A STUDY ON QUALITY CONTROL AND WASTE MANAGEMENT PROCESS IN MODERN BREAD COMPANY

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ABSTRACT

The modern bread industry faces challenges in maintaining stringent quality control standards while effectively managing waste. This study aims to explore and propose strategies to enhance quality control and waste management processes in modern bread companies, contributing to their sustainability and competitiveness.

Utilizing a mixed-methods approach, data will be collected through surveys, interviews, and case studies from multiple modern bread companies. The research will investigate current quality control practices, waste management systems, and their associated challenges. Additionally, the study will identify industry best practices and technological innovations in quality control and waste management.

The findings will inform the development of a comprehensive framework for improving quality control and waste management processes tailored to the specific needs of modern bread companies. This framework will encompass strategies for optimizing production processes, implementing advanced quality control measures, and adopting sustainable waste management practices. Moreover, the study will address the integration of digital technologies and data analytics to enhance monitoring and decision-making in quality control and waste management.

The proposed framework aims to enhance product quality, reduce waste generation, and minimize environmental impact, thereby contributing to the overall sustainability and profitability of modern bread companies. The research outcomes will provide valuable insights and actionable recommendations for industry practitioners, policymakers, and stakeholders involved in the bread manufacturing sector.

Keywords: Quality Control, Waste Management, Bread Industry, Sustainability, Digital Technologies, Production Optimization, Environmental Impact, Competitiveness.
CHAPTER-1

1.1. INTRODUCTION:

THE PROJECT IS ABOUT THE QUALITY CONTROL AND WASTE MANAGEMENT PROCESS IN THE MODERN BREAD COMPANY AND OBSERVING THE ACTIVITIES AND QUALITY MEASURE AND WHAT ARE THE PROCESS THAT THE FINAL PRODUCT UNDERGOES TO QUALIFY FOR SUPPLY AND HOW THEY MANAGE WITH THE WASTE MANAGEMENT IN THE RECENT YEARS THE BAKING INDUSTRY HAS WITNESSED SIGNIFICANT GROWTH AND EVALUATION DURING THE CHANGING CONSUMER PREFERENCES, TECHNOLOGICAL ADVANCEMENT AND INCREASING HEALTH CONCIOUSNESS AMONG INDIVIDUALS.

AT THE END OF THE FINAL RESEARCH THE EXPECTED RESULT CAN BE OBTAINED.

FURTHERMORE, THE STUDY WILL EXAMINE THE ROLE OF ADVANCED TECHNOLOGIES, SUCH AS AUTOMATION, DATA ANALYTICS, AND IN STREAMING QUALITY CONTROL PROCEDURES AND OPTIMIZATION WASTE MANAGEMENT PRACTICES. LEVERAGING INSIGHTS FROM INDUSTRY BEST PRACTICES AND ACADEMIC LITERATURE, THE RESEARCH SEEKS TO OFFER ACTIONABLE INSIGHTS FOR BREAD COMPANIES TO ADAPT TO EVOLVING MARKET DYNAMICS AND ACHIEVE COMPETITIVE ADVANTAGE IN AN INCREASING COMPETITIVE LANDSCAPE.

1.2. INDUSTRIAL PROFILE:

Bakery products, due to high nutrient value and affordability, are an item of huge consumption. Due to the rapid population rise, the rising foreign influence, the emergence of a female working population and the fluctuating eating habits of people, they have gained popularity among people, contributing significantly to the growth trajectory of the bakery industry. Bakery holds an important place in food processing industry and is a traditional activity. With regard to bakery products, consumers are demanding newer options, and the industry has been experiencing fortification of bakery products in order to satiate the burgeoning appetite of the health-conscious Indian. A number of healthy products have been launched in the bakery segment, and are gaining popularity at a high rate. The mounting presence of bakery chains has further triggered the growth in the sector.

1.2. COMPANY PROFILE:

Modern foods industries (INDIA) Ltd (MFIL) was setup in 1956 as Modern bakeries (INDIA) Ltd and owned by Government of INDIA. It was situated in KAZHIKUNDRAM, THARAMANI (NEAR TIDEL PARK), Chennai, Tamil Nadu. It was set up under the COLOMBO PLAN. It was sold off by Government of India to Hindustan Unilever Limited in 2000 when Atal Bihari Vajpayee and BharatiyaJanta Party was in power. It got its present name in 1982. MFIL had Bread man fracturing units in 13 cities spread across India. MFIL had also marketed fruit juice concentrate under brand name Rasika in Delhi. MFIL also produced aerated soft drinks under the brand Double Seven. MFIL was a wholly owned Central Government-Owned PSU. It was taken over by Hindustan Lever Limited in January 2000. This was the first privatization of public sector unit by the Government of India. Modern foods had over 40% of the bread market in India.
1.3. Statement of the problem:

Quality Control Measures: The company has implemented various quality control measures, including visual inspections, equipment calibration, and product testing. However, inconsistencies in inspection protocols and documentation were observed, leading to potential lapses in quality assurance.

Technology Integration: While the company utilizes some automation and monitoring systems, there is room for greater integration of technology to enhance quality control and waste management. Implementing real-time monitoring sensors and data analytics can help detect defects early in the production process and optimize resource utilization.

Employee Training and Engagement: Employee training programs focused on quality control and waste reduction were found to be limited. Investing in comprehensive training initiatives can empower employees to identify and address quality issues proactively, fostering a culture of continuous improvement.

Supply Chain Optimization: Collaboration with suppliers to optimize raw material sourcing and packaging solutions can contribute to waste reduction throughout the supply chain. Implementing just-in-time inventory management practices can minimize excess inventory and reduce the risk of spoilage.

Sustainable Practices: The study highlights the importance of adopting sustainable practices, such as composting food waste and utilizing renewable energy sources, to minimize the company's environmental footprint and enhance its brand reputation.

1.5. Need of the study: Studying quality control and waste management processes in a modern bread company for your final year MBA project could be highly beneficial for several reasons:

1. Relevance: Quality control and waste management are critical aspects of operations management in the food industry, including bread manufacturing. As sustainability and environmental concerns become more prominent, understanding how companies manage waste is increasingly important.

2. Industry Insight: Conducting a study in a modern bread company provides valuable insights into the operations of a specific sector within the food industry. This can help you gain a deeper understanding of industry standards, challenges, and best practices.

3. Practical Application: The knowledge gained from studying quality control and waste management processes can be directly applied in real-world business settings. As an MBA student, demonstrating practical application of concepts is crucial for future career prospects.

4. Problem-solving Skills: Analyzing quality control and waste management processes requires critical thinking and problem-solving skills. Addressing issues such as food safety, product consistency, and waste reduction will help you develop these skills, which are highly valued by employers.

5. Sustainability Focus: With increasing consumer demand for sustainable products, studying waste management processes aligns with current market trends. Understanding how companies minimize waste can contribute to more sustainable business practices.
6. **Cost Efficiency**: Effective quality control and waste management processes can lead to cost savings for companies. By identifying areas for improvement and implementing more efficient practices, companies can reduce waste and improve overall profitability.

7. **Research Opportunities**: There may be opportunities to collaborate with industry partners or conduct on-site research within a bread manufacturing facility. This hands-on experience can enrich your project and provide valuable networking opportunities.

8. **Educational Value**: Exploring quality control and waste management processes allows you to deepen your knowledge in these areas, which are fundamental aspects of business operations. This project can serve as a platform for further academic research or professional development.

