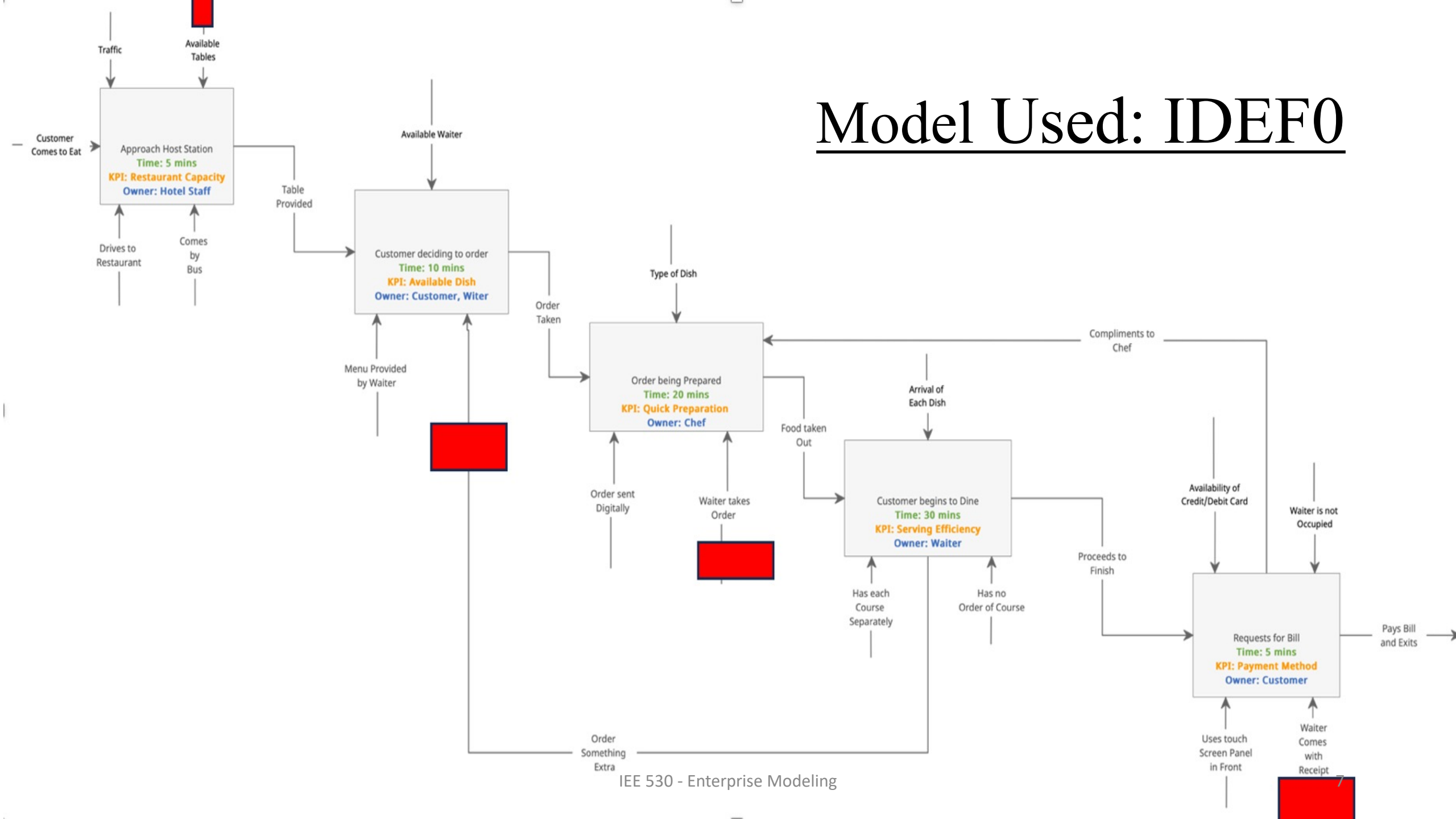
CONTEXT

Olive Gardens, a renowned Italian restaurant in Scottsdale, AZ.

Focus on the food ordering process and interactions with customers.

