P.F. CHANG'S
CHINA BISTRO

HOSPITALITY AND TOURISM OPERATIONS RESEARCH EVENT

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LAWRENCE HIGH SCHOOL,
2525 PRINCETON PIKE,
LAWRENCE TOWNSHIP, NJ 08648

ROSHNI ANARKAT

TABLE OF CONTENTS

I. EXECUTIVE SUMMARY

BUSINESS OVERVIEW

P.F. Chang's Princeton is a refined restaurant founded that serves deliciome Asian cuisine located in Princeton, New Jersey. This location of P.F Chang's opened in late 2006 in the Marketfair Mall complex. The **general manager** is **Hadeeth Zaidi**, who manages a total of 57 employees among the waiters, kitchen staff, and bartenders. The operating partner is Karan Madan and the executive chef is Brian Benckert. The yearly **revenue** of the establishment is **17.5 million** dollars.

Their philosophy is "Made with heart, served with honor"

Figure I: P.F. Chang's Princeton Exterior

OVERVIEW OF CURRENT AI USAGE

Workday

Wisely

Workday is a cloud-based software program designed to simplify workspace management. Workday is used to help management forecast sales and create schedules.

Wisely is a system which uses customer intelligence to predict how many reservations will be placed and tracks online traffic surrounding the company.

RESEARCH METHODS

Primary Research

- **Manager Interview:** In-person meeting with Manager Hadeeth Zaidi
- **Employee Survey:** Anonymome survey sent to all employees
- **Restaurant Visit:** Visited employee workspaces and dining area

Secondary Research

- **Customer Reviews:** Viewed reviews through Yelp and TripAdvisor
- **Current AI Analysis:** Looked into current AI companies Wisely and Workday
- **Future AI Analysis:** Researched prospect AI companies
- **Web Search:** General search of P.F. Chang's
- **Competitor Analysis:** Analyzed surrounding competitors on their AI usage
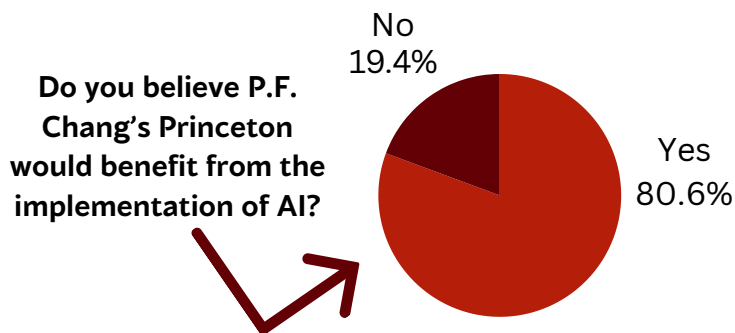
FINDINGS AND CONCLUSIONS

Results from Employee Survey

Are there any tools or systems you feel could be improved to make ymy work easier?

Inventory Management	Schedule Management	Reservation Process

Do you believe P.F. Chang's Princeton would benefit from the implementation of AI?

No 19.4%

Yes 80.6%

Findings

- **Problem #1** - Current **forecasting** system is **ineffective** and results in customer dissatisfaction and employee stress
- **Problem #2** - Lack of uniform quality control and inventory management within P.F. Chang's locations leads to **inaccuracy in recipes**, as well as an increased workload for employees
- **Problem #3** - Inadequate technology within the restaurant creates **time waste**, taking employees away from more pressing problems
- **Problem #4** - Due to **little online presence** and an unclear customer base, P.F. Chang's fails to attract more possible customers

Conclusion #1
P.F. Chang's should add a more accurate and simple system that into account employees and important days

Conclusion #2
Starting to use reliable AI tech for quality control and inventory ensures recipes are constant and inventory unbiased

Conclusion #3
Implementing more technology within the company will help utilize labor effectively and value employee enrichment

Conclusion #4
Applying AI to marketing methods and loyalty programs will increase the amount of potential customers for the restaurant

SWOT ANALYSIS

Strengths
- Already uses AI in their company
- Has a good work culture
- Manages employees and customers well
- Has **loyalty programs** to incentivize returning customers to dine at P.F. Chang's frequently

Weaknesses
- AI is inefficient
- Employee schedules are inaccurate
- Improper uniform quality control between surrounding P.F. Chang's locations
- **Weak marketing** results in less possible customers

Opportunities
- **Replace** and **renovate** current AI implementation
- Use AI to train chefs to make the same food each time
- Train AI to manage marketing to attract customers

Threats
- Newly implemented AI may not work
- Employees may not like the new scheduling process
- AI could worsen marketing, dissuading customers from dining at P.F Changs

PROPOSED STRATEGIC PLAN

Forecasting Insights
- Weekly **sales** forecasting
- **Employee shift** forecasting
- Adequate **schedule creation**

Ingredient Analysis
- **Ingredient and recipe quality control** within differing locations
- Accurate **inventory analysis**

Restaurant Efficiency
- AI controlled **reservations**
- Direct **table-to-kitchen service** via kiosks
- **AI voice assistant** for phone ordering

Engaging Customers
- Increased **online presence**
- AI analysis of **customer reviews**
- **Loyalty program** managed by AI

BUDGET

Activity	Expenses	Annual Cost	One Time
Forecasting Insights	Lineup.ai	$1,788	-
Ingredient Analysis	Deep Vision AI	$25,000	$20,000
	Camera Installment	-	$4,000
	Sensor Installment	-	$22,125
Restaurant Efficiency	Tableo AI	$1,908	-
	Ziosks	$6,240	-
	AI Maintenance	$8,500	-
Engage Customers	Synthesia	$48,000	-
	Anicca.bot	$78,000	-
	Web Developer	-	$8,500
Total Cost		**$169,436**	**$54,625**

First Year Cost: $215,061	**ROI = 61.18%**
Annual Cost: $169,436	**3 Year Cost: $553,933**