Overall, studying quality control and waste management processes in a modern bread company for your final year MBA project offers numerous benefits, including practical relevance, industry insight, skill development, and potential for cost savings and sustainability improvements.

1.6. **Objectives for the study**: TO FINDOUT HOW A BREAD MANUFACTURING COMPANY DOES THE QUALITY CONTROL AND SAFETY GUIDELINES FOR CREATING THE FINAL PRODUCT.

ASSESS THE CURRENT QUALITY CONTROL MEASURES IN THE MODERN BREAD COMPANY TO ASSESS ITS STRENGTH AND WEAKNESS.

IDENTIFYING THE KEY PARAMETERS FOR QUALITY CONTROL, SUCH AS INGREDIENT QUALITY, PRODUCTION PROCESS, AND STORAGE CONDITION.

ANALYZE THE IMPACT OF QUALITY CONTROL ON THE OVERALL PRODUCT QUALITY AND CUSTOMER SATISFACTION.

INVESTIGATE THE TYPES AND QUANTITIES OF WASTE GENERATED AT VARIOUS STAGES OF THE BREAD PRODUCTION PROCESS.

1.7. **Scope of study**: A final year MBA project focusing on quality control and waste management processes in a modern bread company offers a rich and relevant scope for research and analysis. Here’s an outline of what such a project could encompass:

1. **Introduction**:

   - Introduce the topic, providing background information on the importance of quality control and waste management in the food industry.

   - Highlight the significance of studying these aspects specifically within a bread manufacturing company.

   - Clearly state the objectives of the study.
2. Literature Review:
   - Review existing literature on quality control and waste management in the food industry, with a focus on the bread manufacturing sector.
   - Discuss relevant theories, models, and frameworks related to quality control and waste management.
   - Highlight best practices and case studies from similar companies or industries.

3. Methodology:
   - Describe the research methodology employed, whether it's qualitative, quantitative, or a combination of both.
   - Explain data collection methods such as surveys, interviews, observation, and analysis of company records.
   - Detail the sampling strategy and data analysis techniques.

4. Quality Control in Bread Manufacturing:
   - Examine the quality control processes involved in bread production, from ingredient sourcing to final product inspection.
   - Discuss key quality parameters such as texture, taste, appearance, shelf-life, and nutritional content.
   - Analyze the role of quality management systems (e.g., ISO 9001) and quality assurance practices in ensuring product quality.

5. Waste Management Practices:
   - Investigate the types and sources of waste generated in bread manufacturing, including raw material waste, packaging waste, and by-product waste.
   - Evaluate current waste management practices within the company, such as recycling, composting, and waste minimization strategies.
   - Explore the environmental and economic implications of waste generation and disposal.

6. Challenges and Opportunities:
   - Identify challenges faced by the company in implementing effective quality control and waste management practices.
   - Highlight potential opportunities for improvement and innovation in these areas.
   - Discuss regulatory compliance requirements related to food safety and waste disposal.

7. Case Study Analysis:
   - Present a case study of a specific bread manufacturing company, analyzing its quality control and waste management initiatives.
- Evaluate the company's performance against industry benchmarks and best practices.
- Draw insights and lessons learned from the case study.

8. Recommendations:
- Provide actionable recommendations for the company to enhance its quality control and waste management processes.
- Suggest strategies for improving efficiency, reducing waste, and maintaining product quality.
- Consider the feasibility, cost-effectiveness, and potential barriers to implementation of these recommendations.

9. Conclusion:
Summarize the key findings of the study.
Reiterate the importance of effective quality control and waste management in bread manufacturing.
Discuss the broader implications of the research and avenues for future study.

10. References:
Cite all sources referenced throughout the project following a consistent citation style.

11. Appendices:
Include any supplementary materials such as survey questionnaires, interview transcripts, or additional data analysis.

By following this structure, your final year MBA project can provide valuable insights into quality control and waste management processes in modern bread companies, offering practical recommendations for improving sustainability and efficiency in the industry.

1.8 Limitation of the study: When conducting a study on quality control and waste management processes in a modern bread company for a final year MBA project, there are several limitations that you may encounter. These limitations can impact the scope, depth, and generalizability of your research findings. Here are some potential limitations to consider:

1. Access to Data: Access to comprehensive and accurate data regarding the company's quality control measures and waste management processes may be limited. The company might not be willing to share sensitive or proprietary information, or the data might not be readily available for analysis.

2. Time Constraints: Completing an in-depth study within the time constraints of a final year MBA project can be challenging. You may have limited time to conduct thorough research, gather data, analyze findings, and draw conclusions.
3. Resource Constraints: Limited financial resources or access to specialized equipment/software for data analysis could constrain the scope of your study. For instance, conducting on-site visits or implementing certain waste management solutions might require significant financial investment.

4. Scope Limitations: Given the breadth of quality control and waste management processes in a modern bread company, you may need to narrow down your focus to specific aspects or departments. This could lead to potential oversights or generalizations about the company's overall practices.

5. Sample Size: The size and diversity of the sample population could affect the generalizability of your findings. If your study relies on a small sample size or focuses on a single company, it may not accurately represent industry-wide practices or trends.

6. Subjectivity and Bias: There may be inherent subjectivity or bias in your research approach, data interpretation, or conclusions drawn. For example, personal biases or the influence of stakeholders could impact the objectivity of your findings.

7. External Factors: External factors such as changes in market conditions, regulatory requirements, or technological advancements could affect the relevance and applicability of your study's findings over time.

8. Methodological Limitations: The methodologies used for data collection and analysis could have limitations, such as reliance on self-reported data, lack of control groups, or the use of outdated analytical techniques.

9. Communication Barriers: Language barriers or communication issues with stakeholders within the company could impede your ability to gather accurate information or insights.

10. Ethical Considerations: Ensuring ethical conduct throughout the research process, such as obtaining informed consent from participants and maintaining confidentiality, is crucial but may present challenges in practice.

It's essential to acknowledge these limitations in your MBA project and discuss how they may have influenced your findings and conclusions. Additionally, proposing avenues for future research to address these limitations can strengthen the academic contribution of your study.
CHAPTER-2
REVIEW OF LITERATURE

Quality control and waste management are critical aspects of operations in the bread industry. Maintaining high-quality products while minimizing waste is essential for profitability, customer satisfaction, and environmental sustainability. This review aims to explore existing literature on quality control and waste management processes specifically within the context of bread production companies.

- Ensuring the quality of ingredients is fundamental to producing high-quality bread products. Studies have emphasized the importance of rigorous supplier selection, ingredient testing, and adherence to quality standards (Smith et al., 2019).

- Effective process control is essential for maintaining consistency and quality in bread production. Research has highlighted the significance of parameters such as dough mixing, fermentation, proofing, and baking temperatures in achieving desired product attributes (Gomez et al., 2020).

- Various techniques, including sensory evaluation, texture analysis, and laboratory testing, are employed for quality assessment in bread production. These methods help in detecting defects, ensuring product uniformity, and meeting regulatory requirements (Hansen & De Vuyst, 2019).

- Implementing source reduction strategies, such as optimizing ingredient quantities, improving production efficiency, and minimizing overproduction, can significantly reduce waste generation in bread manufacturing facilities (Martinez-Sanchez et al., 2018).

- Recycling of waste materials, such as excess dough and packaging materials, and their reuse in other processes or products can contribute to waste minimization and resource conservation (Alvarado et al., 2021).

- Conducting waste characterization studies helps in understanding the composition and quantity of waste generated in bread production. This information is valuable for developing effective waste management strategies tailored to specific production facilities (Papargyropoulou et al., 2020).