Consider specific challenges and opportunities within the restaurant environment.

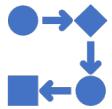
Model Used: IDEF0



RED FLAGS EXPLAINED

Red Flags

Long Waiting Times



Inefficient Decision-Making

Manual Order Taking

Manual Bill Calculation

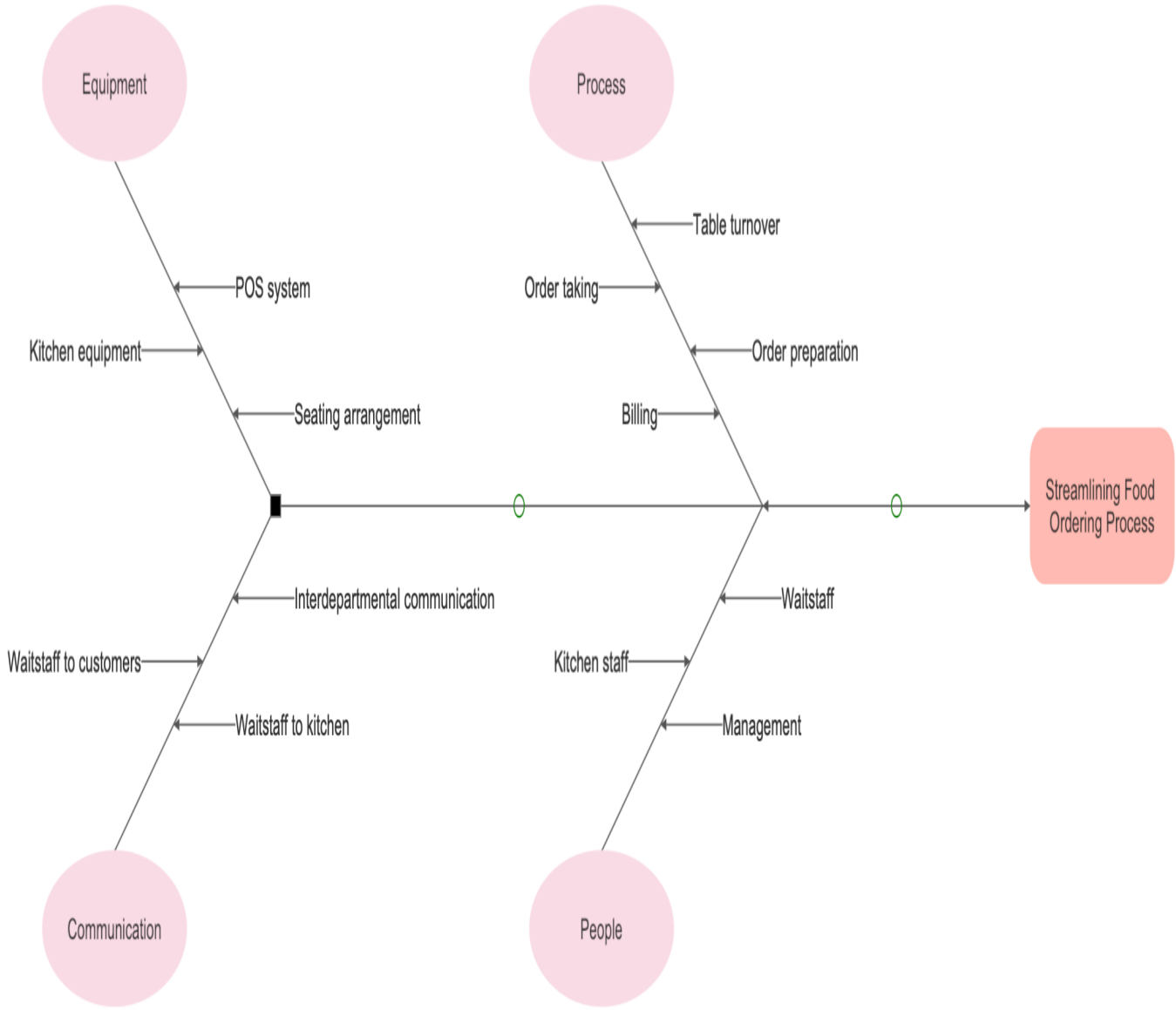
Waiting Time

How were they Identified

- Long Waiting Times: Observation, Customer Feedback
- Inefficient Decision-Making: Observation, Customer Interviews
- Manual Order Taking: Employee Interviews, Shadowing
- Manual Bill Calculation: Observation, Interview with Waitstaff
- Waiting Time: Time Measurements, Observation