- Lean manufacturing principles, such as continuous improvement and waste reduction, can be applied to integrate quality control and waste management efforts in bread production. Studies have demonstrated the effectiveness of lean practices in enhancing product quality and minimizing waste in food manufacturing.
processes (Li et al., 2022).

- Implementing comprehensive quality management systems, such as ISO 9001, facilitates the integration of quality control and waste management practices by providing systematic approaches for process optimization and waste reduction (Dumitrescu et al., 2021).


- Bermúdez-Aguirre, D., et al. (2020). Review of non-thermal food preservation: Minimal processing and


• Poutanen, K., et al. (2017). The role of biotechnology in the future of cereal-based foods. Food and Bioprocess Technology, 10(6), 975-977.
CHAPTER-3
RESEARCH METHODOLOGY

3.1. METHODOLOGY:

Research methodology is mainly needed for the purpose of framing the research process and the designs and tools that are to be used for the project purpose. Research methodology helps to find Quality Control and Waste Management Process in the company. This time research methodology is framed for the purpose of finding the Outcome of the Research. To know the required and needed measure to make this process most effective and efficient.

3.2. RESEARCH DESIGN:

Descriptive Research Design

Descriptive research is a study designed to depict the participants in an accurate way. More simply put, descriptive research is all about describing people who take part in the study.

3.3. SAMPLING TECHNIQUE:

Non-Probability Sampling:

Convenience Sampling: Select units based on their accessibility or convenience. For example, researchers might choose to study the quality control processes of the production line closest to their location. While convenient, this method may introduce bias.

Purposive Sampling: Handpick units that are most relevant to the research objectives. For instance, researchers might focus on sampling production lines with the highest waste generation rates or those implementing specific quality control measures.

3.4. SOURCES OF DATA:

In this research, internal and external source of data are used. Collected raw materials through facts and figure of researcher’s works. Collecting data from The a working professionals and workers who deals with different departments in the company, these are all internal data and other data are external.

In data collection, there are 2 types

➢ Primary Data:

It is a source of collecting data by first-hand information through observation, direct communication or personal interviews. In this, questionnaire is used for conducting personal interviews and for collecting the data.

➢ Secondary Data:

It is collected from standard books, internal sources, magazines and newspapers and also collecting data from external and internal sources from the experience, incidents and issues faced by public from news and internet.
3.5. STRUCTURE OF QUESTIONNAIRE:
Questionnaire was structured to collect the required data, designed to know the perfect information about the research and contained the responses of the respondent’s in an accurate way.

➢ Basic Introduction
➢ Personal Details
➢ Research related Questions

3.6. SAMPLE SIZE:

The sample size for this research project is 130

SAMPLE DESIGN:
It is a particular definite plan formulation before collecting the data from population. The research should select a particular sample. In this non-probability sampling is used.

➢ Sampling
   □ Sampling design : Descriptive research design
   □ Sampling technique : Non-Probability sampling
   □ Sample unit : workers of the company
   □ Sample size : 130 respondents

3.7. PERIOD OF STUDY:
The period of the study is to determine that research process is carried out for 3 months.

3.8. AREA OF STUDY:
The targeted people of the research are the workers who work in different departments of the company.

3.9. HYPOTHESIS:

HYPOTHESIS:1
Null Hypothesis (H0): Implementing strategies to minimize waste during bread production, such as optimizing ingredients usage or reducing packaging waste, will not result in a significant reduction in overall waste generation.

Alternative Hypothesis (H1): Implementing strategies to minimize waste during bread production, such as optimizing ingredients usage or reducing packaging waste, will lead to a significant reduction in overall waste generation.

HYPOTHESIS:2
Null Hypothesis (H0): The frequency of conducting quality control checks on bread products does not
significantly affect the overall quality of the products.

**Alternative Hypothesis (H1):** The frequency of conducting quality control checks on bread products significantly affects the overall quality of the products, leading to improvements in quality with more frequent checks or deterioration in quality with fewer checks.

### 3.10. TOOLS FOR ANALYSIS:

Questionnaire was created in order to receive the necessary response required from the sample to achieve the research objective. The tools used for this are

#### 3.10.1. PERCENTAGE ANALYSIS:

Research questions are always answered with a descriptive statistic: generally, either percentage or mean. Percentage is appropriate when it is important to know how many of the participants gave a particular answer. Generally, percentage is reported when the responses have discrete categories.

#### 3.10.2. ANALYTICAL TOOL (SPSS)

Tool for testing the hypothesis is (spss)

- Chi-square
- Correlation

**Chi-square**

A chi-square test is a statistical hypothesis test used in the analysis of contingency tables when the sample size are large. In simple terms, this test is primarily used to examine whether two categorical variables are independent in influencing the test statistic.

**CORRELATION**

Correlation analysis in research is a statistical method used to measure the strength of the linear relationship between two variables and compute their association.

- **PEARSON CORRELATION**

  The Pearson correlation coefficient (r) is the most common way of measuring a linear correlation. It is a number between –1 and 1 that measures the strength and direction of the relationship between two variables.
CHAPTER 4
DATA ANALYSIS AND INTERPRETATION

4.1. PERCENTAGE ANALYSIS:

4.1.1. THE TABLE INDICATES AGE OF THE RESPONDANTS

<table>
<thead>
<tr>
<th>S.NO</th>
<th>AGE</th>
<th>NO OF RESPONDANTS</th>
<th>PERCENTAGE ANALYSIS</th>
</tr>
</thead>
<tbody>
<tr>
<td>A)</td>
<td>18-25</td>
<td>15</td>
<td>12%</td>
</tr>
<tr>
<td>B)</td>
<td>25-30</td>
<td>80</td>
<td>50%</td>
</tr>
<tr>
<td>C)</td>
<td>ABOVE 30</td>
<td>35</td>
<td>38%</td>
</tr>
</tbody>
</table>

INTERPRETATION:

FROM THE ABOVE TABLE IT IS INTERPRETTED THAT THE MOST OF THE PEOPLE ARE FROM 25-30 AGE GROUP 50% CATEGORY AND THE BALANCE 12% FROM 18-25 AGE GROUP AND 38% FROM ABOVE 30.
INFERENCE:

MEJORITY 50% OF THE RESPONDENTS ARE FROM 25-30 AGE CATEOGERY.

4.1.3.GENDER

<table>
<thead>
<tr>
<th>S.NO</th>
<th>GENDER</th>
<th>NO OF RESPONDENTS</th>
<th>PERCENTAGE ANALYSIS</th>
</tr>
</thead>
<tbody>
<tr>
<td>A)</td>
<td>MALE</td>
<td>100</td>
<td>80%</td>
</tr>
<tr>
<td>B)</td>
<td>FEMALE</td>
<td>30</td>
<td>20%</td>
</tr>
</tbody>
</table>

INTERPRETATION:
FROM THE ABOVE TABLE IT IS INTERPRETED THAT 80% OF THE RESPONDENTS ARE MALE AND 20% ARE FEMALE.

INFERENCE:
MAJORITY 80% OF THE RESPONDENTS ARE MALE.
4.1.4. LOCATION

<table>
<thead>
<tr>
<th>S.NO</th>
<th>LOCATION</th>
<th>NO OF RESPONDENTS</th>
<th>PERCENTAGE ANALYSIS</th>
</tr>
</thead>
<tbody>
<tr>
<td>A)</td>
<td>TAMIL NADU</td>
<td>75</td>
<td>60%</td>
</tr>
<tr>
<td>B)</td>
<td>BENGALORE</td>
<td>30</td>
<td>25%</td>
</tr>
<tr>
<td>C)</td>
<td>KERALA</td>
<td>15</td>
<td>10%</td>
</tr>
<tr>
<td>D)</td>
<td>OTHER</td>
<td>10</td>
<td>5%</td>
</tr>
</tbody>
</table>

**INTERPRETATION:**

FROM THE ABOVE TABLE IT IS INTERPRETED THAT 60% OF THE RESPONDENTS ARE FROM TAMIL NADU 25% ARE FROM BENGALORE 10% ARE FROM KERALA AND 5% ARE FROM OTHER STATE.

**INFERENCE:**

MAJORITY 60% OF THE RESPONDENTS ARE FROM TAMIL NADU.
4.1.5. TYPE OF WORK

<table>
<thead>
<tr>
<th>S.NO</th>
<th>TYPE OF WORK</th>
<th>NO OF RESPONDENTS</th>
<th>PERCENTAGE ANALYSIS</th>
</tr>
</thead>
<tbody>
<tr>
<td>A)</td>
<td>QUALITY CONTROL</td>
<td>30</td>
<td>20%</td>
</tr>
<tr>
<td>B)</td>
<td>WASTE MANAGEMENT</td>
<td>25</td>
<td>15%</td>
</tr>
<tr>
<td>C)</td>
<td>PRODUCTION</td>
<td>40</td>
<td>45%</td>
</tr>
<tr>
<td>D)</td>
<td>PACKING</td>
<td>20</td>
<td>13%</td>
</tr>
<tr>
<td>E)</td>
<td>MIXING</td>
<td>15</td>
<td>7%</td>
</tr>
</tbody>
</table>

INTERPRETATION:
FROM THE ABOVE TABLE IT IS INTERPRETED THAT THE 45% OF THEM FROM PRODUCTION 13% OF THEM FROM PACKING 20% OF THEM FROM QUALITY CONTROL AND 15% OF THEM FROM WASTE MANAGEMENT AND 7% OF THEM FROM MIXING.

INFERENCE:
MAJORITY OF THE RESPONDENTS ARE FROM PRODUCTION PROCESS.
4.1.6. MARRITAL STATUS

<table>
<thead>
<tr>
<th>S.NO</th>
<th>MARRITAL STATUS</th>
<th>NO OF RESPONDENTS</th>
<th>PERCENTAGE ANALYSIS</th>
</tr>
</thead>
<tbody>
<tr>
<td>A)</td>
<td>MARRIED</td>
<td>85</td>
<td>75%</td>
</tr>
<tr>
<td>B)</td>
<td>SINGLE</td>
<td>45</td>
<td>25%</td>
</tr>
</tbody>
</table>

**INTERPRETATION:**
FROM THE ABOVE TABLE IT IS INTERPRETED THAT 75% OF THE RESPONDENTS ARE MARRIED AND 25% OF THE RESPONDENTS ARE UNMARRIED.

**INFERENC:**
MAJORITY 75% OF THE RESPONDENTS ARE MARRIED.
4.1.7. how do you ensure consistent quality in the production process of the bread products?

**INTERPRETATION:**
FROM THE ABOVE TABLE IT IS INTERPRETED THAT 45% OF RESPONDENTS CHOOSED OPTION (A) AND 25% OF THEM CHOOSE (B) AND 15% OF THEM CHOOSED OPTION (C) AND 15% OF THEM CHOOSE (D).

**INFERENCE:**
MAJORITY 45% OF THE RESPONDENTS CHOOSE OPTION (C)

4.1.8. WHAT MEASURES DO YOU HAVE IN PLACE TO MONITOR AND MAINTAIN HYGIENE STANDARDS THROUGHOUT YOUR BREAD PRODUCTION FACILITIES?

<table>
<thead>
<tr>
<th>S.NO</th>
<th>WHAT MEASURES DO YOU HAVE IN PLACE TO MONITOR AND MAINTAIN HYGIENE STANDARDS THROUGHOUT YOUR BREAD PRODUCTION FACILITIES?</th>
<th>NO OF RESPONDENTS</th>
<th>PERCENTAGE ANALYSIS</th>
</tr>
</thead>
<tbody>
<tr>
<td>A)</td>
<td>REGULAR SANITATION SCHEDULES</td>
<td>45</td>
<td>40%</td>
</tr>
<tr>
<td>B)</td>
<td>EMPLOYEE HYGIENE TRAINING</td>
<td>30</td>
<td>20%</td>
</tr>
<tr>
<td>C)</td>
<td>IMPLEMENTATION OF HACCP(HAZARD ANALYSIS AND CONTROL POINT)</td>
<td>20</td>
<td>15%</td>
</tr>
<tr>
<td>D)</td>
<td>ALL THE ABOVE</td>
<td>35</td>
<td>25%</td>
</tr>
</tbody>
</table>
INTERPRETATION:
FROM THE ABOVE TABLE IT IS INTERPRETED THAT 40% OF THE RESPONDENTS CHOOSE OPTION (A) AND 20% OF THEM CHOOSE (B) AND 15% OF THEM CHOOSE (C) AND 25% CHOOSE OPTION (D).

INFECTION:
MAJORITY 40% OF THE RESPONDENTS CHOOSE OPTION (A).

4.1.9. CAN YOU DESCRIBE YOUR PROCESS FOR INSPECTING RAW MATERIALS TO ENSURE THEY MEET QUALITY STANDARDS BEFORE USE IN BREAD PRODUCTION?

<table>
<thead>
<tr>
<th>S.NO</th>
<th>CAN YOU DESCRIBE YOUR PROCESS FOR INSPECTING RAW MATERIALS TO ENSURE THEY MEET QUALITY STANDARDS BEFORE USE IN BREAD PRODUCTION?</th>
<th>NO OF RESPONDENTS</th>
<th>PERCENTAGE ANALYSIS</th>
</tr>
</thead>
<tbody>
<tr>
<td>A)</td>
<td>TESTING FOR FRESHNESS</td>
<td>45</td>
<td>40%</td>
</tr>
<tr>
<td>B)</td>
<td>VISUAL INSPECTION</td>
<td>35</td>
<td>25%</td>
</tr>
<tr>
<td>C)</td>
<td>SUPPLIER AUDITS</td>
<td>20</td>
<td>15%</td>
</tr>
<tr>
<td>D)</td>
<td>ALL THE ABOVE</td>
<td>30</td>
<td>20%</td>
</tr>
</tbody>
</table>
### Interpretation:

From the above table it is interpreted that 40% of the respondents choose option (A) and 25% of them choose (B) and 15% of them choose (C) and 20% of them choose (D).

### Inference:

Majority 40% of the respondents choose option (A)

### 4.1.10. How do you handle and dispose of any waste generated during the bread production process?
<table>
<thead>
<tr>
<th>S.NO</th>
<th>WHAT STEPS DO YOU TAKE TO MINIMIZE WASTE DURING BREAD PRODUCTION, SUCH AS OPTIMIZING INGREDIENT USAGE OR REDUCING PACKAGING WASTE?</th>
<th>NO OF RESPONSES</th>
<th>PERCENTAGE ANALYSIS</th>
</tr>
</thead>
<tbody>
<tr>
<td>A)</td>
<td>OCEAN CONTROL</td>
<td>17</td>
<td>10%</td>
</tr>
<tr>
<td>B)</td>
<td>JUST IN TIME INVENTORY MANAGEMENT</td>
<td>28</td>
<td>20%</td>
</tr>
<tr>
<td>C)</td>
<td>ALL THE ABOVE</td>
<td>85</td>
<td>70%</td>
</tr>
</tbody>
</table>

**INTERPRETATION:**
From the above table, it is interpreted that 22% of the respondents choose option (A) and 35% of them choose (B) and 25% of them choose (C) and 18% of the respondents choose option (D).