Root Cause Analysis

Why is the food ordering process unable to serve more tables per day?	Because the current process is time-consuming and inefficient.
Why is the current process time-consuming and inefficient?	Because it relies on manual tasks and lacks automation.
Why does the process rely on manual tasks and lack automation?	Possibly due to a lack in technology and resistance to change.
Why is there a lack of investment in technology and resistance to change?	Limited awareness of available solutions, or a belief that traditional methods are sufficient.
Why are there limited awareness, or a belief in traditional methods?	It could be due to a lack of exposure to industry trends, or a reluctance to disrupt established workflows.



Key Performance Indicators - KPI

KPI 1: Waiting Time Reduction	• Measure: Average time customers spend waiting for a table • Target: Reduce waiting time by 20% compared to the current process
KPI 2: Table Turnover Time	• Measure: Time taken to serve a table from ordering to bill payment • Target: Increase table turnover rate by 15% to accommodate more customers
KPI 3: Order Accuracy	• Measure: Percentage of orders that are prepared and served correctly • Target: Achieve a minimum of 95% order accuracy rate
KPI 4: Customer Satisfaction	• Measure: Feedback ratings and surveys from customers • Target: Increase customer satisfaction rating by 10% based on feedback
KPI 5: Waitstaff Productivity	• Measure: Number of tables served per hour by waitstaff • Target: Improve waitstaff productivity by 15% through streamlined processes