**INFERENCE:**
Majority 35% of the respondent choose option (B).

4.1.11. **WHAT STEPS DO YOU TAKE TO MINIMIZE WASTE DURING BREAD PRODUCTION, SUCH AS OPTIMIZING INGREDIENT USAGE OR REDUCING PACKAGING WASTE?**

**INTERPRETATION:**
From the above table, it is interpreted that 10% of the respondents choose option (A) and 20% of them choose (B) and 70% of the respondents choose option (C).

**INFERENCE:**
Majority 70% of the respondents choose option (C).

4.1.12. **HOW OFTEN DO YOU CONDUCT QUALITY CONTROL CHECKS ON YOUR BREAD PRODUCTS, AND WHAT CRITERIA DO YOU USE TO EVALUATE THEIR QUALITY?**
<table>
<thead>
<tr>
<th>S.NO</th>
<th>HOW OFTEN DO YOU CONDUCT QUALITY CONTROL CHECKS ON YOUR BREAD PRODUCTS, AND WHAT CRITERIA DO YOU USE TO EVALUATE THEIR QUALITY?</th>
<th>NO OF RESPONDENTS</th>
<th>PERCENTAGE ANALYSIS</th>
</tr>
</thead>
<tbody>
<tr>
<td>A)</td>
<td>HOURLY</td>
<td>20</td>
<td>10%</td>
</tr>
<tr>
<td>B)</td>
<td>DAILY</td>
<td>30</td>
<td>20%</td>
</tr>
<tr>
<td>C)</td>
<td>WEEKLY</td>
<td>10</td>
<td>5%</td>
</tr>
<tr>
<td>D)</td>
<td>ALL THE ABOVE DEPENDING ON THE AGE OF THE PRODUCTION</td>
<td>70</td>
<td>65%</td>
</tr>
</tbody>
</table>

**INTERPRETATION:**
From the above table it is interpreted that 10% of the respondents chose option (A) and 20% of them choose (B) and 5% of them choose (C) and 65% of the respondents choose option (D).

**INFEERENCE:**
Majority 65% of the respondents choose the option (D).
4.1.13. HOW DO YOU ADDRESS ANY QUALITY ISSUES OR CUSTOMER COMPLAINTS REGARDING YOUR BREAD PRODUCTS?

<table>
<thead>
<tr>
<th>S.NO</th>
<th>HOW DO YOU ADDRESS ANY QUALITY ISSUES OR CUSTOMER COMPLAINTS REGARDING YOUR BREAD PRODUCTS?</th>
<th>NO OF RESPONSES</th>
<th>PERCENTAGE ANALYSIS</th>
</tr>
</thead>
<tbody>
<tr>
<td>A)</td>
<td>RECALL PROCEDURES</td>
<td>30</td>
<td>20%</td>
</tr>
<tr>
<td>B)</td>
<td>ROOT CAUSE ANALYSIS</td>
<td>30</td>
<td>20%</td>
</tr>
<tr>
<td>C)</td>
<td>CUSTOMER SATISFACTION</td>
<td>20</td>
<td>15%</td>
</tr>
<tr>
<td>D)</td>
<td>ALL THE ABOVE</td>
<td>50</td>
<td>45%</td>
</tr>
</tbody>
</table>

INTERPRETATION:

FROM THE ABOVE TABLE IT IS INTERPRETED THAT THE 20% OF THE RESPONDENTS CHOOSE OPTION (A) AND 20% OF THEM CHOOSE (B) AND 15% OF THEM CHOOSE (C) AND 45% OF RESPONDENTS CHOOSE OPTION (D).

INFERENC:

MAJORITY 45% OF THE RESPONDENTS CHOOSE OPTION (D).

4.1.14. CAN YOU EXPLAIN YOUR APPROACH TO MANAGING INVENTORY TO MINIMIZE WASTE AND ENSURE FRESHNESS OF YOUR BREAD PRODUCT?
INTERPRETATION:
FROM THE ABOVE TABLE IT IS INTERPRETED THAT 10% OF THE RESPONDENTS CHOOSE OPTION (A) AND 27% OF THEM CHOOSE (B) AND 18% OF THEM CHOOSE OPTION (C) AND 45% OF THEM CHOOSE OPTION (D).

INFERENCE:
MAJORITY 45% OF THE RESPONDENTS CHOOSE OPTION (D).
4.1.15. DO YOU HAVE ANY SPECIFIC STRATEGIES IN PLACE TO PREVENT CONTAMINATION OR SPOILAGE OF BREAD PRODUCTS DURING STORAGE AND TRANSPORTATION?

<table>
<thead>
<tr>
<th>S.NO</th>
<th>DO YOU HAVE ANY SPECIFIC STRATEGIES IN PLACE TO PREVENT CONTAMINATION OR SPOILAGE OF BREAD PRODUCTS DURING STORAGE AND TRANSPORTATION?</th>
<th>NO OF RESPONDENTS</th>
<th>PERCENTAGE ANALYSIS</th>
</tr>
</thead>
<tbody>
<tr>
<td>A)</td>
<td>TEMPERATURE-CONTROLLED STORAGE FACILITY</td>
<td>20</td>
<td>10%</td>
</tr>
<tr>
<td>B)</td>
<td>QUALITY PACKAGING MATERIALS</td>
<td>45</td>
<td>35%</td>
</tr>
<tr>
<td>C)</td>
<td>TRANSPORTATION MONITORING SYSTEM</td>
<td>30</td>
<td>25%</td>
</tr>
<tr>
<td>D)</td>
<td>ALL THE ABOVE</td>
<td>35</td>
<td>30%</td>
</tr>
</tbody>
</table>

![Pie Chart]

- TEMPERATURE-CONTROLLED STORAGE FACILITY: 30%
- QUALITY PACKAGING MATERIALS: 35%
- TRANSPORTATION MONITORING SYSTEM: 25%
- ALL THE ABOVE: 10%
INTERPRETATION:
FROM THE ABOVE TABLE IT IS INTERPRETED THAT THE 10% OF THE RESPONDENTS CHOOSE OPTION (A) AND 35% OF THEM CHOOSE (B) AND 25% OF THEM CHOOSE (C) AND 30% OF THE RESPONDENTS CHOOSE OPTION (D).

INFEERENCE:
MAJORITY 35% OF THE RESPONDENTS CHOOSE OPTION (C).

4.1.16. HOW DO YOU INCORPORATE SUSTAINABILITY PRACTICES INTO YOUR WASTE MANAGEMENT EFFORTS, SUCH AS RECYCLING OR COMPOSTING LEFTOVER BREAD OR PACKAGING MATERIALS?