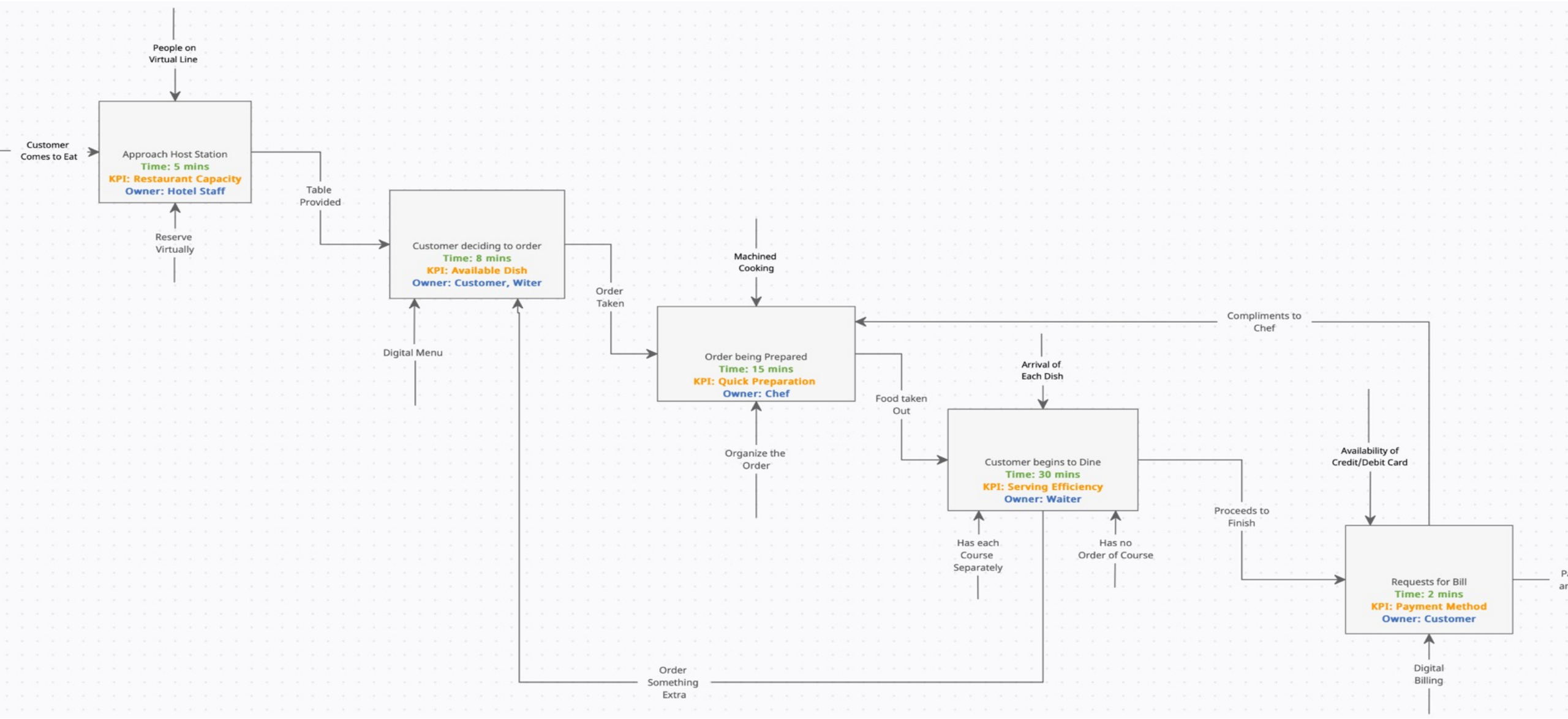
Areas To Be Improved

Customer Flow Management:	• Implement an online reservation system • Introduce a digital queue management system
Order Taking and Processing:	• Explore tabletop tablets • Implementing efficient workflows and clear communication
Kitchen Efficiency:	• Optimize kitchen operations • Train kitchen staff on time-saving practices
Tableside Service:	• Assign dedicated waitstaff • Equip waitstaff with handheld devices
Digital Payment Solutions:	• Implement contactless payment options • Train waitstaff on using digital payment solutions