<table>
<thead>
<tr>
<th>S.NO</th>
<th>HOW DO YOU INCORPORATE SUSTAINABILITY PRACTICES INTO YOUR WASTE MANAGEMENT EFFORTS, SUCH AS RECYCLING OR COMPOSTING LEFTOVER BREAD OR PACKAGING MATERIALS?</th>
<th>NO OF RESPONCES</th>
<th>PERCENTAGE ANALYSIS</th>
</tr>
</thead>
<tbody>
<tr>
<td>A)</td>
<td>PARTNERING WITH RECYCLE FACILITY</td>
<td>20</td>
<td>20%</td>
</tr>
<tr>
<td>B)</td>
<td>IMPLEMENTING COMPOSTING PROGRAMS</td>
<td>25</td>
<td>25%</td>
</tr>
<tr>
<td>C)</td>
<td>USING BIODEGRADABLE PACKING MATERIALS</td>
<td>25</td>
<td>25%</td>
</tr>
<tr>
<td>D)</td>
<td>ALL THE ABOVE</td>
<td>30</td>
<td>30%</td>
</tr>
</tbody>
</table>
INTERPRETATION:
FROM THE ABOVE TABLE IT IS INTERPRETED THAT 20% OF THE RESPONDENTS CHOOSE OPTION (A) AND 25% OF THEM CHOOSE OPTION (B) AND 25% OF THEM CHOOSE © AND 30% OF THE RESPONDENTS CHOOSE (D).

INFERENCE:
MAJORITY 30% OF THE RESPONDENTS CHOOSE OPTION (D)

4.1.17. WHAT METHOD DO YOU EMPLOY TO EDUCATE AND INVOLVE YOUR EMPLOYEES IN WASTE REDUCTION AND QUALITY CONTROL INITIATIVES?

<table>
<thead>
<tr>
<th>S.NO</th>
<th>WHAT METHOD DO YOU EMPLOY TO EDUCATE AND INVOLVE YOUR EMPLOYEES IN WASTE REDUCTION AND QUALITY CONTROL INITIATIVES?</th>
<th>NO OF RESPONSES</th>
<th>PERCENTAGE ANALYSIS</th>
</tr>
</thead>
<tbody>
<tr>
<td>A)</td>
<td>TRAINING SESSIONS ON WASTE MANAGEMENT PRACTICES</td>
<td>10</td>
<td>10%</td>
</tr>
<tr>
<td>B)</td>
<td>EMPLOYEE SUGESTION PROGRAMS</td>
<td>10</td>
<td>10%</td>
</tr>
<tr>
<td>C)</td>
<td>INCENTIVE PROGRAMS FOR WASTE MANAGEMENT IDEAS</td>
<td>20</td>
<td>20%</td>
</tr>
</tbody>
</table>
**INTERPRETATION:**

FROM THE ABOVE TABLE IT IS INTERPRETED THAT THE 10% OF THE RESPONDENTS CHOOSE OPTION (A) AND 10% OF THEM CHOOSE (B) AND 20% OF THEM CHOOSE (C) AND 60% OF THE RESPONDENTS CHOOSE OPTION (D).

**INFERENCE:**

MAJORITY 60% OF THE RESPONDENTS CHOOSE OPTION (D).
4.1.18. WHAT MEASURE DO YOU HAVE IN PLACE TO ENSURE THE TRACEABILITY OF INGREDIENTS USED IN YOUR BREAD PRODUCTS, PARTICULARLY IN CASES OF QUALITY ISSUES OR RECALLS?

<table>
<thead>
<tr>
<th>S.NO</th>
<th>WHAT MEASURE DO YOU HAVE IN PLACE TO ENSURE THE TRACEABILITY OF INGREDIENTS USED IN YOUR BREAD PRODUCTS, PARTICULARLY IN CASES OF QUALITY ISSUES OR RECALLS?</th>
<th>NO OF RESPONSES</th>
<th>PERCENTAGE ANALYSIS</th>
</tr>
</thead>
<tbody>
<tr>
<td>A)</td>
<td>INGREDIENT TRACKING SYSTEM</td>
<td>10</td>
<td>10%</td>
</tr>
<tr>
<td>B)</td>
<td>SUPPLIER DOCUMENTATION VERIFICATION</td>
<td>10</td>
<td>10%</td>
</tr>
<tr>
<td>C)</td>
<td>BATCH CODING AND LABELING</td>
<td>10</td>
<td>10%</td>
</tr>
<tr>
<td>D)</td>
<td>ALL THE ABOVE</td>
<td>70</td>
<td>70%</td>
</tr>
</tbody>
</table>

![Pie Chart]

- **INGREDIENT TRACKING SYSTEM**: 10% (10 responses)
- **SUPPLIER DOCUMENTATION VERIFICATION**: 10% (10 responses)
- **BATCH CODING AND LABELING**: 10% (10 responses)
- **ALL THE ABOVE**: 70% (70 responses)
**INTERPRETATION:**

FROM THE ABOVE TABLE IT IS INTERPRETED THAT THE 10% OF THEM CHOOSE (A) AND 10% OF THEM CHOOSE (B) AND 10% OF THEM CHOOSE (C) AND 70% OF THE RESPONDENTS CHOOSE OPTION (D).

**INFEERENCE:**

MAJORITY 70% OF THE RESPONDENTS CHOOSE OPTION (D).

**4.1.19. HOW DO YOU MEASURE THE SUCCESS OF YOUR QUALITY AND WASTE MANAGEMENT EFFORTS OVER TIME?**

<table>
<thead>
<tr>
<th>S.NO</th>
<th>HOW DO YOU MEASURE THE SUCCESS OF YOUR QUALITY AND WASTE MANAGEMENT EFFORTS OVER TIME?</th>
<th>NO OF RESPONSES</th>
<th>PERCENTAGE ANALYSIS</th>
</tr>
</thead>
<tbody>
<tr>
<td>A)</td>
<td></td>
<td>10</td>
<td>10%</td>
</tr>
<tr>
<td>B)</td>
<td></td>
<td>10</td>
<td>10%</td>
</tr>
<tr>
<td>C)</td>
<td></td>
<td>80</td>
<td>80%</td>
</tr>
</tbody>
</table>

**INTERPRETSTION:**

FROM THE ABOVE TABLE IT IS INTERPRETED THAT 10% OF THEM CHOOSE (A) AND 10% OF THEM CHOOSE (B) AND 80% OF THE RESPONDENTS.
INFEREECE:
THE MAJORITY 80% OF THEM CHOOSE OPTION (D)

4.1.20. CAN YOU PROVIDE EXAMPLES OF ANY AWARDS OR CERTIFICATIONS YOUR COMPANY HAS RECEIVED RELATED TO QUALITY CONTROL AND WASTE MANAGEMENT?

<table>
<thead>
<tr>
<th>S.NO</th>
<th>CAN YOU PROVIDE EXAMPLES OF ANY AWARDS OR CERTIFICATIONS YOUR COMPANY HAS RECEIVED RELATED TO QUALITY CONTROL AND WASTE MANAGEMENT?</th>
<th>NO OF RESPONSES</th>
<th>PERCENTAGE ANALYSIS</th>
</tr>
</thead>
<tbody>
<tr>
<td>A)</td>
<td>ISO CERTIFICATION</td>
<td>15</td>
<td>15%</td>
</tr>
<tr>
<td>B)</td>
<td>INDUSTRIAL AWARDS FOR SUSTAINABILITY PRACTICES</td>
<td>10</td>
<td>10%</td>
</tr>
<tr>
<td>C)</td>
<td>RECOGNITION FOR REGULATORY BODIES</td>
<td>5</td>
<td>5%</td>
</tr>
<tr>
<td>D)</td>
<td>ALL THE ABOVE</td>
<td>70</td>
<td>70%</td>
</tr>
</tbody>
</table>
INTERPRETATION:

FROM THE ABOVE TABLE IT IS INTERPRETED THAT 15% OF THEM CHOOSE OPTION (A) AND 10% CHOOSE (B) AND 5% CHOOSE (C) AND 70% OF THE RESPONDENTS CHOOSE OPTION (D)

INFERENC:

MAJORITY 70% OF THE RESPONDENTS CHOOSE OPTION (D).
HYPOTHESIS
Chi Square Test:

A chi-square test is a statistical test used to compare observed results with expected results. The purpose of this test is to determine if a difference between observed data and expected data is due to chance, or if it is due to a relationship between the variables you are studying.

Hypothesis 1:

Null Hypothesis (H0): Implementing strategies to minimize waste during bread production, such as optimizing ingredients usage or reducing packaging waste, will not result in a significant reduction in overall waste generation.

Alternative Hypothesis (H1): Implementing strategies to minimize waste during bread production, such as optimizing ingredients usage or reducing packaging waste, will lead to a significant reduction in overall waste generation.

Chi-Square Tests

<table>
<thead>
<tr>
<th></th>
<th>Value</th>
<th>df</th>
<th>Asymptotic (2-sided)</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Chi-Square</td>
<td>1.429a</td>
<td>3</td>
<td>.699</td>
<td></td>
</tr>
<tr>
<td>Likelihood Ratio</td>
<td>1.456</td>
<td>3</td>
<td>.693</td>
<td></td>
</tr>
<tr>
<td>Linear-by-Linear Association</td>
<td>.665</td>
<td>1</td>
<td>.415</td>
<td></td>
</tr>
</tbody>
</table>

N of Valid Cases 151

Case Processing Summary

<table>
<thead>
<tr>
<th>WHAT STEP DO YOU TAKE TO MINIMIZE WASTE DURING BREAD PRODUCTON, SUCH AS OPTIMIZING INGREDIENT USAGE OR REDUCING PACKAGING WASTE? * HOW OFTEN DO YOU CONDUCT QUALITY CONTROL CHECKS ON YOUR BREAD PRODUCTS?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cases</td>
</tr>
<tr>
<td>Valid</td>
</tr>
<tr>
<td>N</td>
</tr>
<tr>
<td>151</td>
</tr>
</tbody>
</table>

a. 2 cells (25.0%) have expected count less than 5. The minimum expected count is 2.04.
**Correlation:** Correlation describes the strength of an association between two variables, and is completely symmetrical, the correlation between A and B is the same as the correlation between B and A. However, if the two variables are related it means that when one changes by a certain amount the other changes on an average.

**Hypothesis 2:**

**Null Hypothesis (H0):** The frequency of conducting quality control checks on bread products does not significantly affect the overall quality of the products.

**Alternative Hypothesis (H1):** The frequency of conducting quality control checks on bread products significantly affects the overall quality of the products, leading to improvements in quality with more frequent checks or deterioration in quality with fewer checks.

### Correlations

<table>
<thead>
<tr>
<th>WHAT STEP DO YOU TAKE TO MINIMIZE WASTE DURING BREAD PRODUCT, SUCH AS OPTIMIZING INGREDIENT USAGE OR REDUCING PACKAGING WASTE?</th>
<th>WHAT STEP DO YOU TAKE TO MINIMIZE HOW OFTEN DO YOU CONDUCT QUALITY CONTROL CHECKS ON YOUR BREAD PRODUCTS</th>
<th>Pearson Correlation</th>
<th>Sig. (2-tailed)</th>
<th>N</th>
<th>151</th>
</tr>
</thead>
<tbody>
<tr>
<td>WHAT STEP DO YOU TAKE TO MINIMIZE WASTE DURING BREAD PRODUCTON, SUCH AS OPTIMIZING INGREDIENT USAGE OR REDUCING PACKAGING WASTE?</td>
<td>WHAT STEP DO YOU TAKE TO MINIMIZE HOW OFTEN DO YOU CONDUCT QUALITY CONTROL CHECKS ON YOUR BREAD PRODUCTS</td>
<td>Pearson Correlation</td>
<td>Sig. (2-tailed)</td>
<td>N</td>
<td>151</td>
</tr>
<tr>
<td>1</td>
<td>.014</td>
<td>.881</td>
<td>151</td>
<td>151</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>HOW OFTEN DO YOU CONDUCT QUALITY CONTROL CHECKS ON YOUR BREAD PRODUCTS</th>
<th>Pearson Correlation</th>
<th>Sig. (2-tailed)</th>
<th>N</th>
<th>151</th>
</tr>
</thead>
<tbody>
<tr>
<td>HOW OFTEN DO YOU CONDUCT QUALITY CONTROL CHECKS ON YOUR BREAD PRODUCTS</td>
<td>Pearson Correlation</td>
<td>Sig. (2-tailed)</td>
<td>N</td>
<td>151</td>
</tr>
<tr>
<td>.014</td>
<td>.881</td>
<td>151</td>
<td>151</td>
<td></td>
</tr>
</tbody>
</table>
CHAPTER -5

FINDINGS

5.1. FINDINGS:

1. Quality Control Measures: The company has implemented various quality control measures, including visual inspections, equipment calibration, and product testing. However, inconsistencies in inspection protocols and documentation were observed, leading to potential lapses in quality assurance.

2. Technology Integration: While the company utilizes some automation and monitoring systems, there is room for greater integration of technology to enhance quality control and waste management. Implementing real-time monitoring sensors and data analytics can help detect defects early in the production process and optimize resource utilization.

3. Employee Training and Engagement: Employee training programs focused on quality control and waste reduction were found to be limited. Investing in comprehensive training initiatives can empower employees to identify and address quality issues proactively, fostering a culture of continuous improvement.

4. Supply Chain Optimization: Collaboration with suppliers to optimize raw material sourcing and packaging solutions can contribute to waste reduction throughout the supply chain. Implementing just-in-time inventory management practices can minimize excess inventory and reduce the risk of spoilage.

5. Sustainable Practices: The study highlights the importance of adopting sustainable practices, such as composting food waste and utilizing renewable energy sources, to minimize the company's environmental footprint and enhance its brand reputation.

5.1.1. FINDINGS FROM THE PERCENTAGE ANALYSIS:

- **Majority 50% of the respondents are from 25-30 age category.**
- **Majority 80% of the respondents are male.**
- **Majority 60% of the respondents are from Tamil Nadu.**
- **Majority of the respondents are from production process.**
- **Majority 75% of the respondents are married.**
• MAJORITY 45% OF THE RESPONDENTS CHOOSE OPTION (C)
• MAJORITY 40% OF THE RESPONDENTS CHOOSE OPTION (A)
• MAJORITY 40% OF THE RESPONDENTS CHOOSE OPTION (A)
• MAJORITY 35% OF THE RESPONDENT CHOOSE OPTION (B).
• MAJORITY 70% OF THE RESPONDENTS CHOOSE OPTION (C).
• MAJORITY 65% OF THE RESPONDENTS CHOOSE THE OPTION (D).
• MAJORITY 45% OF THE RESPONDENTS CHOOSE OPTION (D).
• MAJORITY 45% OF THE RESPONDENTS CHOOSE OPTION (D).
• MAJORITY 35% OF THE RESPONDENTS CHOOSE OPTION (B).
• MAJORITY 70% OF THE RESPONDENTS CHOOSE OPTION (C).
• MAJORITY 60% OF THE RESPONDENTS CHOOSE OPTION (D).
• MAJORITY 70% OF THE RESPONDENTS CHOOSE OPTION (D).
• THE MAJORITY 80% OF THEM CHOOSE OPTION (D).
• THE MAJORITY 80% OF THEM CHOOSE OPTION (D).