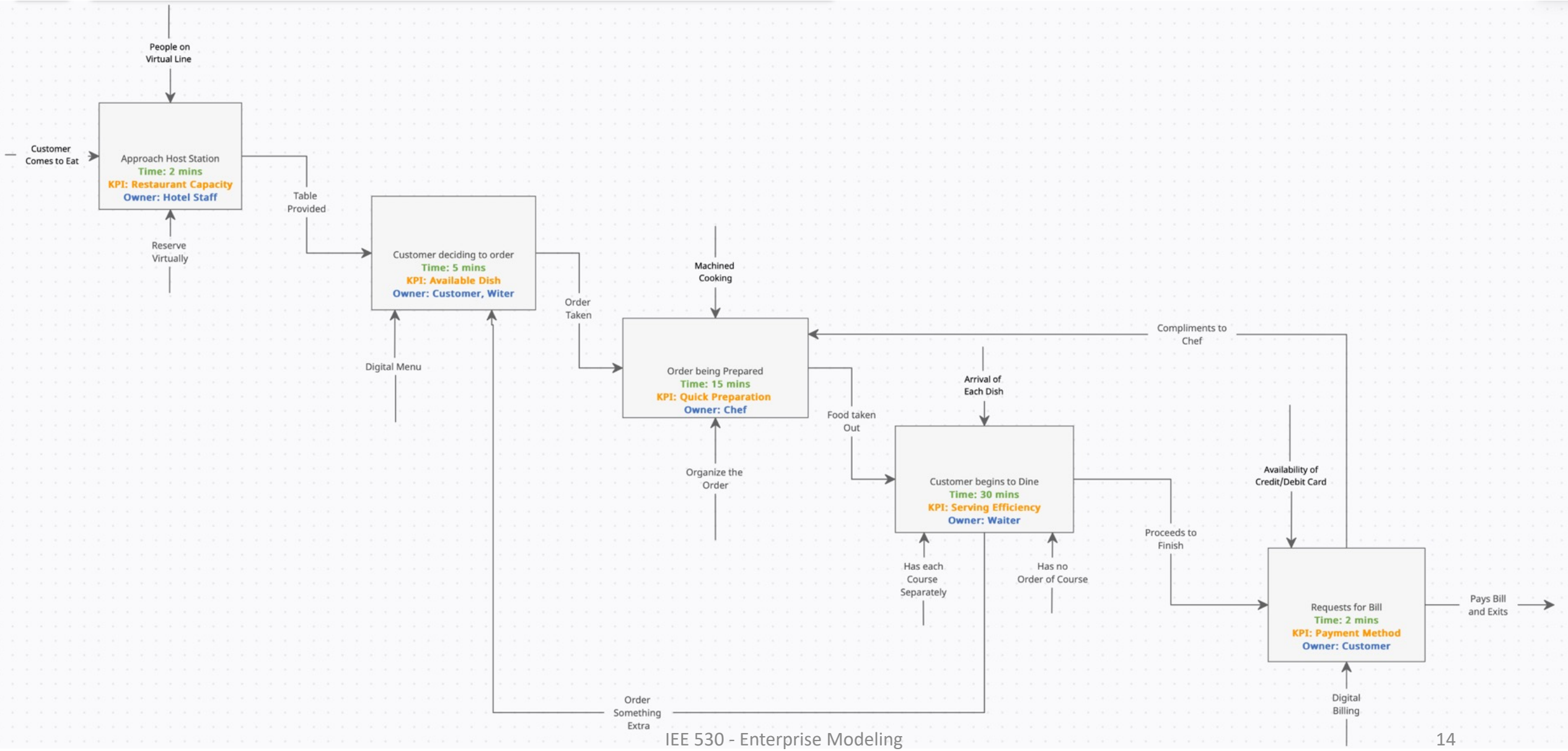
AS IS, SHOULD BE, TO BE

PROCESS	AS IS	SHOULD BE	TO BE
Approaching the restaurant	Customers enter the restaurant and wait at the entrance Observation: Average waiting time is approximately **15 minutes** during peak hours	Implement a **digital queue management** system Target: Reduce waiting times by **20%**.	Implement an **online reservation system** Target: Reduce waiting times by **30%**.
Customer ordering food	Customers browse the physical menu Observation: Order errors occur in approximately **10%** of cases	Introduce **tabletop tablets** or mobile apps Target: Improve order accuracy by **15%**.	Introduce a **self-service kiosk** or online ordering platform Target: Improve order accuracy by **20%**
Preparing the ordered food	Waitstaff transfers the written orders Observation: Average food preparation time is approximately **20 minutes**.	Implementing **efficient workflows** Target: Reduce food preparation time by **10%**.	Optimize kitchen operations Target: Reduce food preparation time by **10%**.
Customer begins to dine	The waitstaff periodically checks on customers Observation: Customers takes an average of **30 minutes**	Provide tableside service using dedicated waitstaff. Target: Increase customer satisfaction ratings by **20%**.	Provide **tableside service** using dedicated waitstaff. Target: Increase customer satisfaction ratings by **20%**.
Request for the bill	When customers are ready to leave, they flag down the waitstaff Observation: Bill processing time averages **10 minutes**	Implement digital payment options Target: Reduce bill processing time by **15%**.	Implement digital payment solutions, such as mobile payment Target: Reduce bill processing time by **20%**.

SHOULD BE Streamlining



TO BE Streamlining



Budget Analysis

Amount to be Invested

Digital Reservation System	
Cost of digital reservation system software	$2,000
Implementation and integration costs	$1,000
Training costs for staff	$500
Ongoing maintenance and support expenses:	$500 (per year)

Self-Service Ordering (via mobile app or kiosks)	
Cost of mobile ordering app development or licensing fees:	$3,000
User interface design and customization costs	$1,000
Training costs for staff and customers:	$500

Enhanced Communication Channels	
Cost of digital communication tools and apps:	$1,500
Software development or licensing fees	$500
Staff training for communication tools	$500

Digital Payment Solutions	
Cost of integrating digital payment options:	$2,500
Transaction fees associated with digital payment providers	Varies based on the provider
Staff training on the new payment solutions	$500

ROI Calculation

Assumptions:
- Time saved per table: 12 minutes.
- The number of tables in the restaurant: 22.
- Labor cost per hour for waitstaff: $10.92.
- Operating hours of the restaurant: 11 am to 10 pm.
- Average bill amount per table: $30.
- Fixed operating expenses per day: $200.
- Variable operating expenses per table: 10% of the average bill amount.

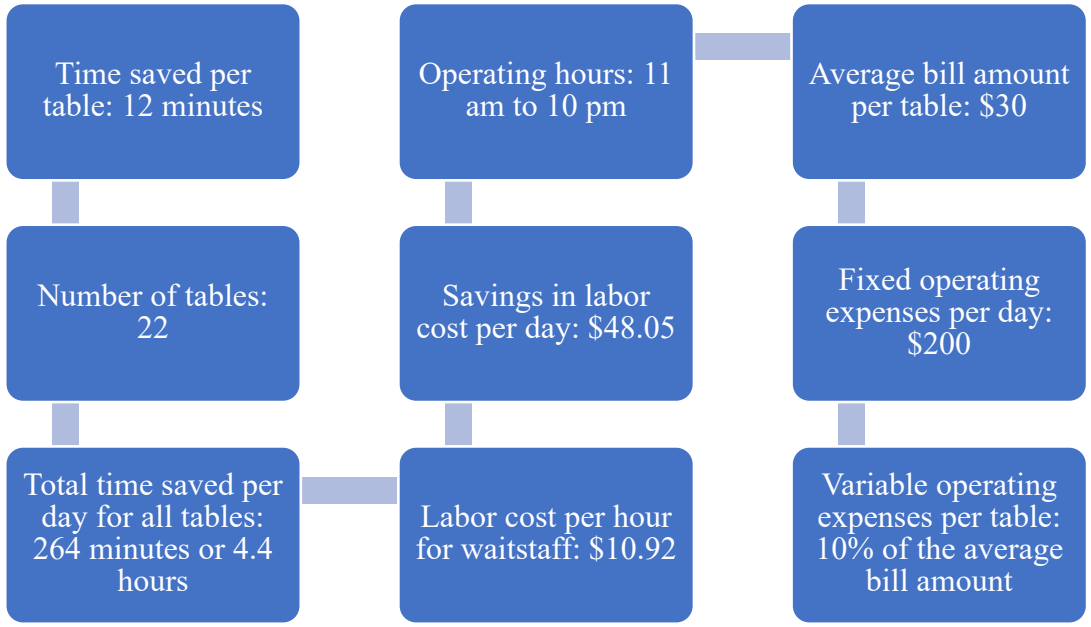
Savings per day = 4.4 hours * $10.92 = $48.05

ROI = (Net Profit / Initial Investment) * 100

ROI = ($48.05 * 365 days) / $14,500 * 100 = 1.24%

ROI (in days) = $14,500 / $48.05 = 301.91 days

Time Analysis



Quality Analysis

- Reduced order errors by approximately 50%
- Increased order customization by approximately 20%
- Minimized communication delays or misunderstandings by around 70%
- Enhanced accuracy and speed of order processing
- Improved coordination and communication between waitstaff and kitchen
- Streamlined bill generation and digital payment options
- Improved customer satisfaction and minimized rework
- Consistent and timely communication throughout the process

Conclusion

- Findings: The analysis identified areas where Olive Gardens may streamline their food ordering procedure.
- Proposed Improvements: Use of electronic booking, self-service ordering, improved communication, and electronic payments.
- Advantages: Enhanced earning potential for waitstaff, increased table turnover, and improved client pleasure.
- Reaction: The sponsor, customers, and wait staff all expressed satisfaction with the changes made.
- Lessons learned: coordinating recommendations with wait staff objectives, understanding the complexity of processes, identifying essential areas for improvement.
- Sponsor Feedback: Pleased with shorter wait times, increased effectiveness, and complimentary comments from patrons and waitstaff.
- Integration of Technical Factors: Careful study of technical aspects in order to make recommendations that are both useful and effective.

THANK YOU