CHAPTER-6
SUGGESTION

6.1. SUGGESTION:

1. Implementation of real-time monitoring systems for quality parameters to detect and address deviations promptly.
2. Introduction of lean manufacturing techniques such as 5S, Kanban, and Total Productive Maintenance (TPM) to streamline processes and minimize waste.
3. Training programs for employees to enhance skills in QC procedures, waste segregation, and sustainability practices.
4. Integration of sustainability principles into product design, packaging, and supply chain management to minimize environmental impact.
5. Collaboration with suppliers and partners to optimize raw material usage and reduce waste generation throughout the supply chain.
6. Continuous improvement initiatives to foster a culture of innovation and sustainability within the organization.
CONCLUSION

6.1.1. CONCLUSION:

By implementing the recommended strategies, the bread manufacturing company can enhance its QC processes, minimize waste generation, and improve overall operational efficiency. This study contributes to the broader goal of achieving sustainability and competitiveness in the food manufacturing industry while ensuring the delivery of high-quality products to consumers. Further research may explore the long-term impact of these interventions and additional opportunities for improvement.

REFERENCES


ANNEXURE – QUESTIONNAIRE

A STUDY ON QUALITY CONTROL AND WASTE MANAGEMENT PROCESS IN MODERN BREAD COMPANY

1. NAME
3. GENDER: A. MALE    B. FEMALE
4. LOCATION: A. TAMIL NADU  B. BENGALURU   C. KERALA  D. OTHER
5. TYPE OF WORK: A. QUALITY CONTROL  B. WASTE MANAGEMENT  C. PRODUCTION  D. PACKING  E. MIXING
6. MARRITAL STATUS: A. MARRIED  B. SINGLE
7. HOW DO YOU ENSURE CONSISTANCY QUALITY IN PRODUCT PROCESS OF THE BREAD PRODUCTION? A. REGULAR EMPLOYEE TRAINING  B. AUTOMATED QUALITY CONTROL SYSTEM  C. MANUAL INSPECTION STAGES  D. ALL THE ABOVE
8. WHAT MEASURES DO YOU HAVE IN PLACE TO MONITOR AND MAINTAIN HYGIENE STANDARDS THROUGHOUT YOUR BREAD PRODUCTION FACILITIES? A. REGULAR SANITATION SCHEDULES  B. EMPLOYEE HYGIENE TRAINING  C. IMPLEMENTATION OF HACCP (HAZARD ANALYSIS AND CONTROL POINT)  D. ALL THE ABOVE
9. CAN YOU DESCRIBE YOUR PROCESS FOR INSPECTING RAW MATERIALS TO ENSURE THEY MEET QUALITY STANDARDS BEFORE USE IN BREAD PRODUCTION? A. TESTING FOR FRESHNESS  B. VISUAL INSPECTION  C. SUPPLIER AUDITS  D. ALL THE ABOVE
10. HOW DO YOU HANDLE AND DISPOSE OF ANY WASTE GENERATED DURING THE BREAD PRODUCTION PROCESS? A. COMPOSTING  B. DONATION TO FOODC. RECYCLING  D. ALL THE ABOVE
11. WHAT STEPS DO YOU TAKE TO MINIMIZE WASTE DURING BREAD PRODUCTION, SUCH AS OPTIMIZING INGREDIENT USAGE OR REDUCING PACKAGING WASTE? A. OCEAN CONTROL MEASURES  B. JUST-IN-TIME INVENTORY MANAGEMENT  C. ALL THE ABOVE
12. HOW OFTEN DO YOU CONDUCT QUALITY CONTROL CHECKS ON YOUR BREAD PRODUCTS, AND WHAT CRITERIA DO YOU USE TO EVALUATE THEIR QUALITY? A. HOURLY  B. DAILY
C.WEEKLY                       D. ALL THE
ABOVE DEPENDING ON THE AGE OF PRODUCTION  13. HOW DO YOU
ADDRESS ANY QUALITY ISSUES OR CUSTOMER COMPLAINTS REGARDING YOUR BREAD
PRODUCTS?  A. RECALL PROCEDURES  B. ROOT CAUSE ANALYSIS  C. CUSTOMER SATISFACTION SURVEY  D. ALL THE ABOVE
14. CAN YOU EXPLAIN YOUR APPROACH TO MANAGING INVENTORY TO MINIMIZE WASTE
AND ENSURE FRESHNESS OF YOUR BREAD PRODUCT?
A. FIFO (FIRST IN, FIRST OUT) INVENTORY ROTATION  B. REAL TIME
INVENTORY TRACKING SYSTEM  C. FORECASTING DEMAND
D. ALL THE ABOVE
15. HOW DO YOU HAVE ANY
SPECIFIC STRATEGIES IN PLACE TO PREVENT CONTAMINATION OR SPOILAGE OF BREAD
PRODUCTS DURING STORAGE AND TRANSPORTATION?
A. TEMPERATURE-CONTROLLED STORAGE FACILITY  B. QUALITY PACKAGING MATERIALS
C. TRANSPORTATION MONITORING SYSTEM  D. ALL THE ABOVE

16. HOW DO YOU INCORPORATE SUSTAINABILITY PRACTICES INTO YOUR WASTE
MANAGEMENT EFFORTS, SUCH AS RECYCLING OR COMPOSTING LEFTOVER BREAD OR
PACKAGING MATERIALS?
A. PARTNERING WITH RECYCLE FACILITY  B. IMPLEMENTING COMPOSTING PROGRAMS  C. USING
BIODEGRADABLE PACKAGING MATERIALS  D. ALL THE ABOVE
17. WHAT METHOD DO YOU EMPLOY TO EDUCATE AND INVOLVE YOUR EMPLOYEES IN WASTE
REDUCTION AND QUALITY CONTROL INITIATIVES?
A. TRAINING SESSIONS ON WASTE MANAGEMENT PRACTICES  B. EMPLOYEE SUGESTION PROGRAMS
C. INCENTIVE PROGRAMS FOR WASTE MANAGEMENT IDEAS  D. ALL THE ABOVE

18. WHAT MEASURE DO YOU HAVE IN PLACE TO ENSURE THE TRACEABILITY OF INGREDIENTS
USED IN YOUR BREAD PRODUCTS, PARTICULARLY IN CASES OF QUALITY ISSUES OR
RECALLS?
A. INGREDIENT TRACKING SYSTEM  B. SUPPLIER DOCUMENTATION
VERIFICATION  C. BATCH CODING AND LABELING  D. ALL THE ABOVE

19. HOW DO YOU MEASURE THE SUCCESS OF YOUR QUALITY AND WASTE MANAGEMENT
EFFORTS OVER TIME?
A. KEY PERFORMANCE INDICATOR TRACKER (KPI’s)
B. COMPARISON AGAINST INDUSTRIAL BENCHMARK
C. ALL THE ABOVE

20. CAN YOU PROVIDE EXAMPLES OF ANY AWARDS OR CERTIFICATIONS YOUR COMPANY HAS RECEIVED RELATED TO QUALITY CONTROL AND WASTE MANAGEMENT?
A. ISO CERTIFICATION
B. INDUSTRIAL AWARDS FOR SUSTAINABILITY PRACTICES
C. RECOGNITION FOR REGULATORY BODIES
D. ALL THE ABOVE